

Cambridge Waste Water Treatment Plant Relocation Project Anglian Water Services Limited

Appendix 19.3: Transport Assessment Part 2

Application Document Reference: 5.4.19.3 PINS Project Reference: WW010003 APFP Regulation No. 5(2)a

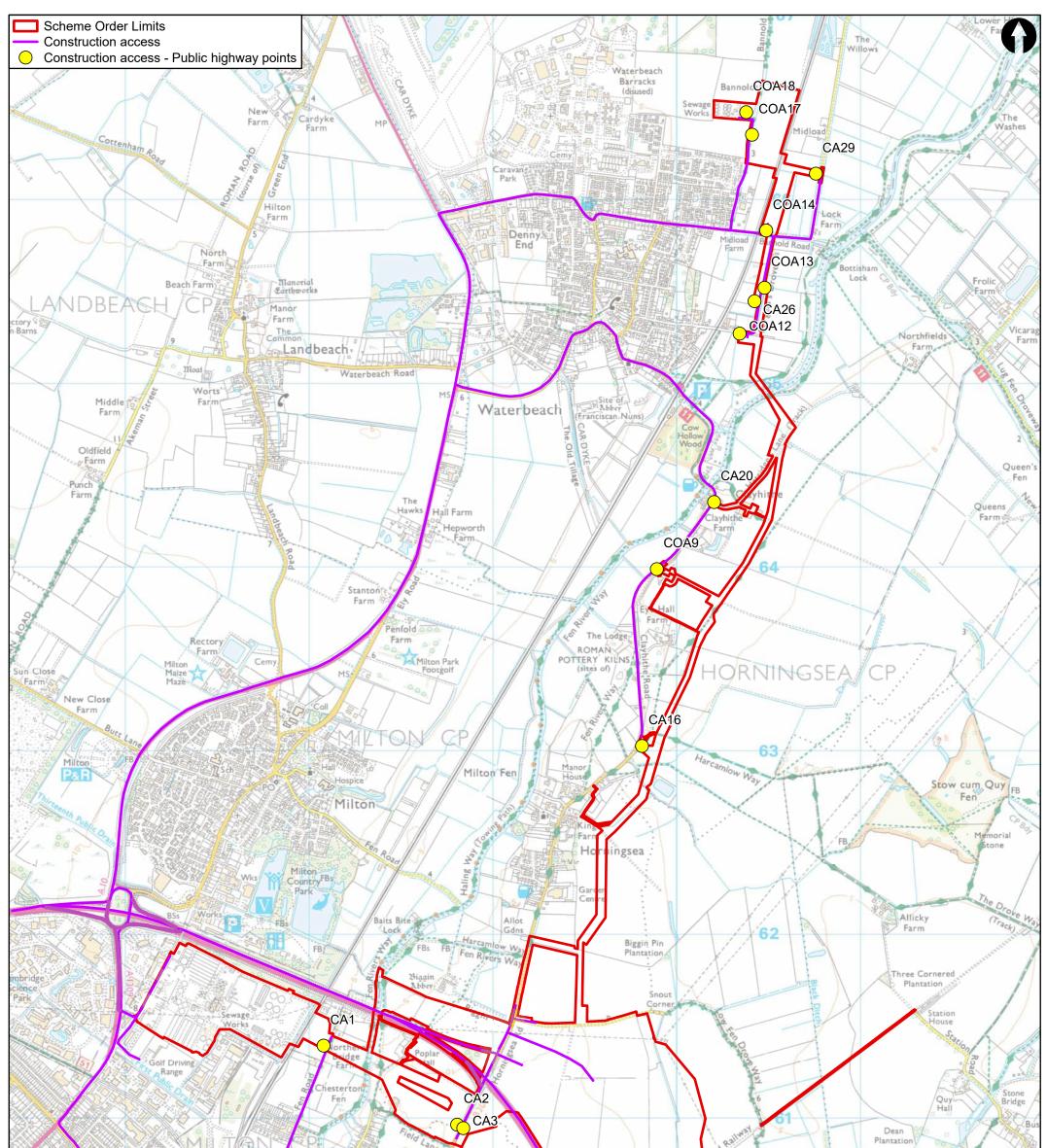
Revision No. 07 April 2024



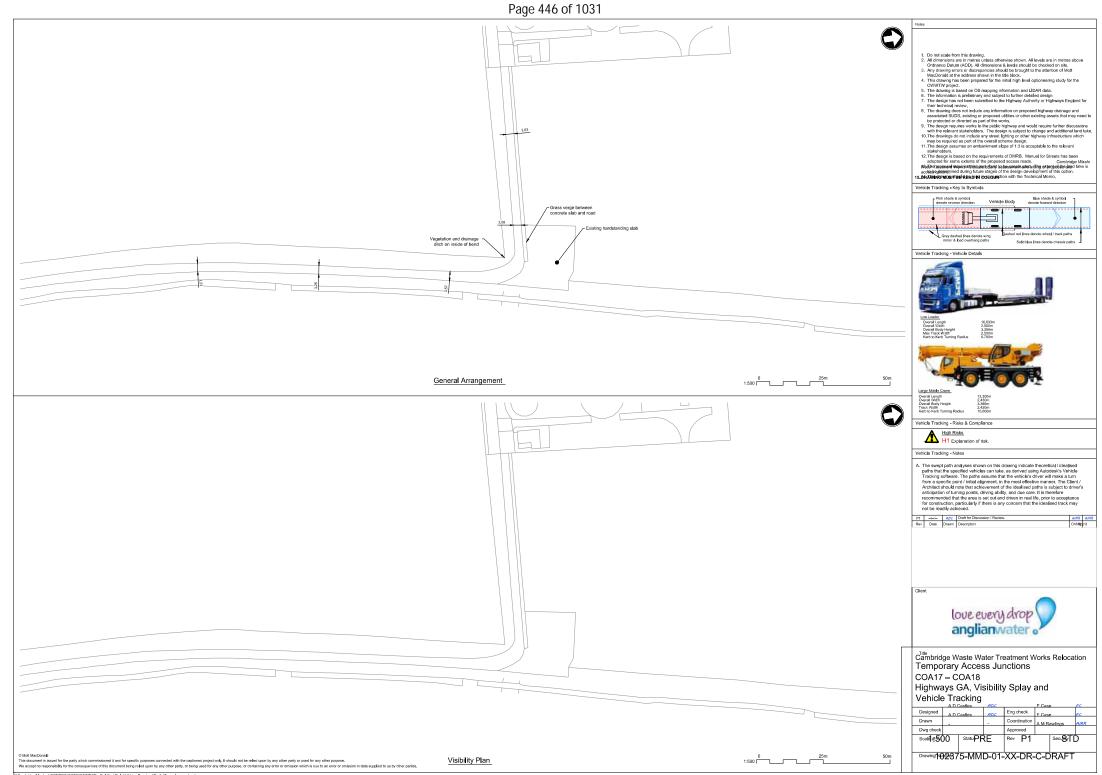
Cambridge Waste Water Treatment Relocation Project Transport Assessment

Appendix G: Swept Path Analysis

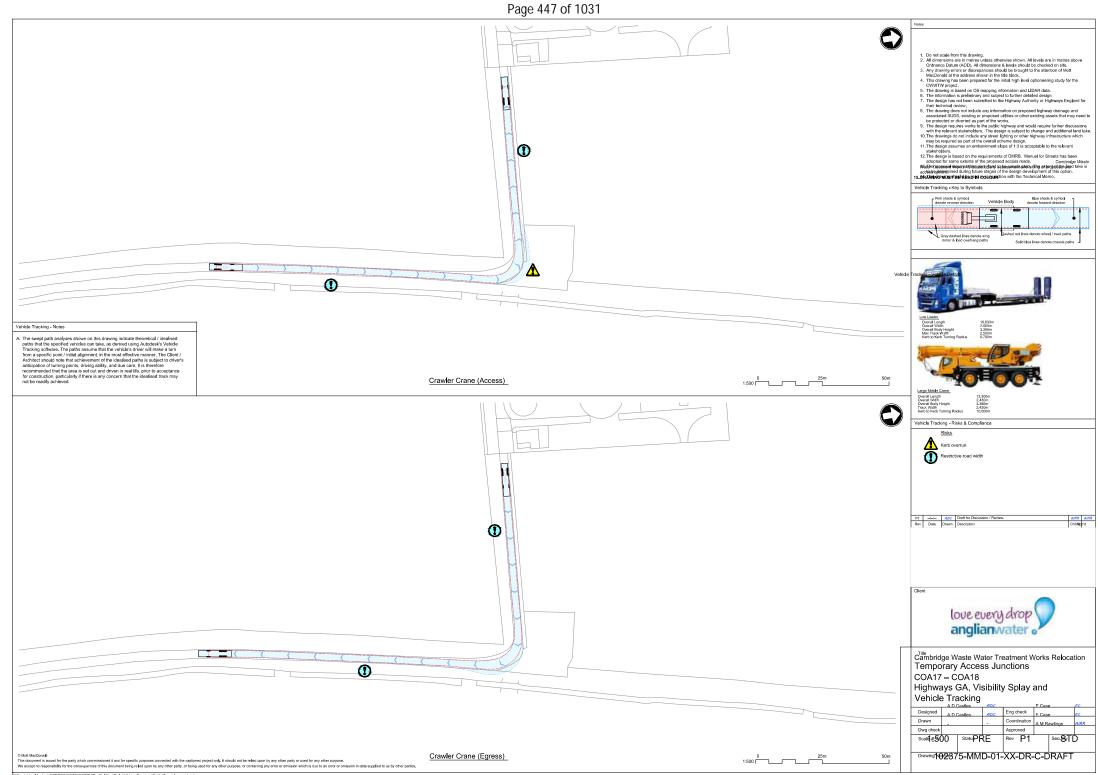
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Data Sources Schem Order Limits: Anglian Water Services @One, 2022 Construction access: Mott MacDonald, 2022 Besemapping: © Grown copyright and database rights 2021 OS 100022433 The MacDonald tand The MacDonald tand for specific purposes connected with the capitoned project only. It should not be relied upon by any other party or used for any other party or or omission which is due to an error or omission in data supplied to us by other parts.											
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M	Cambridge CB1 2JD United Kingdom							Cambridge Waste Water Treatment Plant Relocation Project		Approved CS	
MOTT MACDONALD	T +44 (0)20 8774 2000 F +44 (0)20 8681 5706 W mottmac.com							Transport Assessment	Scale at A3		
		Rev	Date	Drawn	Description	Ch'k'd	App'd	Construction route and access points	1:20,00	00	
		P1	31/10/22	KL	First Draft	WT	CS	Drawing Number	Security	Status	Rev
		P2	18/12/23	сс	Revision 01	WТ	GW	WW01003-CAMEST-MOT-05-XX-DR-X-0697	STD	PRE	P3
		Р3	22/01/24	сс	Revision 02	wт	GW				



