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SLR Consulting Limited



St. Modwen Developments

Coed Darcy

SLR Project No.: 432.001784.00001

25 September 2025

Revision: 03

RE: TRANSPORT OVERVIEW

Background

- 1.1 An outline planning application for Coed Darcy was granted in 2008 for 4000 dwellings and associated land uses (education, retail, commercial and employment). The site relied on Phase III junction capacity mitigation improvements at M4 Junction 43 and included a Southern Access Road which provided a connection to the south.
- 1.2 Phase 1 of the 2008 outline permission comprising approximately 300 dwellings has been delivered. However, the remainder of the permission stalled as the cost of infrastructure delivery, and particularly the Southern Access Road, rendered the delivery of subsequent phases unviable. In order to continue the regeneration of this significant brownfield site and provide the services and facilities to support the sustainability of the residents in Phase 1, St. Modwen Developments investigated a range of scenarios which could deliver a demonstrably viable development.
- 1.3 To that end, a revised planning application was submitted in 2021 comprising 2000 dwellings and associated land uses (including education, extra care provision, neighbourhood centre, community, assembly and leisure uses, public open space, retail, commercial and employment uses). The considerably smaller development resulted in consequential lower trip generation of the new scheme and a reduced Phase II junction capacity mitigation scheme at M4 Junction 43 with fewer entry and circulatory lanes.
- 1.4 Further to comments received from Neath Port Talbot Council, Transport for Wales and the Welsh Government, a highways meeting was held on 17 November 2023 where it was agreed by all parties that additional mitigation should be provided for active travel measures with reduced junction capacity mitigation to reflect recent policy changes. In order to reduce highway mitigation and invest the savings in active travel, it was agreed the Vision & Validate approach should be used.
- 1.5 This Transport Overview provides a summary of the methodology used and mitigation proposed for the planning application and the Vision & Validate approach.



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2021 Planning Application

- 1.6
- The 2021 Coed Darcy scheme benefits from excellent mobility and placemaking proposals but the trip generation was based on the now largely discredited Predict & Provide approach which is incompatible with current government policy to reduce surface transport emissions, achieve net zero carbon targets and a doubling of active travel trips. The Predict & Provide approach utilised the TRICS database to generate vehicular trip rates based on historically surveyed sites which had the most similar characteristics to Coed Darcy.
- 1.7
- Whilst the most comparable sites in TRICS were utilised, they were all less than half the size of Coed Darcy and therefore didn't benefit from the amenities and facilities that already exist and are proposed. This resulted in the forecast of a higher number of peak hour vehicular trips leaving the site than would be likely to occur in reality and indicated that a junction capacity mitigation scheme was needed that in all likelihood provided more capacity than would have been required.
- 1.8
- Table 1 shows the peak hour vehicular trip generation for the proposed development using the TRICS trip rate methodology.

Table 1 TRICS Peak Hour Vehicular Trip Generation - 2021 Planning Application

Peak	Arrivals	Departures	Total
AM Peak	302	734	1036
PM Peak	691	323	1014

- 1.9
- TRANSYT junction capacity modelling was undertaken using the TRICS trip generation methodology to determine an appropriate highway mitigation scheme. The TRANSYT analysis results are provided in Table 2.



Superseded

Table 2 M4 J43 Phase II Mitigation TRANSYT Results – 2026 with Development

Link	Road	Storage Capacity (PCUs)	AM Peak		PM Peak	
			DOS (%)	MMQ (PCUs)	DOS (%)	MMQ (PCUs)
700	M4 J43 SB Off-Slip - Lane 1	6.77	73	6.24	52	5.66
701	M4 J43 SB Off-Slip - Lane 2	7.35	73	6.45	52	6.01
702	M4 J43 SB Off-Slip – Lane 3	7.89	73	6.82	52	6.25
703	M4 J43 SB Off-Slip – Lane 4	6.77	67	5.81	56	6.46
704	M4 J43 SB Off-Slip – Lane 1	29.39	29	0.21	36	0.28
705	M4 J43 SB Off-Slip – Lane 2	31.54	28	0.19	38	0.96
710	M4 J43 NB Gyratory - Lane 1	12.50	33	0.86	38	6.79
720	M4 J43 NB Gyratory - Lane 2	12.50	40	5.43	53	5.03
730	M4 J43 NB Gyratory - Lane 3	13.00	56	11.76	69	6.56
800	A465 approach to M4 J43 - Lane 1	37.62	85	18.58	75	13.49
801	A465 approach to M4 J43 - Lane 2	7.93	85	19.45	75	14.13
802	A465 approach to M4 J43 - Lane 3	6.77	36	4.37	31	3.78
803	A465 approach to M4 J43 - Lane 2	31.74	71	1.22	56	0.64
810	A465 Gyratory - Lane 1	7.00	82	5.35	27	3.25
820	A465 Gyratory - Lane 2	9.00	66	7.99	72	6.56
900	M4 NB Off-Slip - Lane 1	16.92	39	4.45	57	8.43
901	M4 NB Off-Slip - Lane 2	20.29	58	7.62	39	5.31
902	M4 NB Off-Slip - Lane 3	43.00	58	8.02	69	12.23
903	M4 NB Off-Slip - Lane 1	20.29	35	0.27	45	0.41
910	M4 J43 SB Gyratory - Lane 1	17.50	43	6.70	73	10.85
920	M4 J43 SB Gyratory - Lane 2	18.00	70	11.42	78	12.84



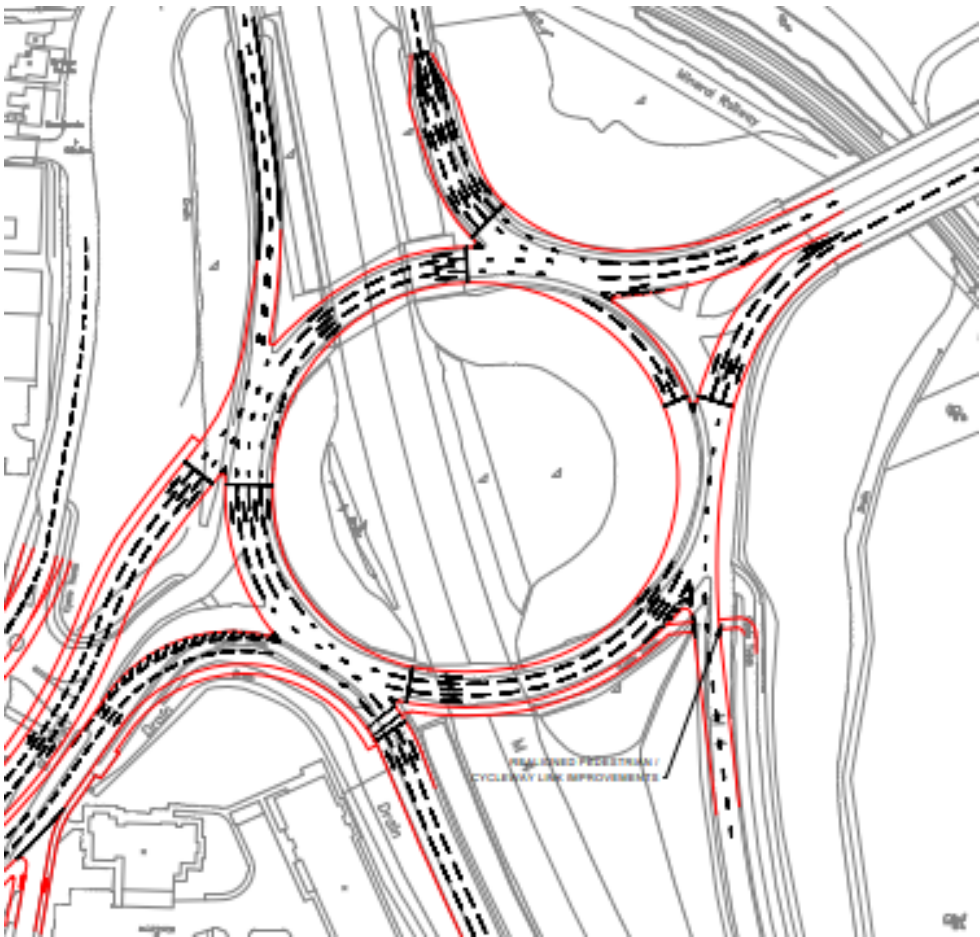
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Link	Road	Storage Capacity (PCUs)	AM Peak		PM Peak	
			DOS (%)	MMQ (PCUs)	DOS (%)	MMQ (PCUs)
930	M4 J43 SB Gyratory – Lane 3	18.00	41	4.27	41	4.66
990	B4290 exit from M4 J43	40.10	35	0.26	53	0.57
1000	B4290 approach to M4 J43 - Lane 1	40.22	64	7.88	55	5.41
1001	B4290 approach to M4 J43 - Lane 2	43.56	48	5.91	37	3.63
1002	B4290 approach to M4 J43 – Lane 3	43.56	84	13.62	84	11.07
1010	B4290 Gyratory - Lane 1	9.00	58	7.26	39	8.44
1020	B4290 Gyratory - Lane 2	9.00	39	5.18	26	5.39
1030	B4290 Gyratory - Lane 3	9.50	38	7.49	30	2.04
1040	B4290 Gyratory – Lane 4	10.00	39	8.04	54	4.01

1.10 The Phase II M4 Junction 43 mitigation scheme submitted in the planning application is replicated below in Figure 1 and provided in **Appendix A**. The Phase II scheme was fully costed as part of the viability assessment for the application.