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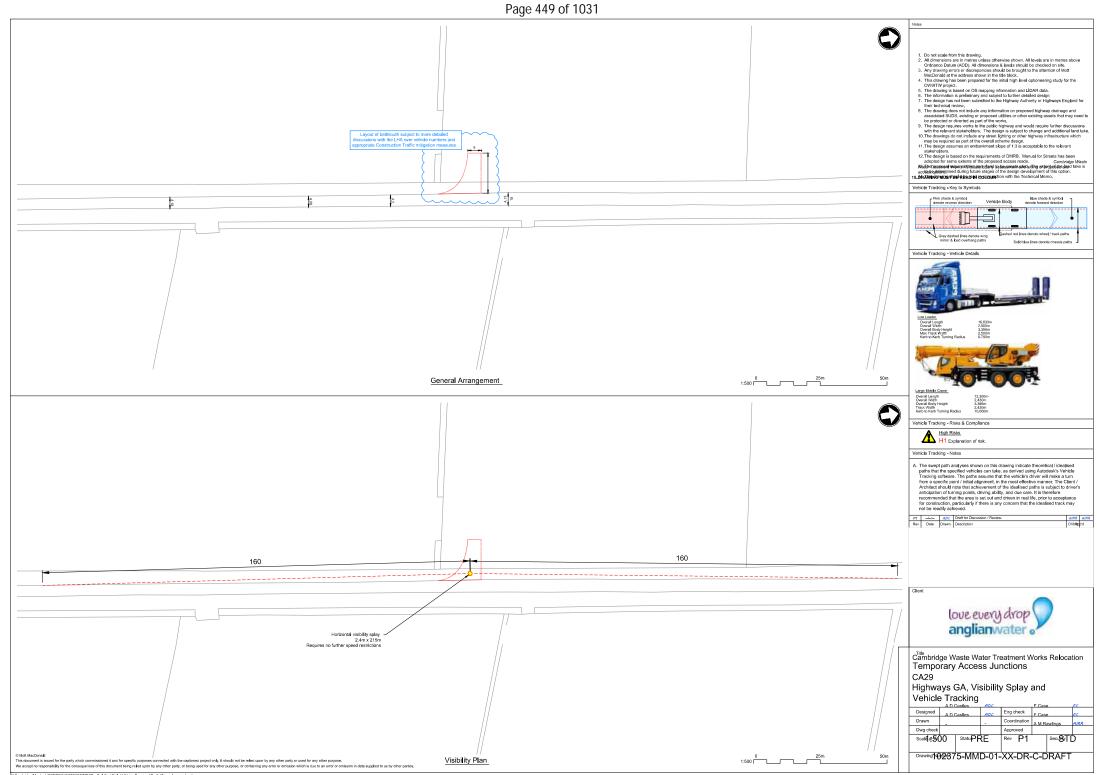


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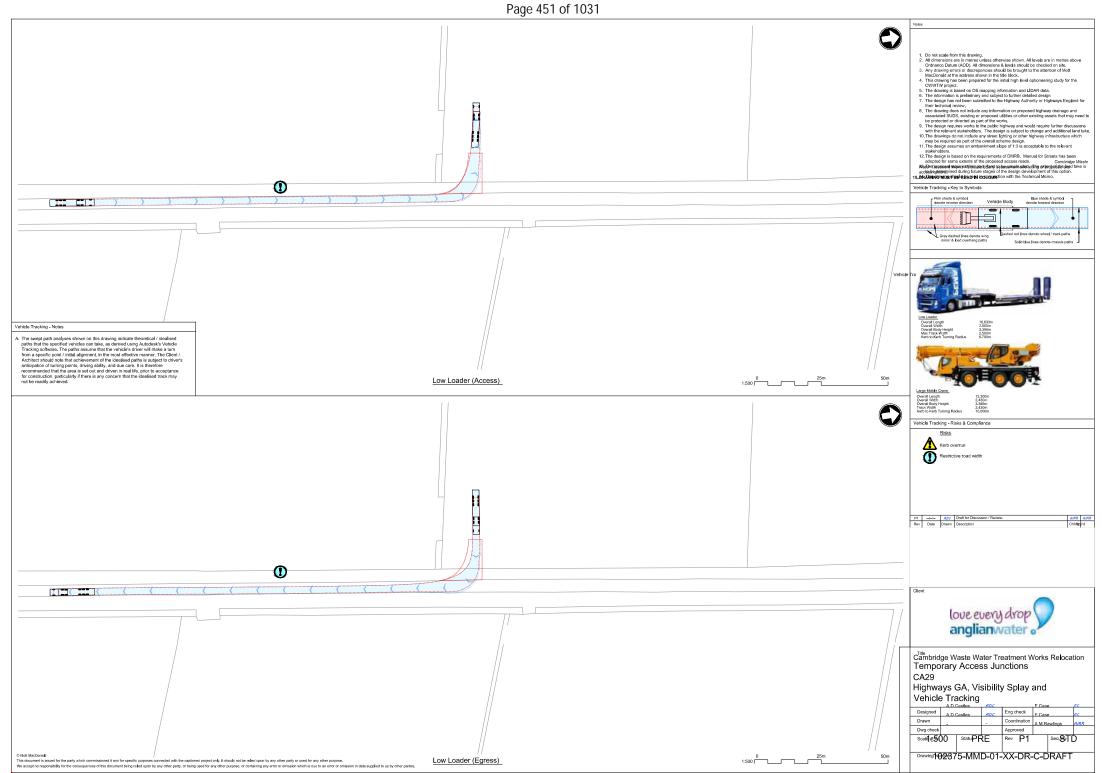
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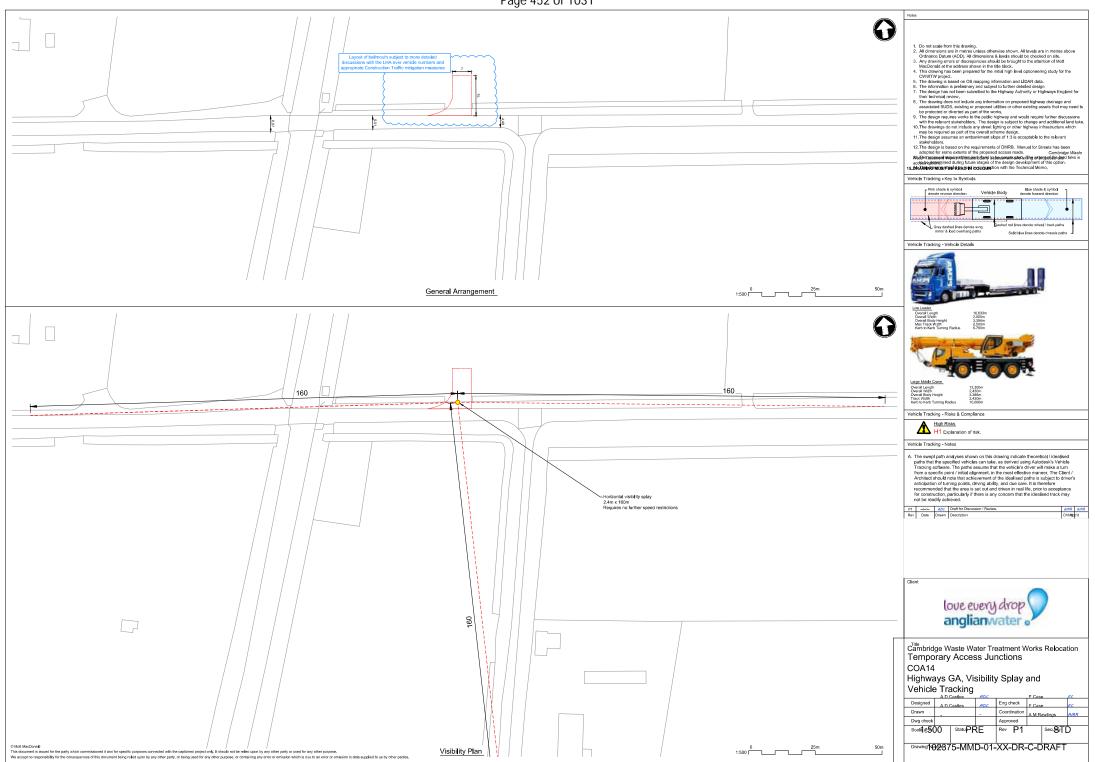


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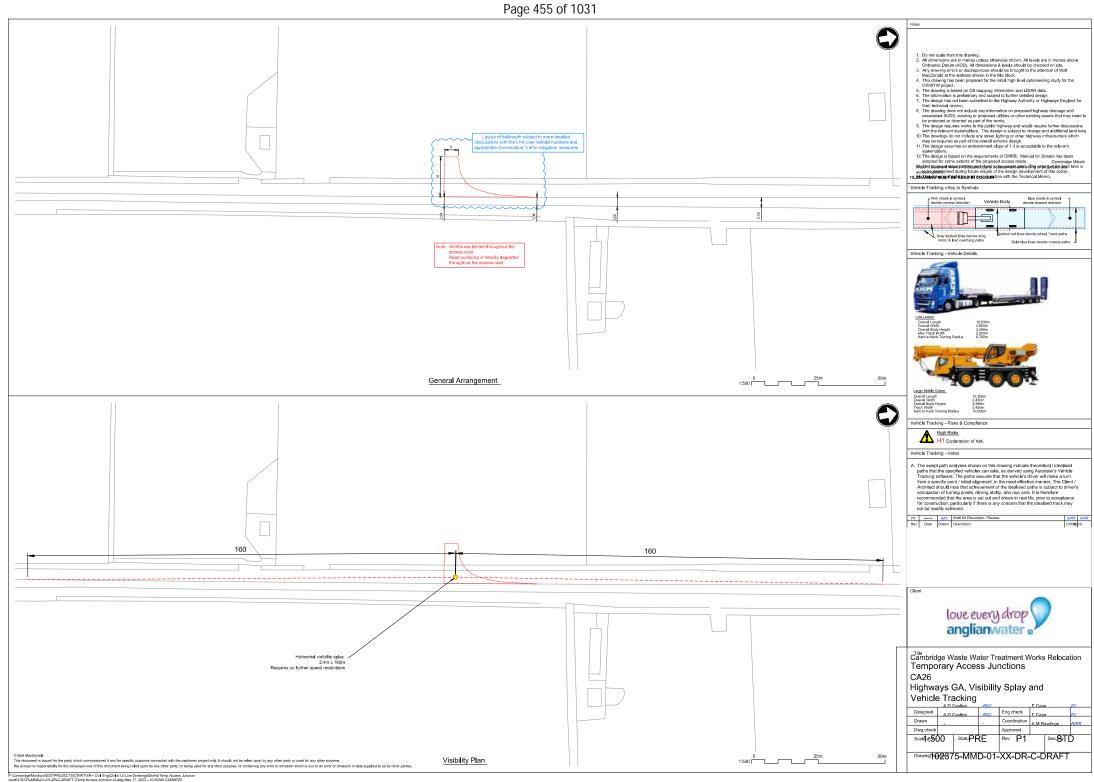