Figure 1 M4 J43 Phase II Mitigation Scheme



- 1.11 The 2021 planning application methodology resulted in a comprehensive highway scheme which was demonstrated to mitigate the proposed development based on the TRICS trip rate generation approach.

Vision & Validate Approach

- 1.12 At the highways meeting held on 17 November 2023 it was agreed by all parties that additional mitigation should be provided for active travel measures with reduced junction capacity mitigation to reflect recent policy changes.
- 1.13 A Vision & Validate Scoping Note dated 14 December 2023 was issued setting out the methodology proposed and a Vision & Validate Workshop was held on 15 March 2024 to demonstrate the process undertaken and the data sources used.
- 1.14 The Vision & Validate approach took account of the Vision of the new community and considered the mobility and placemaking interventions to help realise those conditions. These interventions and broader policies were Validated by calculating their impact and applying it to the transport modelling.



- 1.15 A spreadsheet driven Validation Tool utilising data from the Census, Office for National Statistics (ONS) and the National Travel Survey (NTS) was used to validate the trip generation of the site. A comprehensive exercise to derive a total trip generation was undertaken based on credible and reliable data sources to accurately estimate key inputs. Table 3 shows the peak hour vehicular trip generation of the proposed development using the Vision & Validate approach.

Table 3 Vision & Validate Peak Hour Vehicular Trip Generation

Peak	Arrivals	Departures	Total
AM Peak	135	367	502
PM Peak	381	183	564

- 1.16 The Vision & Validate approach more accurately reflects the external vehicular trip generation of the proposed development is almost half of the TRICS generated data.
- 1.17 Of the total trips generated by the proposed development, the Placemaking Interventions resulted in the greatest impact by internalising trips with the Mobility Interventions trip reduction numbers shown in Table 4.

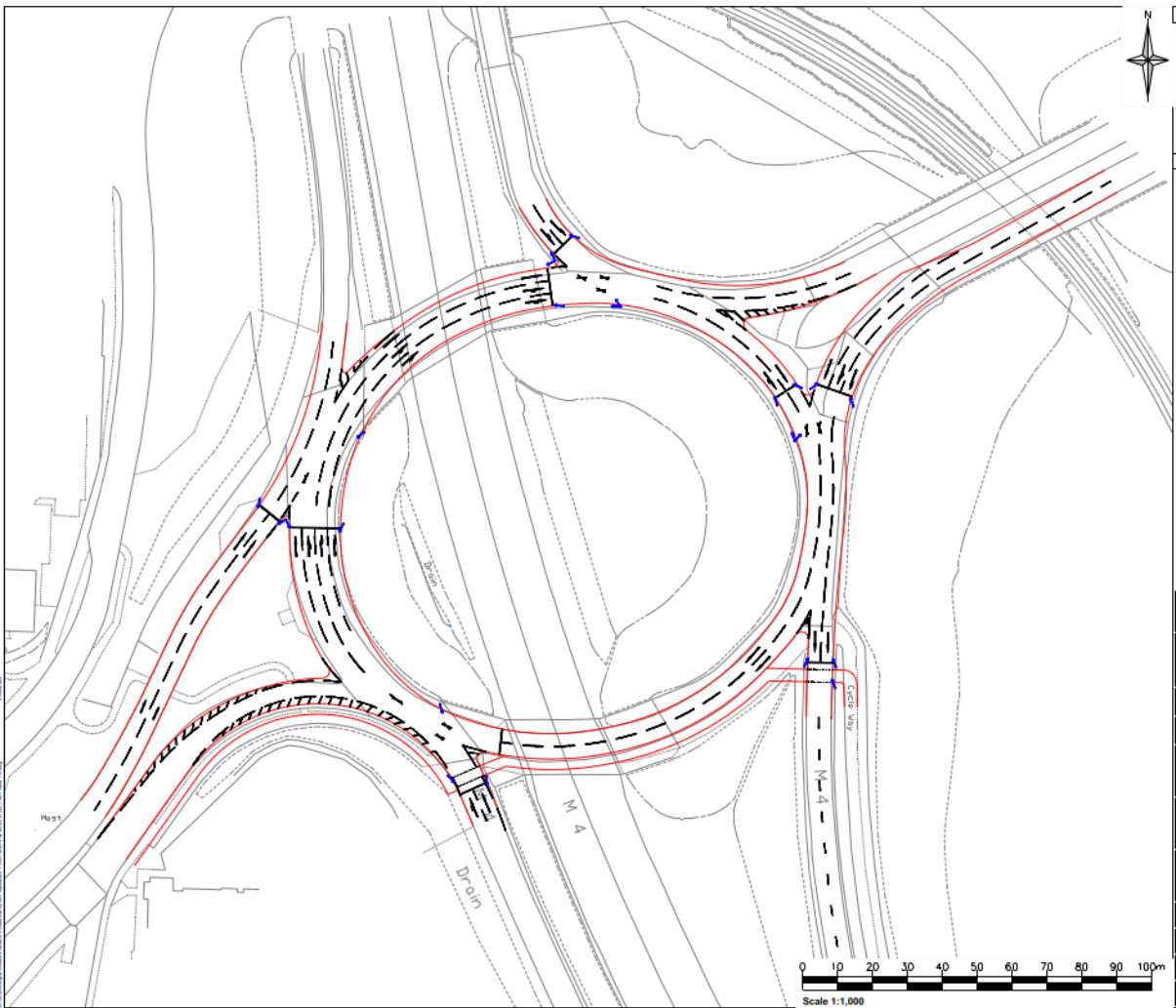
Table 4 Mobility Intervention Peak Hour Vehicular Trip Reductions

Peak	Arrivals	Departures	Total
AM Peak	8	27	35
PM Peak	27	12	39

- 1.18 The TRANSYT analysis was updated with the Vision & Validate approach external peak hour vehicular trip numbers to determine the highway mitigation scheme required to accommodate the proposed development. A Phase 1C mitigation scheme was developed which is replicated below and provided in **Appendix B**.



Figure 2 M4 J43 Phase 1C Mitigation Scheme



- 1.19 Compared to the Phase II mitigation scheme, the Phase 1C scheme resulted in a reduced scheme incorporating:
- 2 lanes instead of 4 on the M4 southbound off slip;
 - 2 lanes instead of 3 on the A465 exit;
 - 2 lanes instead of 3 on the M4 northbound off slip and 2 lanes instead of 3 on the circulatory; and
 - 2 lanes instead of 3 on the B4290 entrance and 1 lane instead of 2 on the B4290 exit.
- 1.20 The TRANSYT analysis for the Phase 1C mitigation scheme is provided in Table 5.



Superseded

Table 5: M4 J43 Phase 1C TRANSYT Results – 2026 with Development

Link	Road	Storage Capacity (PCUs)	AM Peak		PM Peak	
			DOS (%)	MMQ (PCUs)	DOS (%)	MMQ (PCUs)
700	M4 J43 SB Off-Slip - Lane 1	36.74	83	11.78	89	15.66
701	M4 J43 SB Off-Slip - Lane 2	39.43	83	12.48	89	16.51
710	M4 J43 NB Gyratory - Lane 1	13.00	54	10.48	58	8.99
720	M4 J43 NB Gyratory - Lane 2	13.50	54	6.19	86	13.08
730	M4 J43 NB Gyratory - Lane 3	14.00	40	9.77	26	5.73
800	A465 approach to M4 J43 - Lane 1	37.62	85	17.51	69	11.86
801	A465 approach to M4 J43 - Lane 2	7.00	74	13.89	31	3.95
802	A465 approach to M4 J43 - Lane 3	7.00	67	11.57	58	9.17
803	A465 approach to M4 J43 – (Lane before flare)	31.74	75	1.47	53	0.57
810	A465 Gyratory - Lane 1	5.50	67	4.66	49	0.67
820	A465 Gyratory - Lane 2	7.50	31	4.73	53	6.55
900	M4 NB Off-Slip - Lane 1	40.57	87	13.48	87	17.15
901	M4 NB Off-Slip - Lane 2	43.00	87	14.13	87	17.96
910	M4 J43 SB Gyratory - Lane 1	18.00	74	13.17	80	13.76
920	M4 J43 SB Gyratory - Lane 2	18.50	61	15.08	75	8
1000	B4290 approach to M4 J43 - Lane 1	40.22	87	12.75	89	11.23
1001	B4290 approach to M4 J43 - Lane 2	43.56	87	13.57	89	12.09
1010	B4290 Gyratory - Lane 1	9.00	30	2.86	9	0.8
1020	B4290 Gyratory - Lane 2	9.00	62	7.34	54	8.68
1030	B4290 Gyratory - Lane 3	9.00	26	0.53	23	3.14
1040	B4290 Gyratory - Lane 4	6.50	46	2.95	57	8.28