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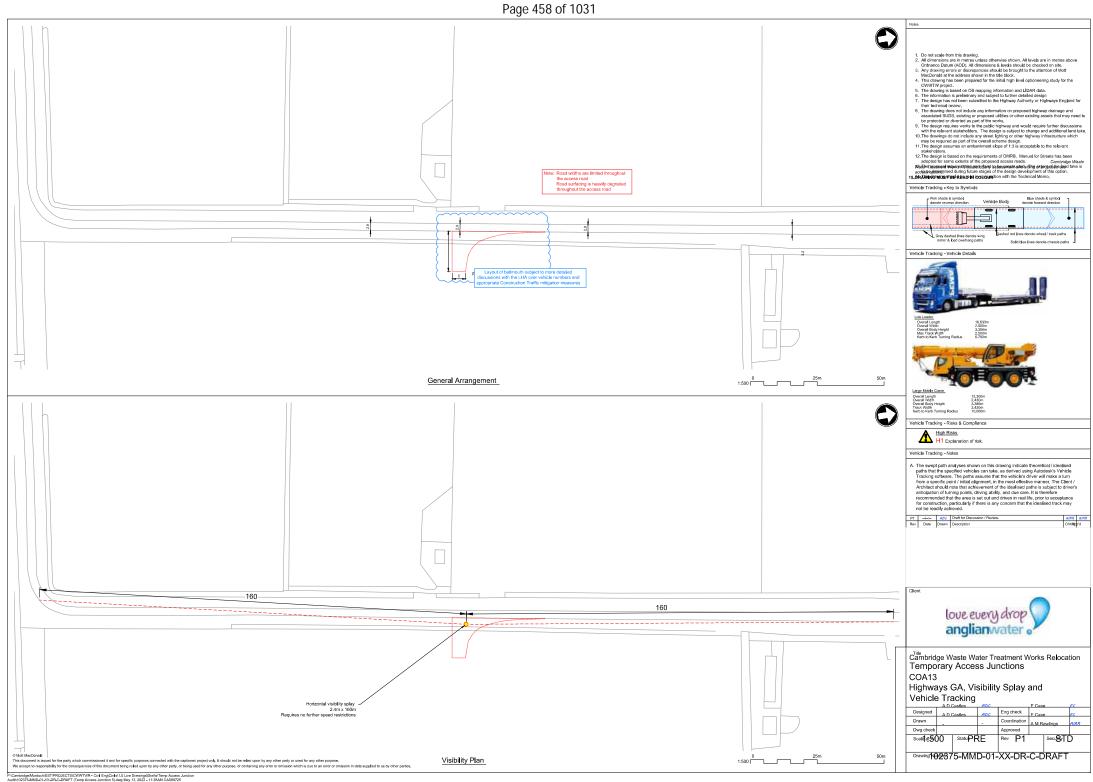


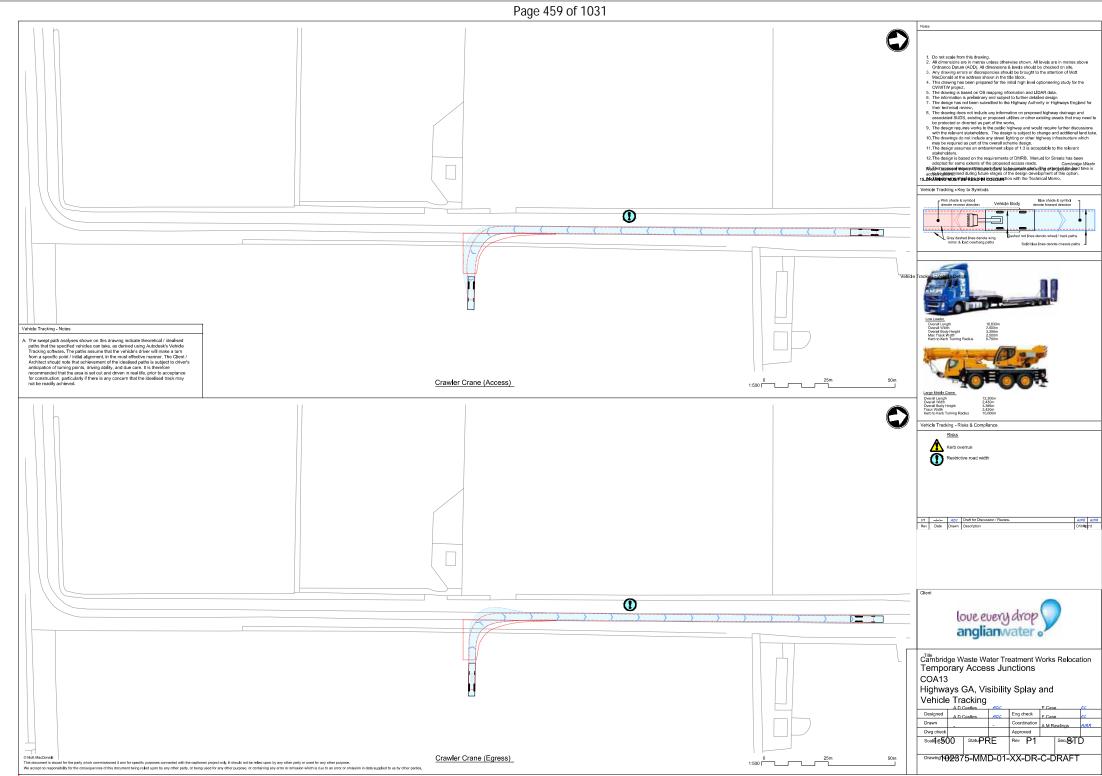
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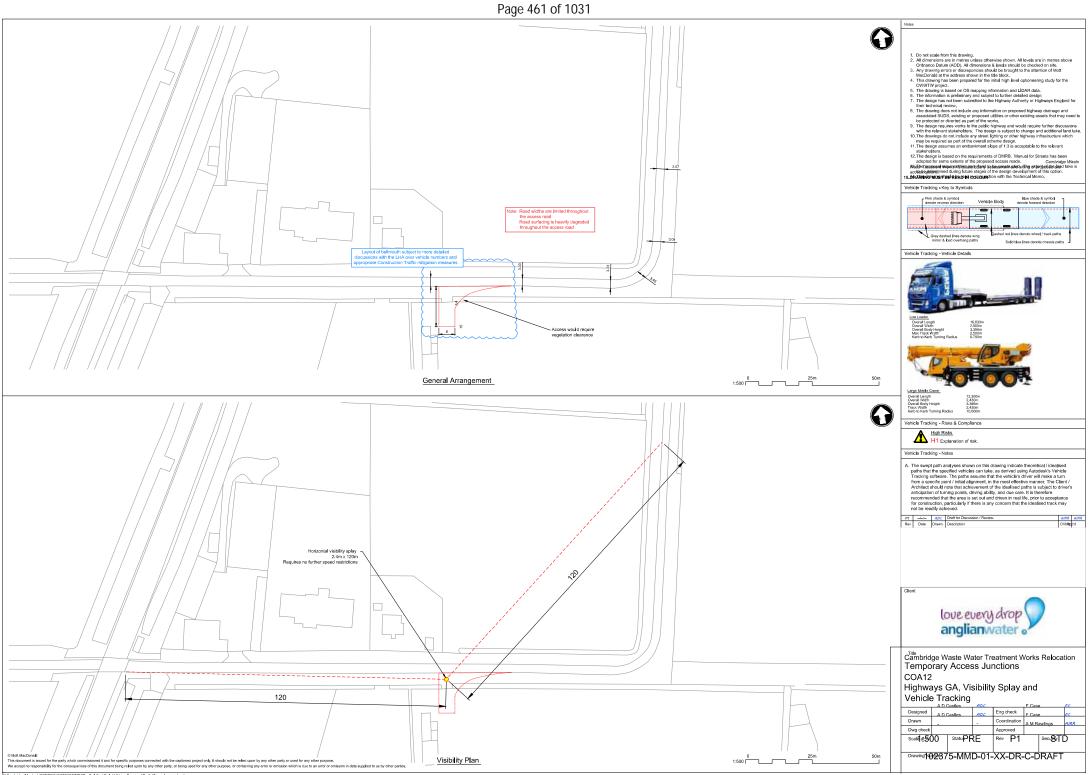


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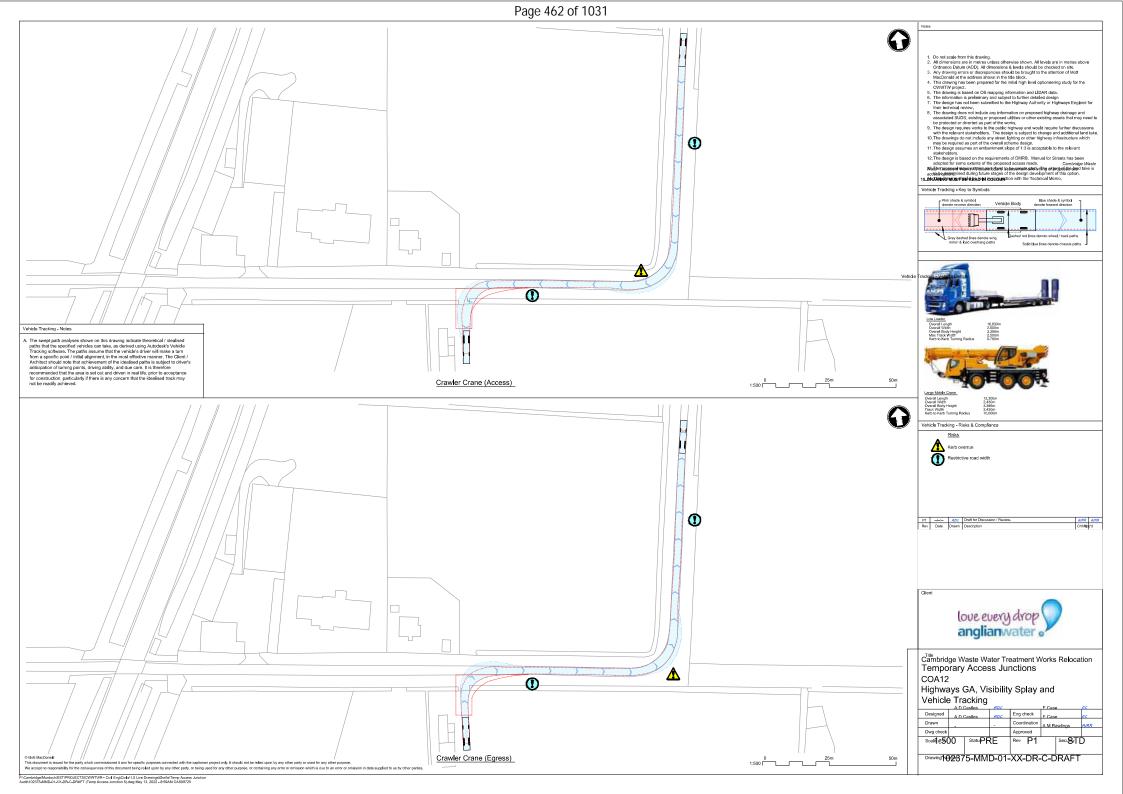