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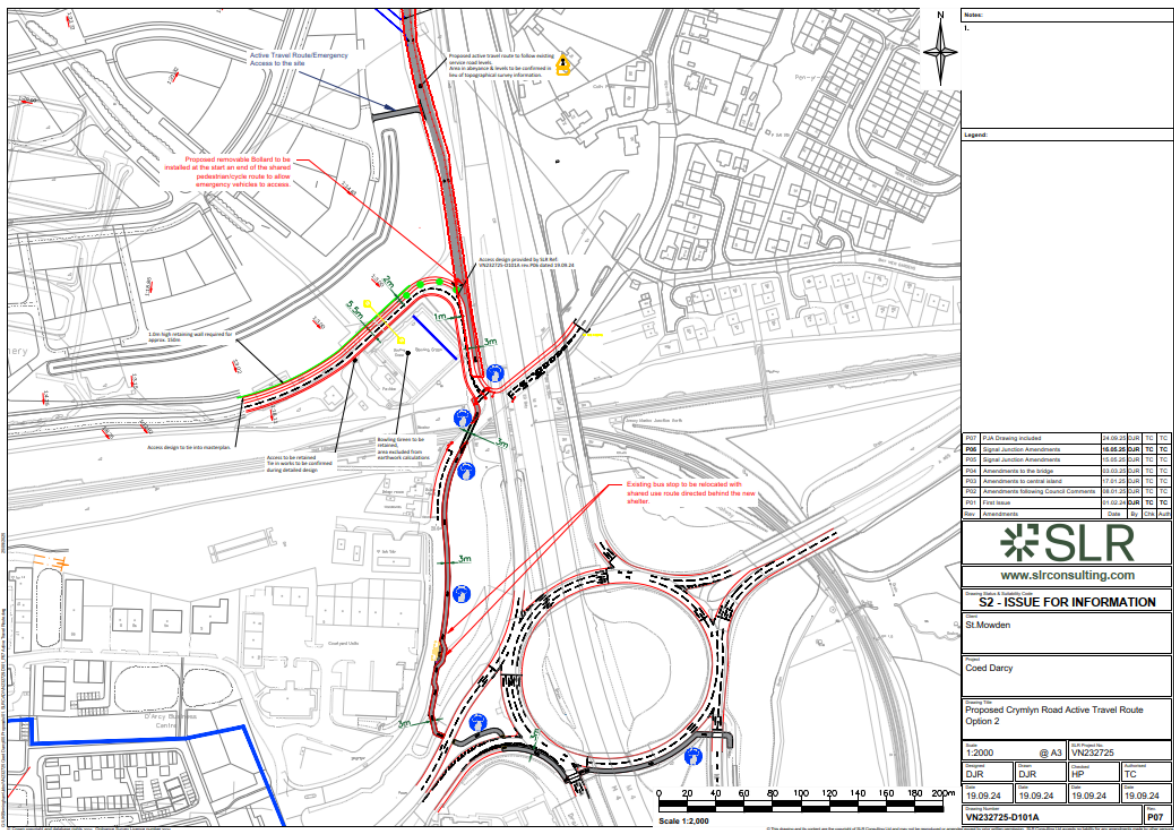
- 1.21 The Phase 1C highway mitigation scheme is wholly within the planning application proposals for the Phase II mitigation scheme and has been demonstrated to mitigate the proposed development based on the Vision & Validate approach. If the Phase 1C approach was accepted as the final design for the J43 improvements, the reduced scale of works would result in a construction cost saving of approximately £1,000,000 (this cost being calculated as at March 2024). It is proposed that if the Phase 1C approach is therefore accepted as the final design, this £1,000,000 saving (to be recalculated at the appropriate time to reflect any cost inflation) would then result in a surplus to the viability assessment which St. Modwen would propose to include as part of the s106 planning gain and which could be designated by NPT Council towards active travel measures.
- 1.22 Comments on the Phase 1C mitigation scheme have been received from Neath Port Talbot Council which confirmed there were no issues with the TRANSYT modelling. Comments from the Welsh Government and the South Wales Trunk Road Agency have not yet been received.

Active Travel

- 1.23 At the Coed Darcy workshop on 9th September 2024 NPTC requested that an active travel route be shown from M4 Junction 43 to Crymlyn Road via the B4290 Pen-Y-Heol and the existing footway cycleway which runs parallel to the M4.
- 1.24 It was requested that the existing route to Pen-Y-Heol from the B4290 link with M4 Junction 43 was widened and the alignment straightened. It is then proposed that a shared footway/cycleway is provided along the eastern verge of Pen-Y-Heol to the railway bridge. The available width between the railway parapets is less than 7.0m and therefore not sufficient to accommodate a two way carriageway and shared footway/cycleway. The existing shared footway/cycleway running parallel to the M4 was requested to be widened where required.
- 1.25 An extract of the proposed scheme is provided in Figure 3 and it is provided in **Appendix B**.



Figure 3 Proposed Active Travel Scheme



- 1.26 The proposed route therefore consists of:
- Existing footway/cycleway widened to 3.0m at M4 Junction 43 and straightened to Pen-Y-Heol;
 - Shared footway/cycleway of 3.0m width provided along the eastern verge of Pen-Y-Heol;
 - A diagonal shared footway/cycleway crossing of Pen-Y-Heol between the railway parapets with set back stop line for northbound traffic;
 - The existing shared footway/cycleway is shown to be 5.0m wide on OS mapping and therefore no additional widening was proposed.
- 1.27 These works would be in addition to the measures identified in the Walking, Cycling and Hores-riding Assessment and Review (WCHAR) which was submitted as part of the 2021 planning application. The WCHAR identified a range of active travel improvement opportunities which are replicated in Table 6.