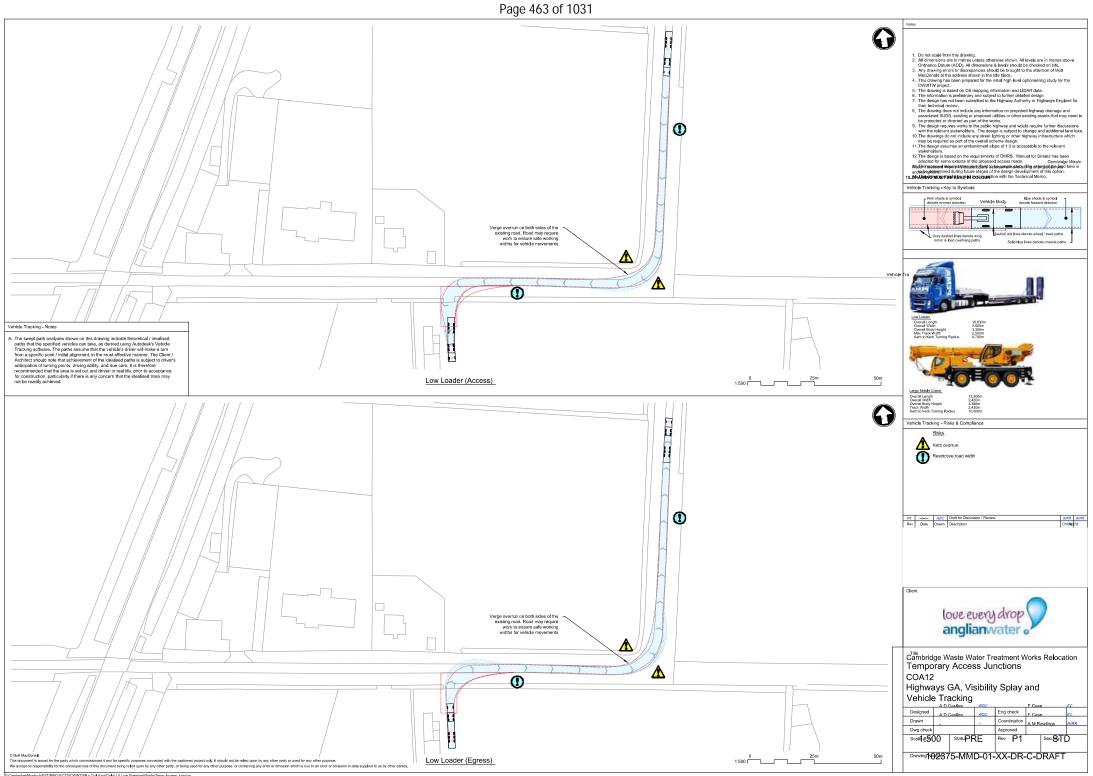


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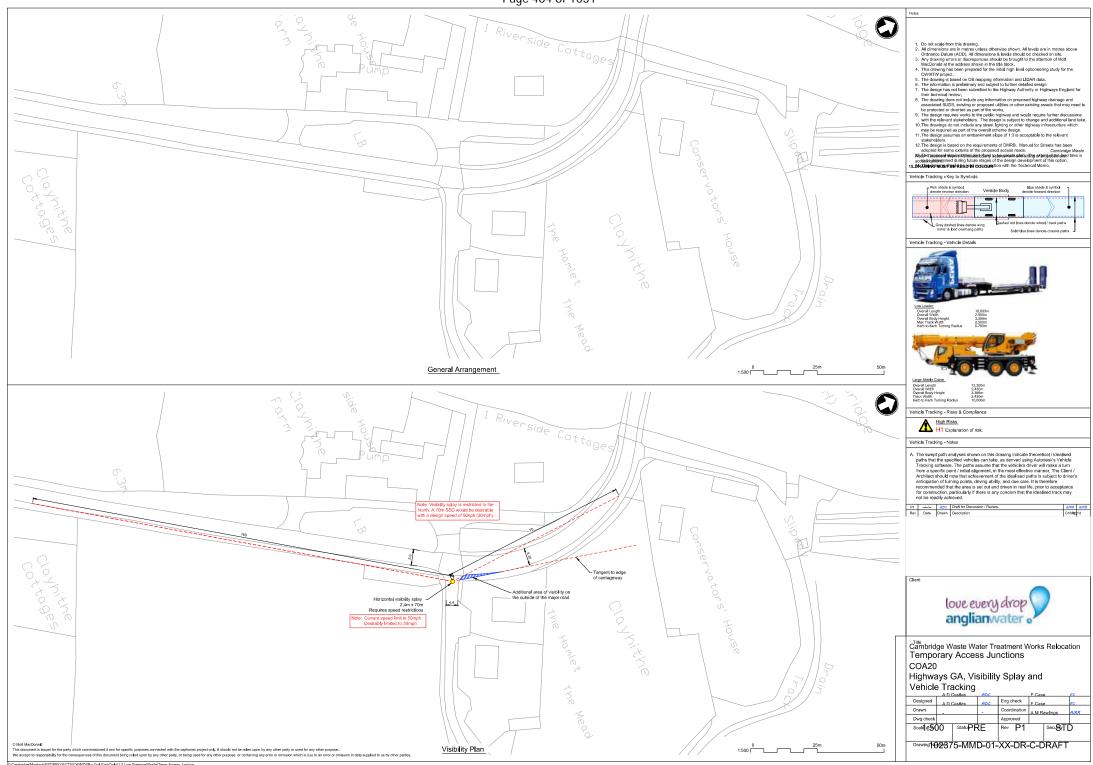
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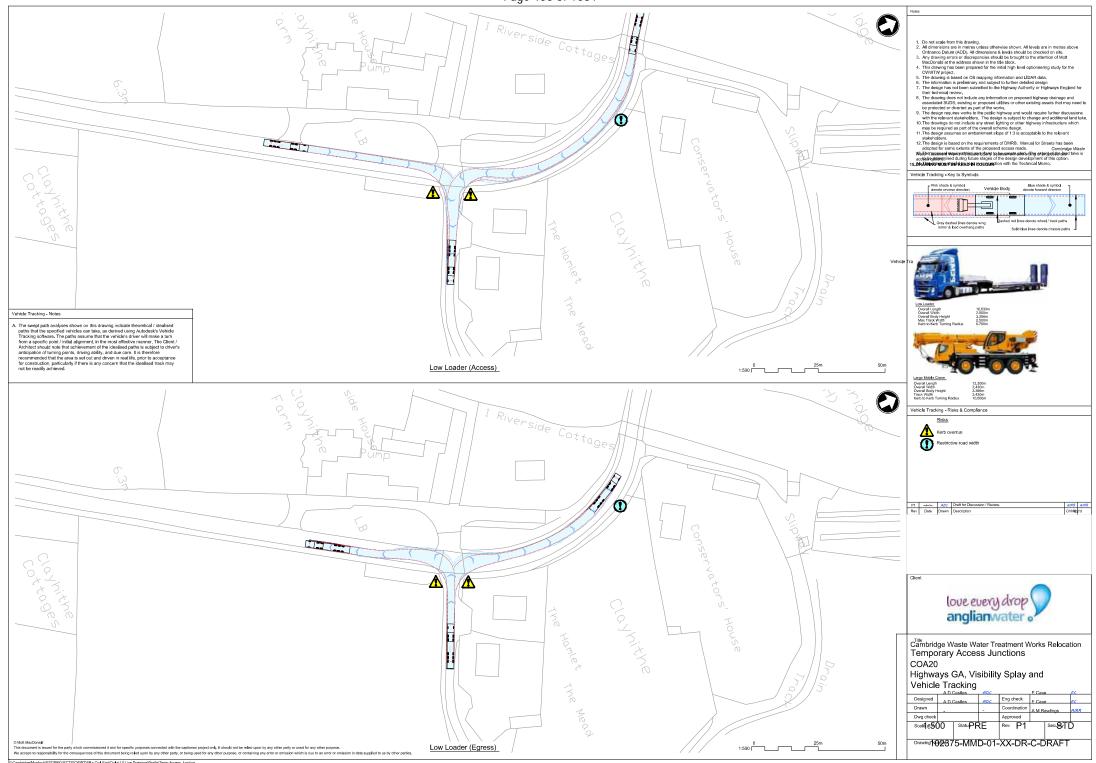
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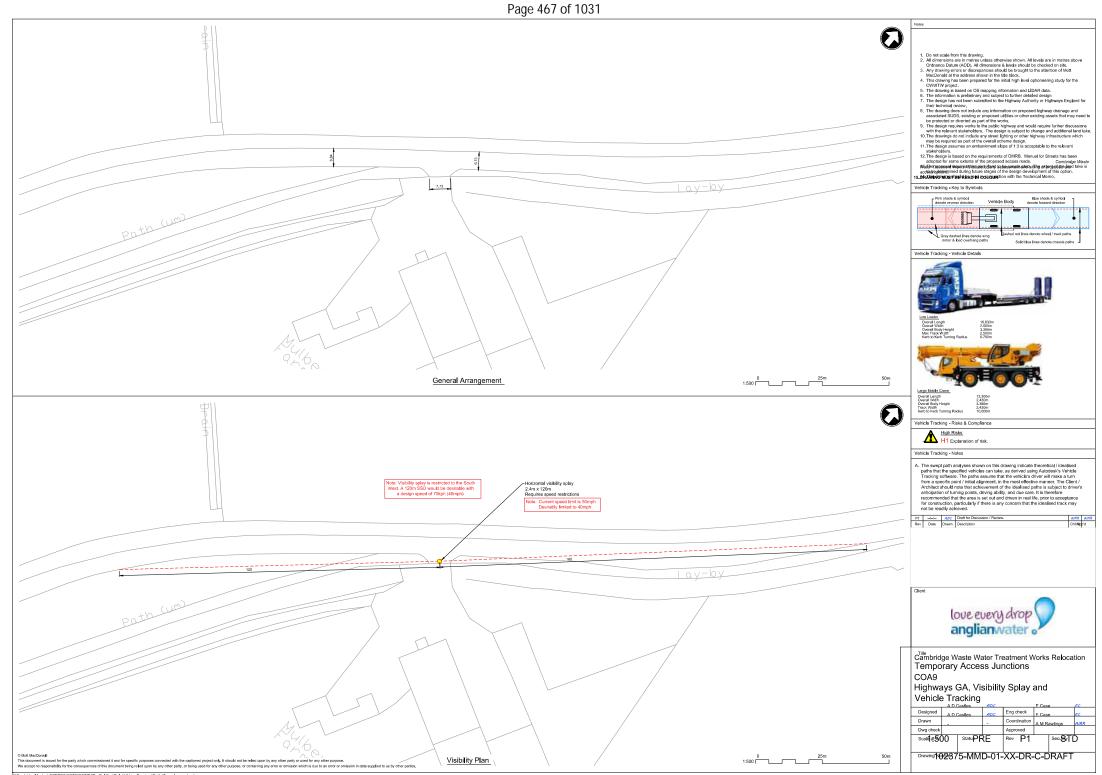


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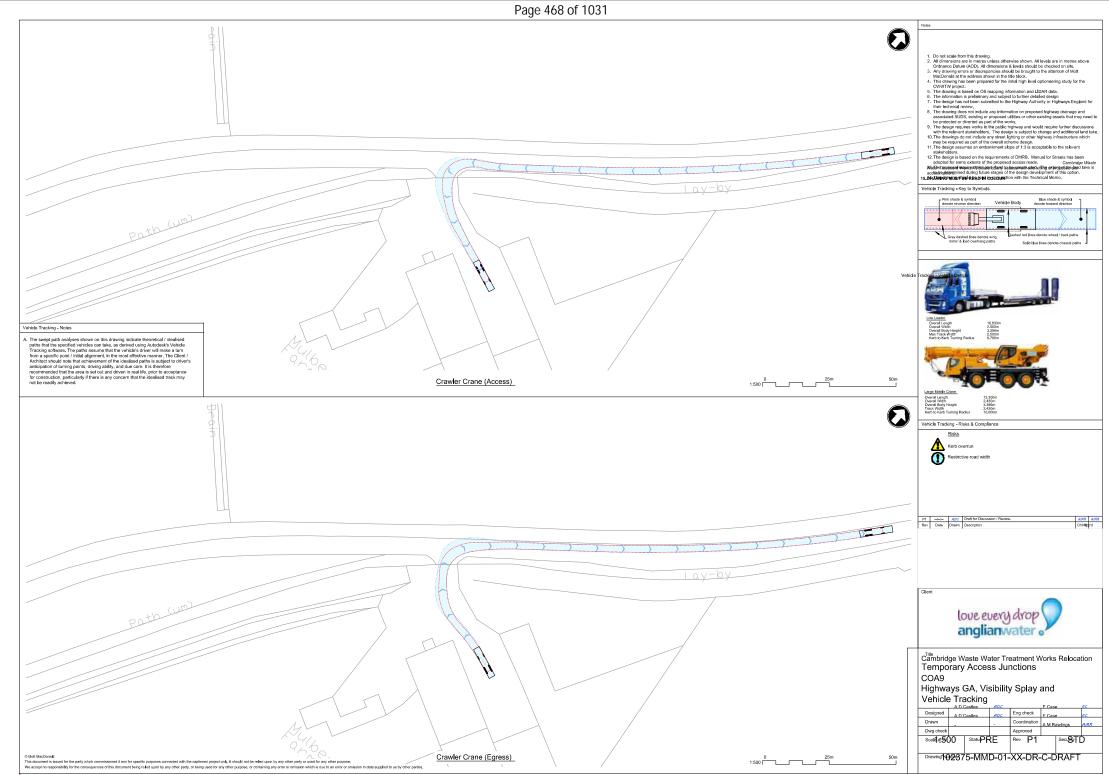
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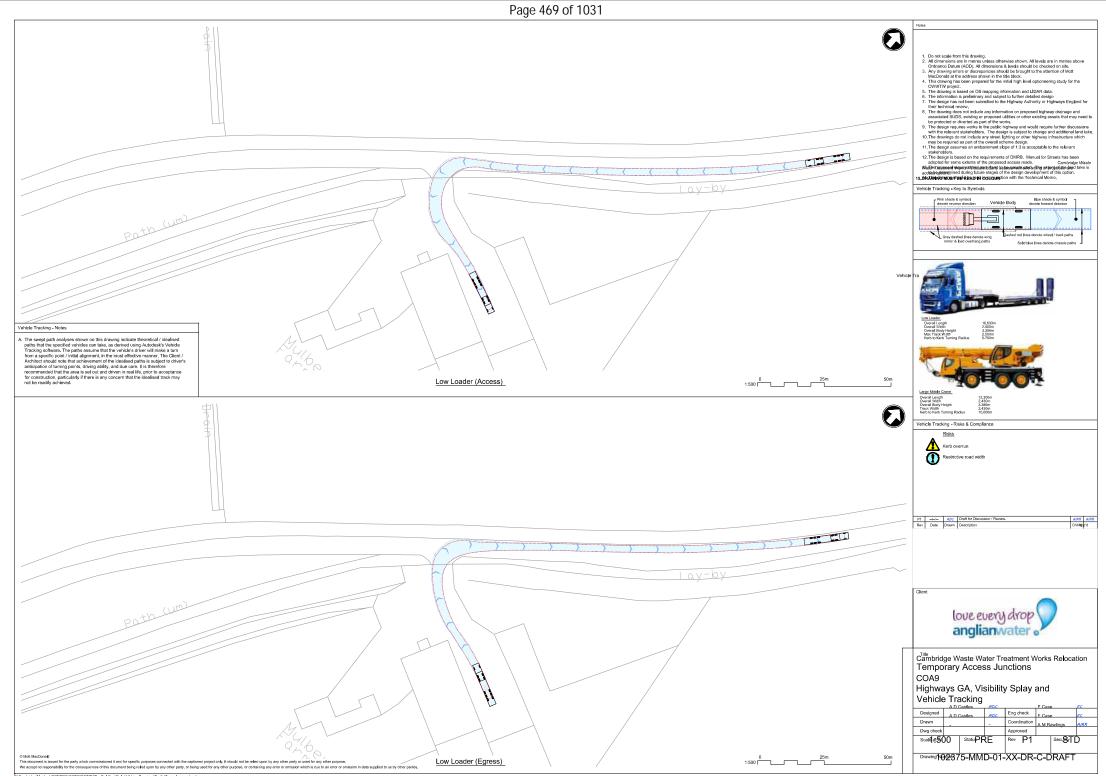
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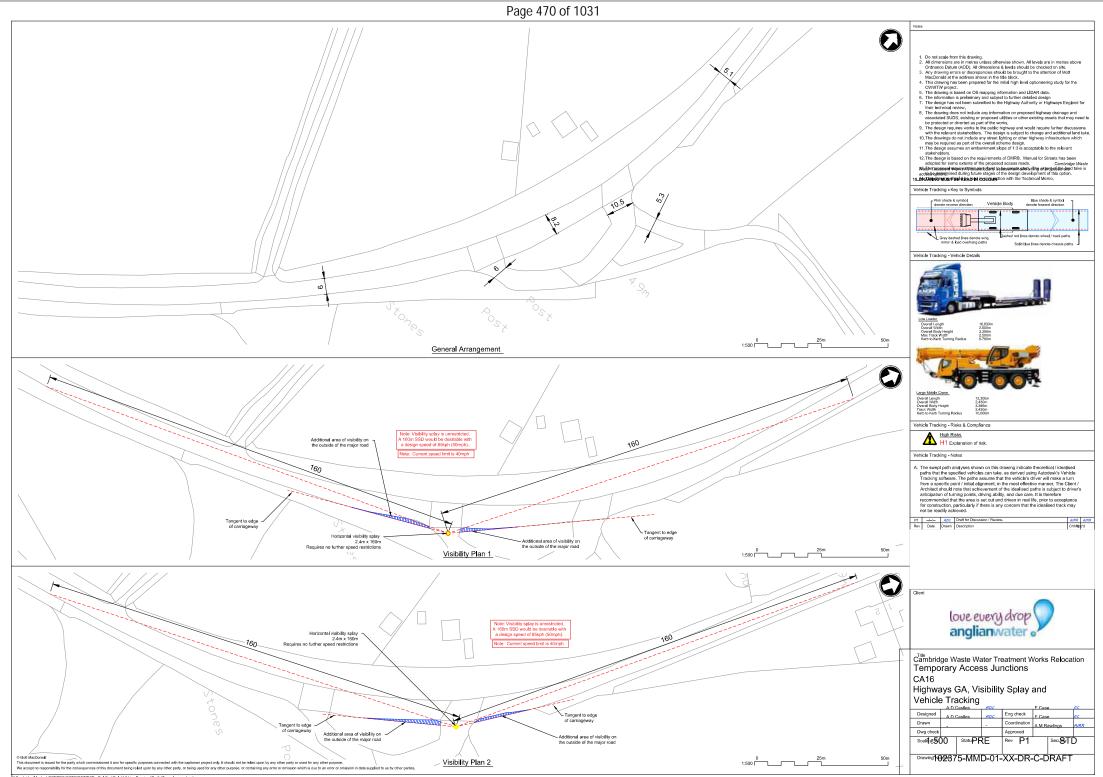
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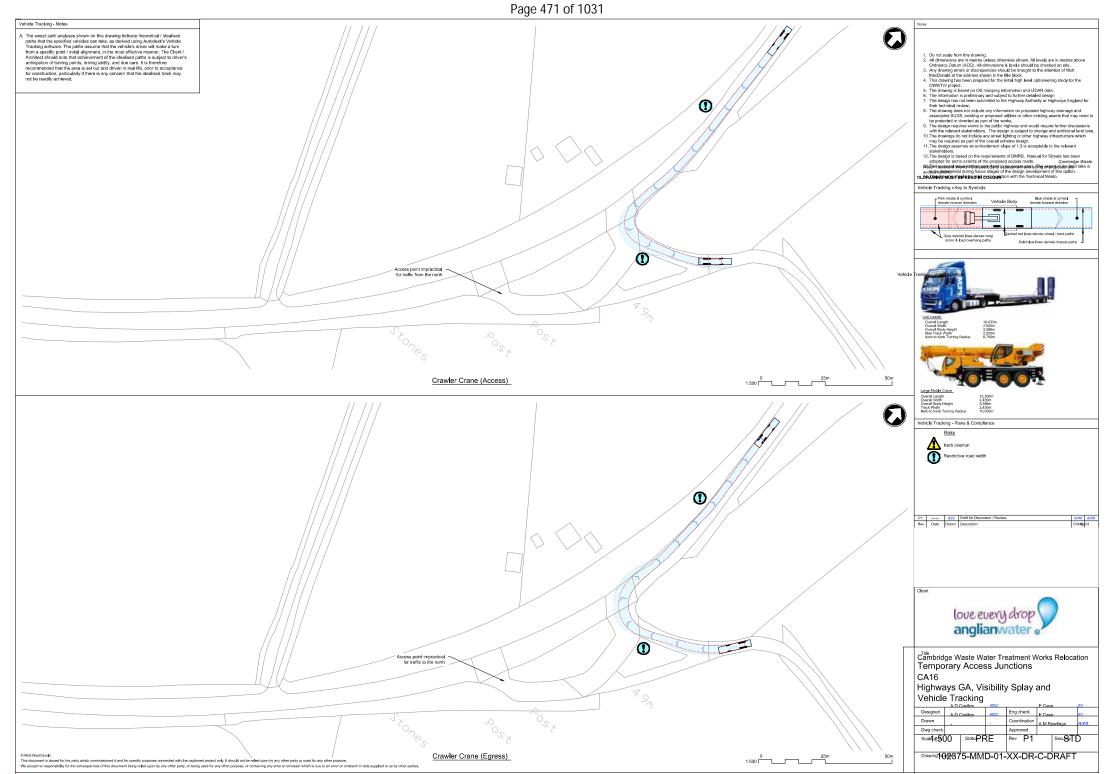
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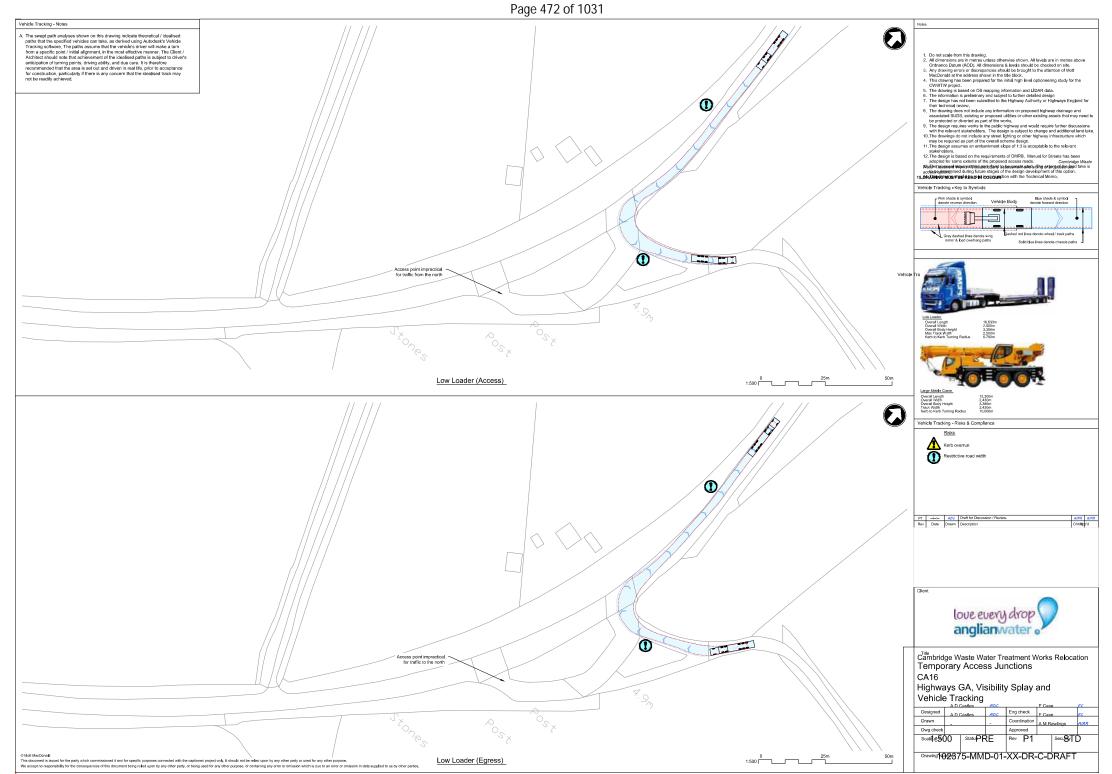
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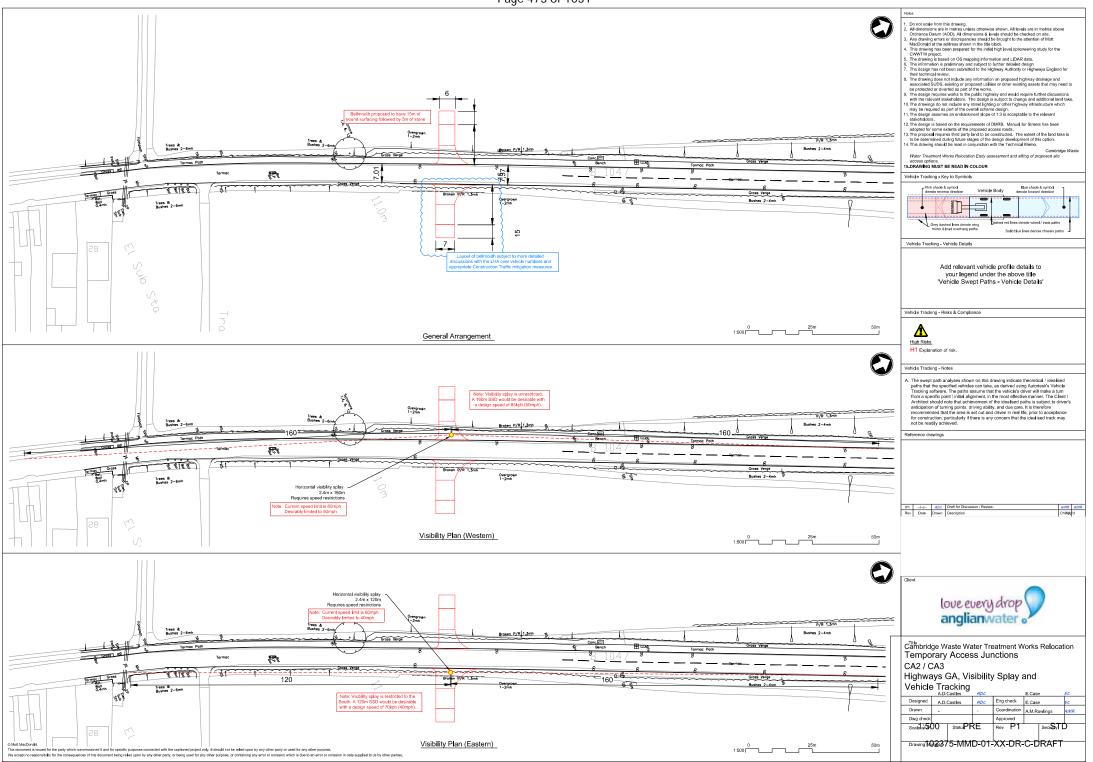
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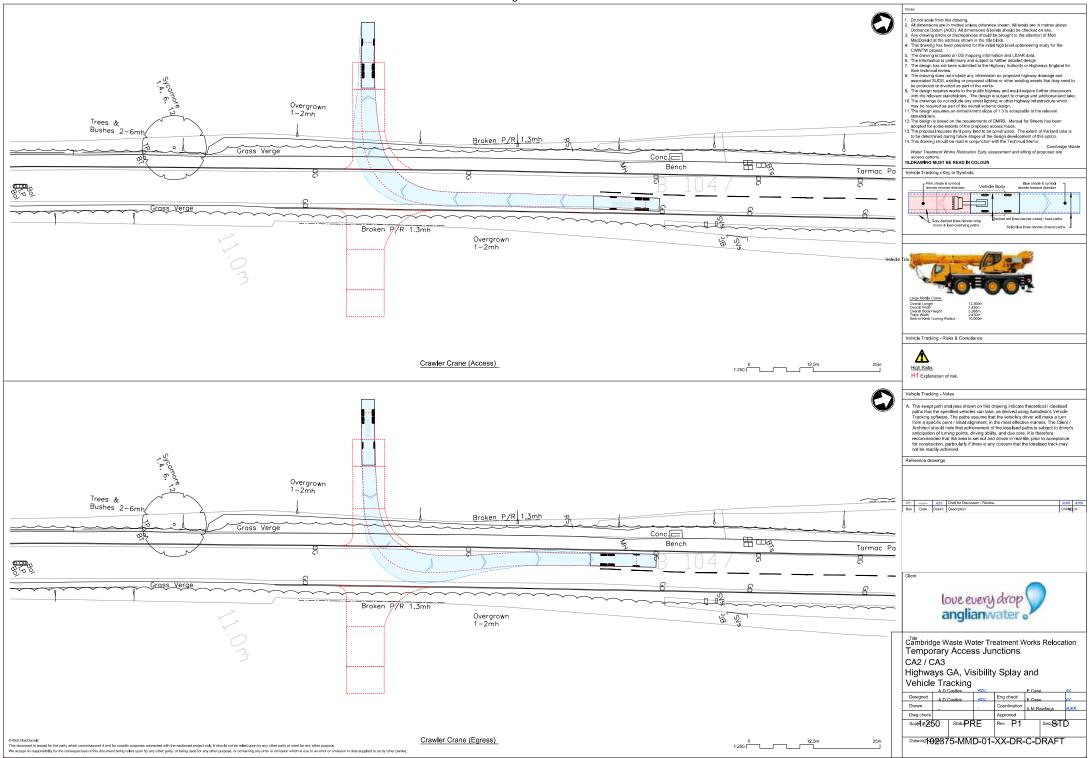
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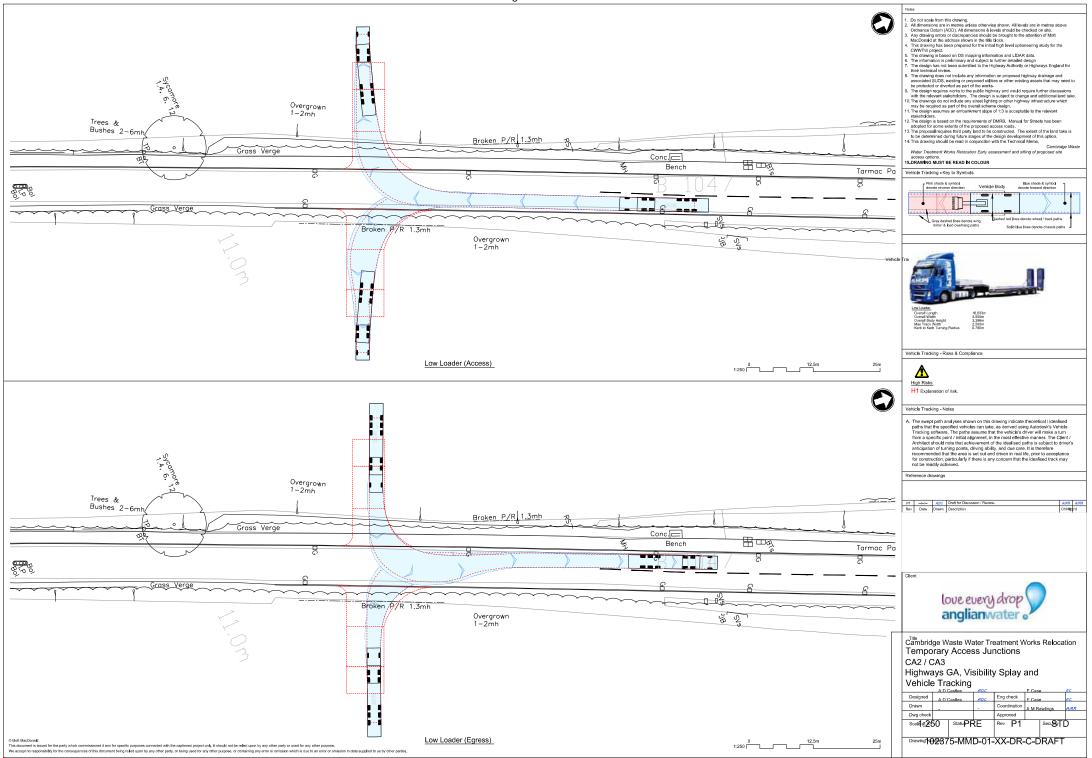
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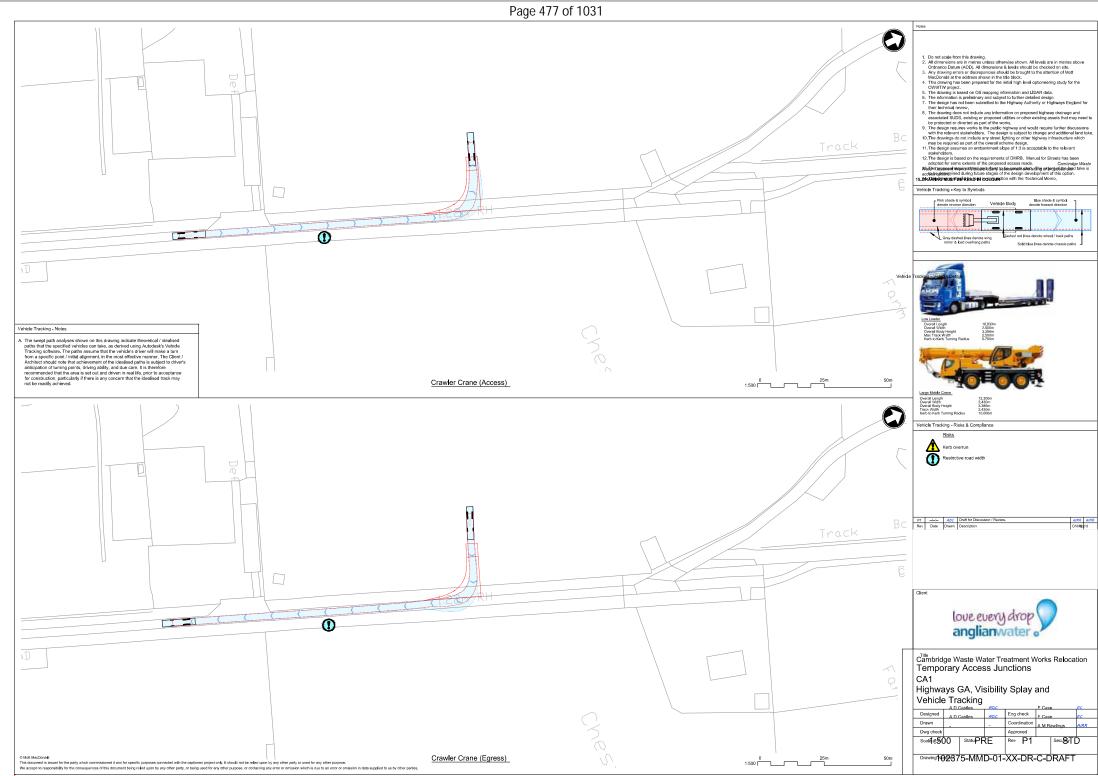
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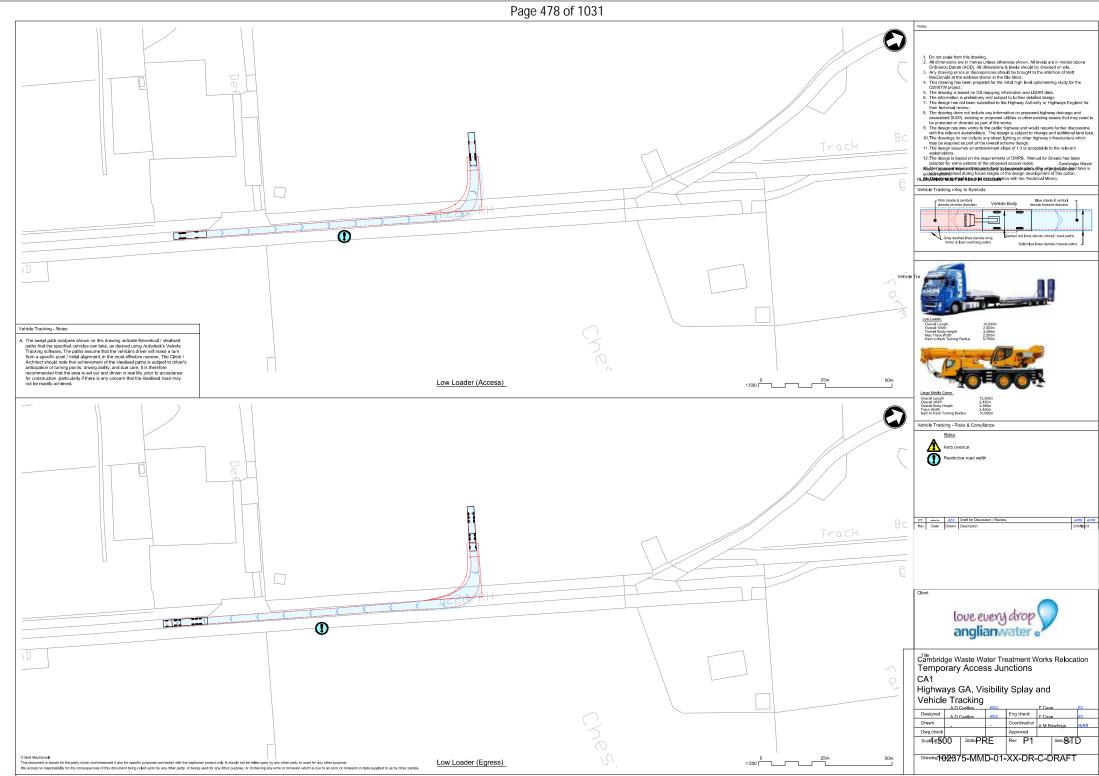
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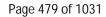
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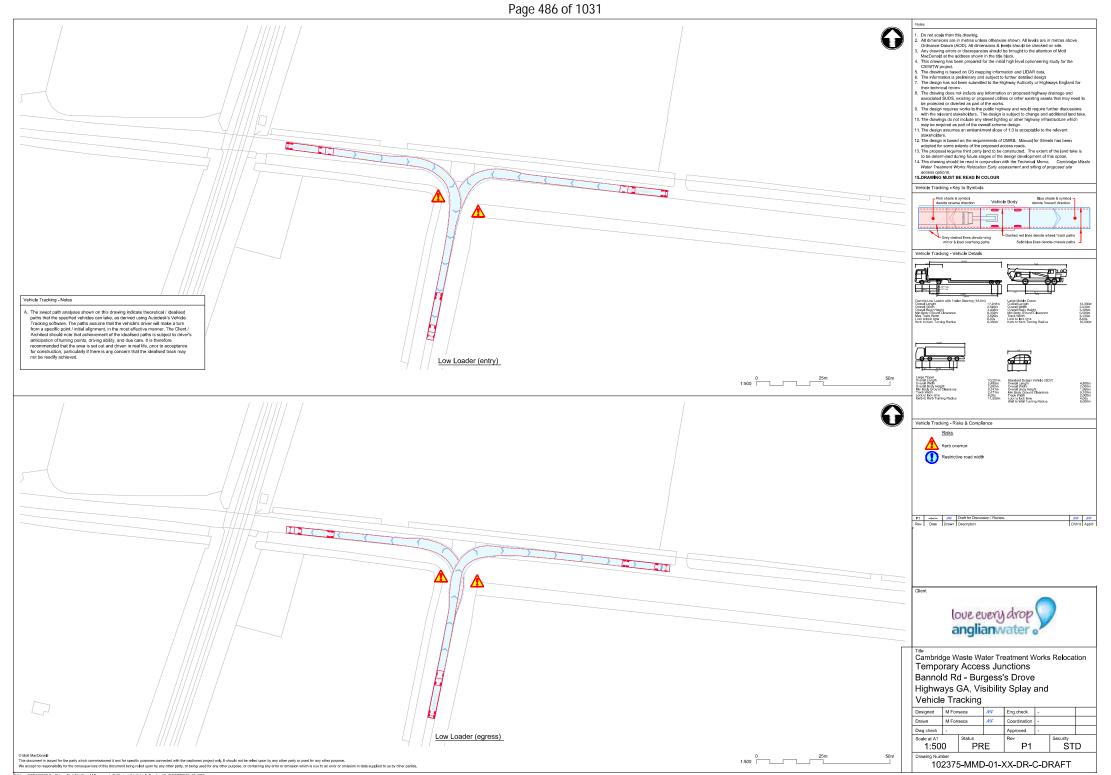