Superseded

Table 6 WCHAR Active Travel Improvement Opportunities

Opportunity	Description
Vegetation Management	Baseline condition review found existing available widths on walking and cycling network reduced due to overgrown vegetation and verge creep. Implement a vegetation management plan across the walking and cycling facilities around M4 Junction 43 and Coed Darcy.
Drain Covers	Replace any utility cover within scheme extents to one that is more suitable for cyclists. Existing utility covers within scheme extent found to potentially lead to a cyclist losing grip if ice were to build up on cover.
Signage	Improve signage for pedestrians/ cyclists around the site and study area. Site visit discovered issues with signage including walking/cycling signage being blocked by other types of signage, the wrong status being displayed on signage, and lack of direction signage for pedestrians/cyclists at some decision points.
Street Furniture Layout	Improve street furniture layout Site visit discovered a lighting column located in the middle of the pedestrian side of the segregated provision at M4 Junction 43, and signage creating pinch points at Ffordd Coed Darcy/ B4290 junction and the shared/segregated provision on the B4290.
Ffordd Coed Darcy / B4290 Junction	Redesign existing staggered island on Ffordd Coed Darcy arm as current provision is narrow at approximately 1.5m wide, and existing staggered island is difficult for cyclists to negotiate due to tight corners and closeness to pedestrians.
Drainage Investigations	Evidence of minor ponding on tactile paving of Ffordd Coed Darcy/ B4290 junction observed on site visit Therefore opportunity to investigate whether any drainage improvement can be made to stop water ponding at this location
Improvements to existing walking/ cycling provisions between Coed Darcy and M4 Junction 43	The existing walking/cycling provisions that connect Coed Darcy to M4 Junction 43 has been described as being very poor. Improvements along this route could include: Providing an improved transition point at the connection where the existing shared/segregated provisions meet as currently these two different provisions are not aligned with each other Widen segregated provision towards M4 Junction 43 and across the junction Improve crossing point and shared path across refuge on the B4290 leading to Darcy Business Park by providing a controlled and wider arrangement and tactile units for those who have impeded sight
Pen-Y-Heol (B4290)/ Crymlyn Road Link	Feasibility study to establish what improvements can be made to the link to make it a more appealing route as baseline assessment found the link to have no street lighting provision, suffer verge creep, and a closed gate at the Pen-Y-Heol (B4290) end of the link.



Superseded

Opportunity	Description
B4290/ Harvester Access Junction	Opportunity to improve the uncontrolled crossing point across the Harvester access junction which currently has poor visibility for crossing users, due to vegetation and signage located in the verge.
Pen-Y-Heol (B4290) uncontrolled crossing and footway	Site visit found issues at this location – no tactile paving, northern side of the crossing point existing visibility between motorists and pedestrians poor when the parking bay is being used, poor footway width due to overgrown vegetation Installing a suitable crossing point which has good visibility splays between pedestrians and motorists, cutting back vegetation and widening the footway. Parking bay could also be relocated to accommodate a widened footway
Pen-Y-Heol (B4290) shared provision	Opportunity to see if the existing provision can be extended so that it connects to the Heol Crymlyn link as a minimum.

- 1.28 A number of these opportunities lie within the Phase II and Phase 1C highway mitigation schemes and would be implemented as part of the highway works where feasible. Other measures such as vegetation management could be addressed through the management company arrangements.
- 1.29 The delivery of those off-site active travel measures not covered by the above could be funded with financial contributions incorporated into the Section 106 Agreement.

Conclusion

- 1.30 Two viable highway mitigation schemes have been proposed to mitigate the vehicular impact of the proposed development using the TRICS methodology employed in the 2021 planning application or the Vision & Validate approach.
- 1.31 The Vison & Validate approach resulted in lesser impact on J43 and therefore required less intervention as shown in the Phase 1C highway scheme. The Phase 1C scheme is also policy compliant in that it will minimise highway mitigation in favour of promoting enhanced active travel measures.
- 1.32 It is the position of SLR and St. Modwen Developments that both the Phase II and Phase 1C schemes would mitigate the peak hour vehicular impact of the proposed development and could therefore be conditioned as part of a planning consent. It is the position of SLR and St. Modwen Developments that both the Phase 1C and Phase II schemes would mitigate the peak hour vehicular impact of the proposed development and could therefore be conditioned as part of a planning consent. For the avoidance of doubt, the Phase 1C scheme already forms part of the Phase II works, albeit at a lesser scale. As the Phase II works are already contained in the planning application submission, this would not require further consultation.
- 1.33 On the basis that the Phase 1C scheme is deemed capable of mitigating the peak hour vehicular impact of the proposed development, a sequential approach is proposed to the



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Section 106 Agreement. This would allow delivery of the Phase 1C option and then for a transport review to take place, the review being linked with housing occupations. If it is deemed that the full Phase II works are still required, these will form part of a second stage of works. If following the transport review, the full Phase II works are not required, this would trigger a payment towards active travel, index linked from the saving to be defined between Phase 1C and Phase II works.