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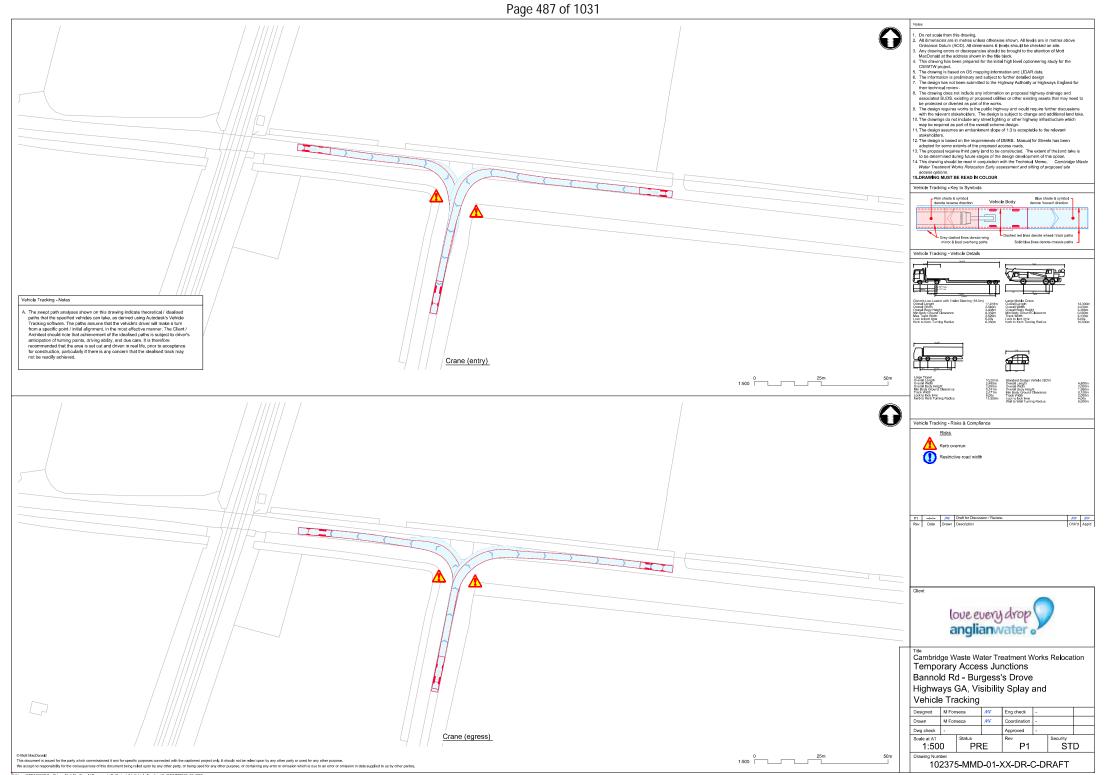
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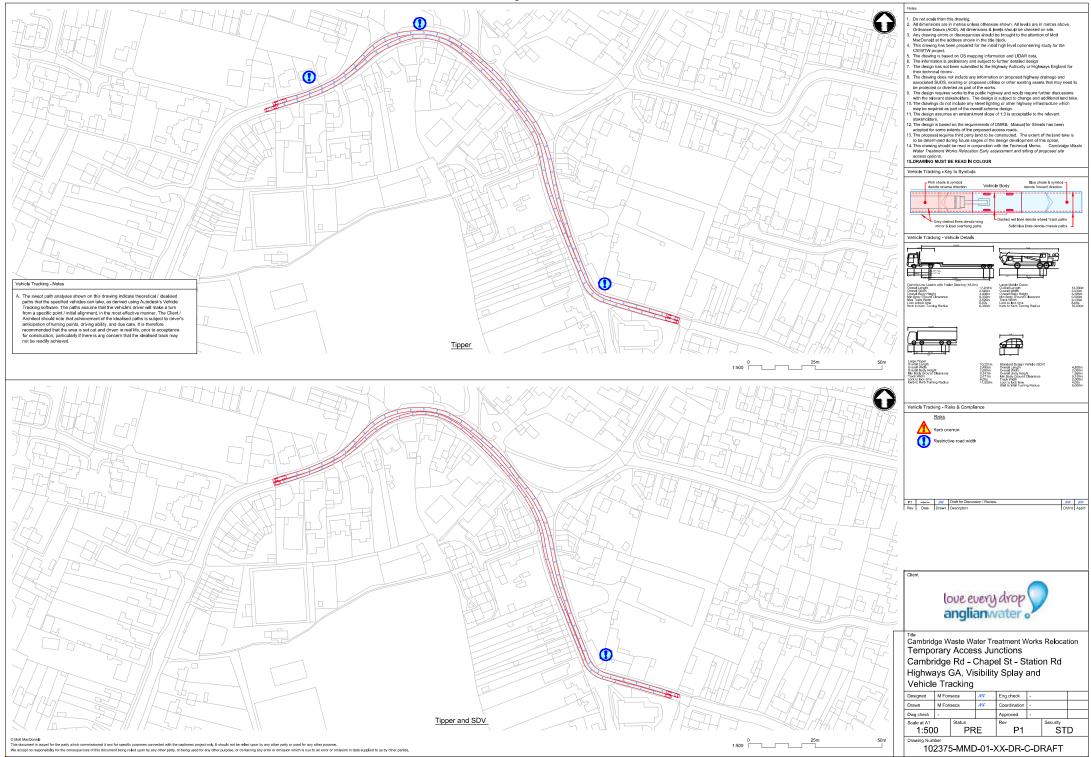