- 1.34 If the Phase 1C works are not deemed to be sufficient to mitigate the impact on J43, then permission should be granted on the basis of the Phase II scheme.

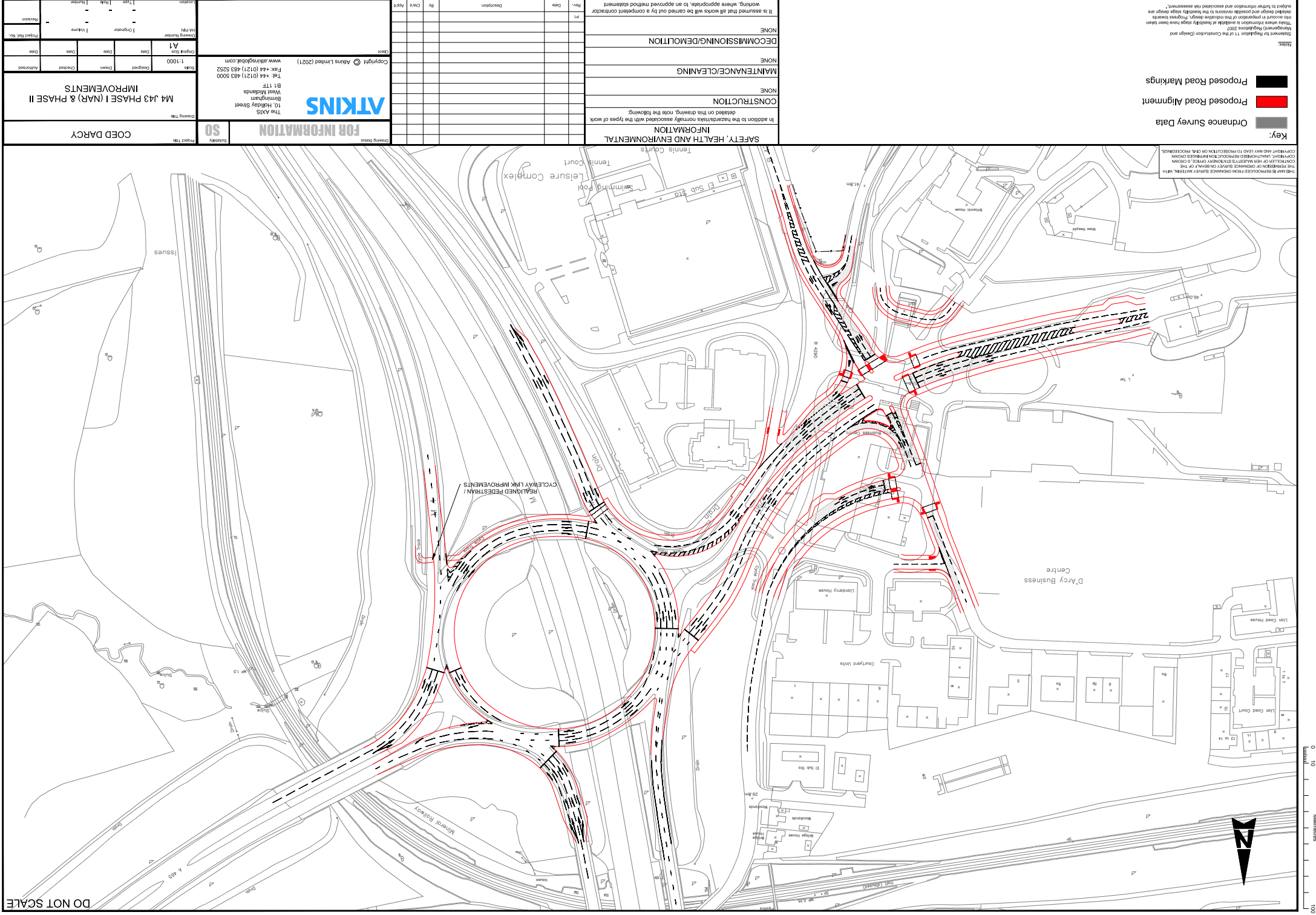


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Appendix A Phase II M4 J43 Mitigation Drawing



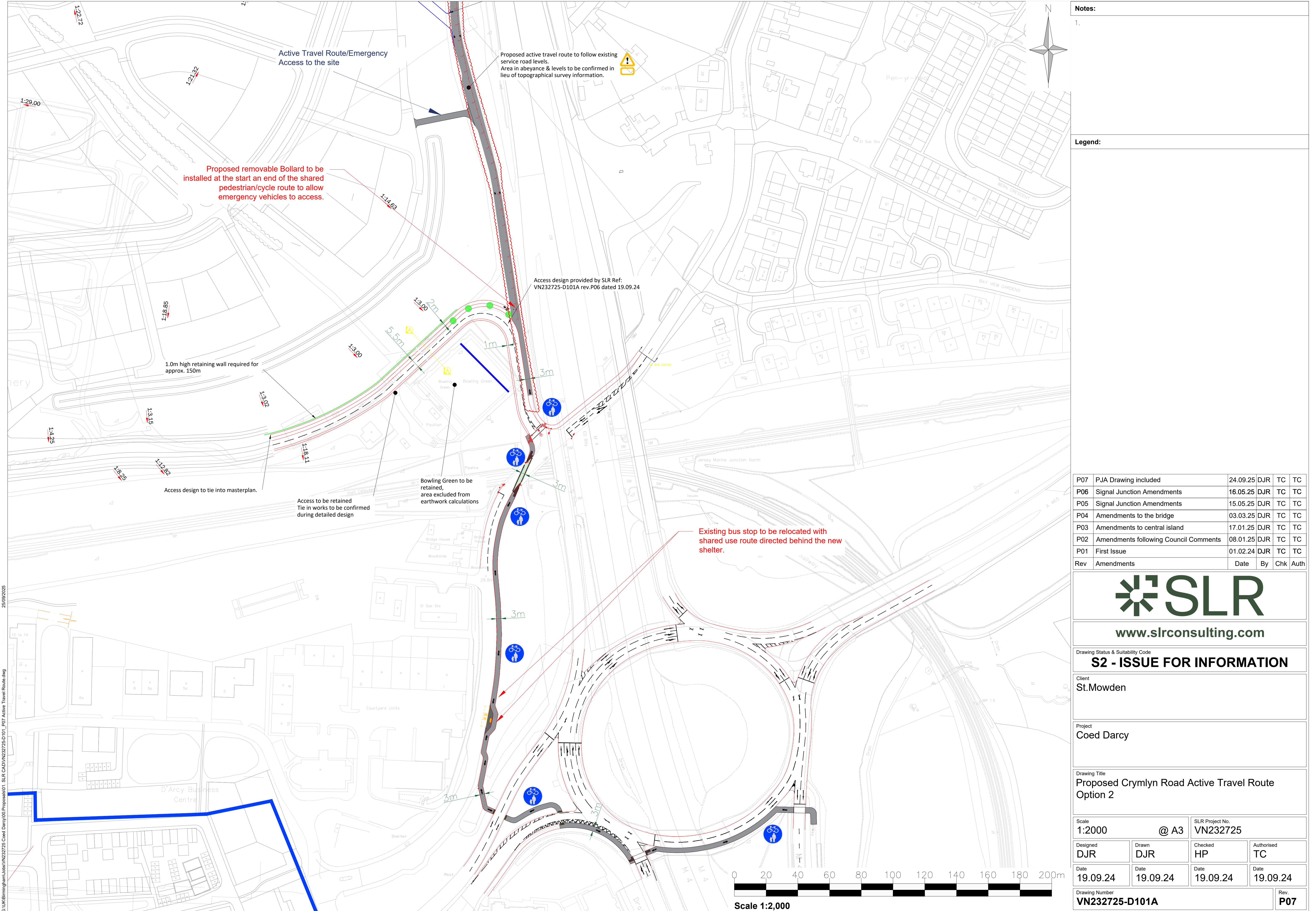
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Appendix B

Phase 1C
M4 J43
Mitigation
Drawing
Including
Active
Travel
Scheme





Notes:

1.

Legend:

P07	PJA Drawing included	24.09.25	DJR	TC	TC
P06	Signal Junction Amendments	16.05.25	DJR	TC	TC
P05	Signal Junction Amendments	15.05.25	DJR	TC	TC
P04	Amendments to the bridge	03.03.25	DJR	TC	TC
P03	Amendments to central island	17.01.25	DJR	TC	TC
P02	Amendments following Council Comments	08.01.25	DJR	TC	TC
P01	First Issue	01.02.24	DJR	TC	TC
Rev	Amendments	Date	By	Chk	Auth

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Drawing Status & Suitability Code

S2 - ISSUE FOR INFORMATION

Client

St.Mowden

Project

Coed Darcy

Drawing Title

Proposed Crymlyn Road Active Travel Route Option 2

Scale	SLR Project No.		
1:2000 @ A3	VN232725		
Designed DJR	Drawn DJR	Checked HP	Authorised TC
Date 19.09.24	Date 19.09.24	Date 19.09.24	Date 19.09.24

Drawing Number

VN232725-D101A

Rev.

P07

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