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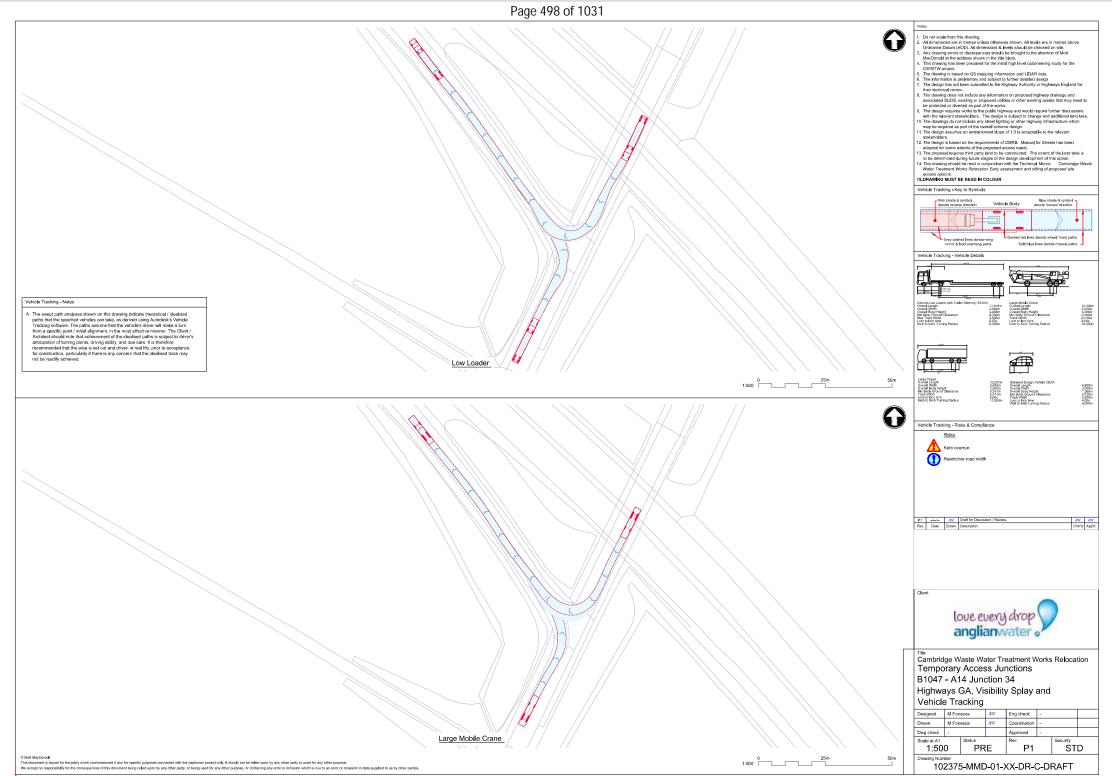




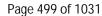
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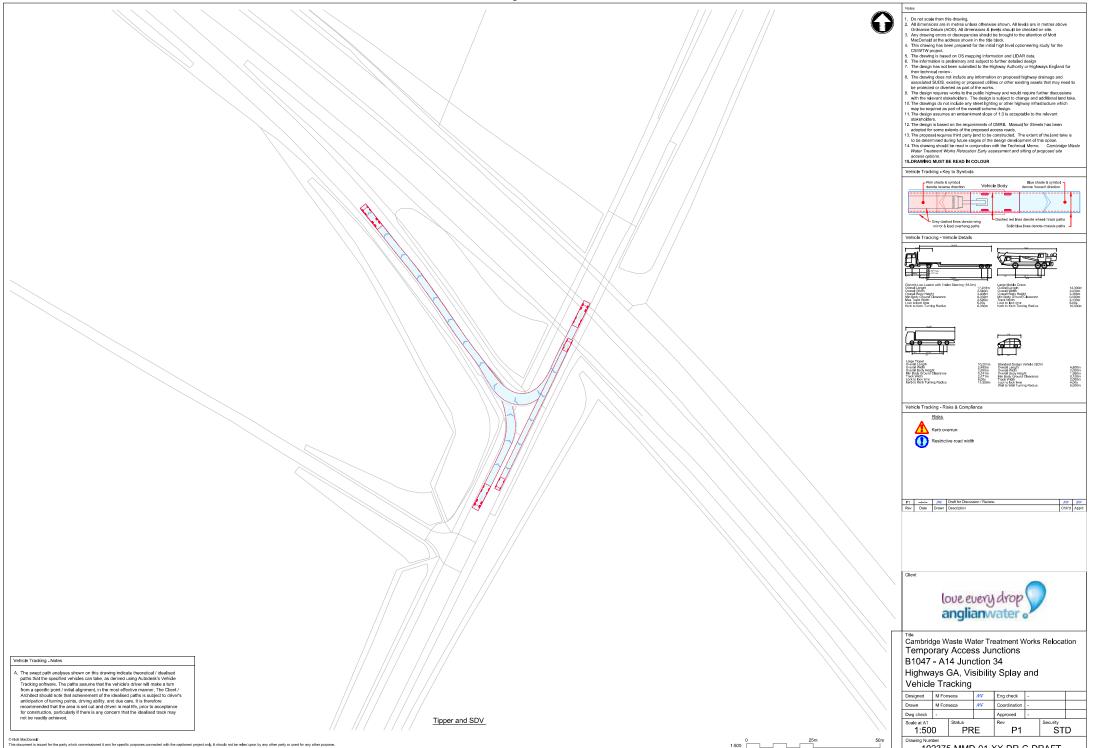


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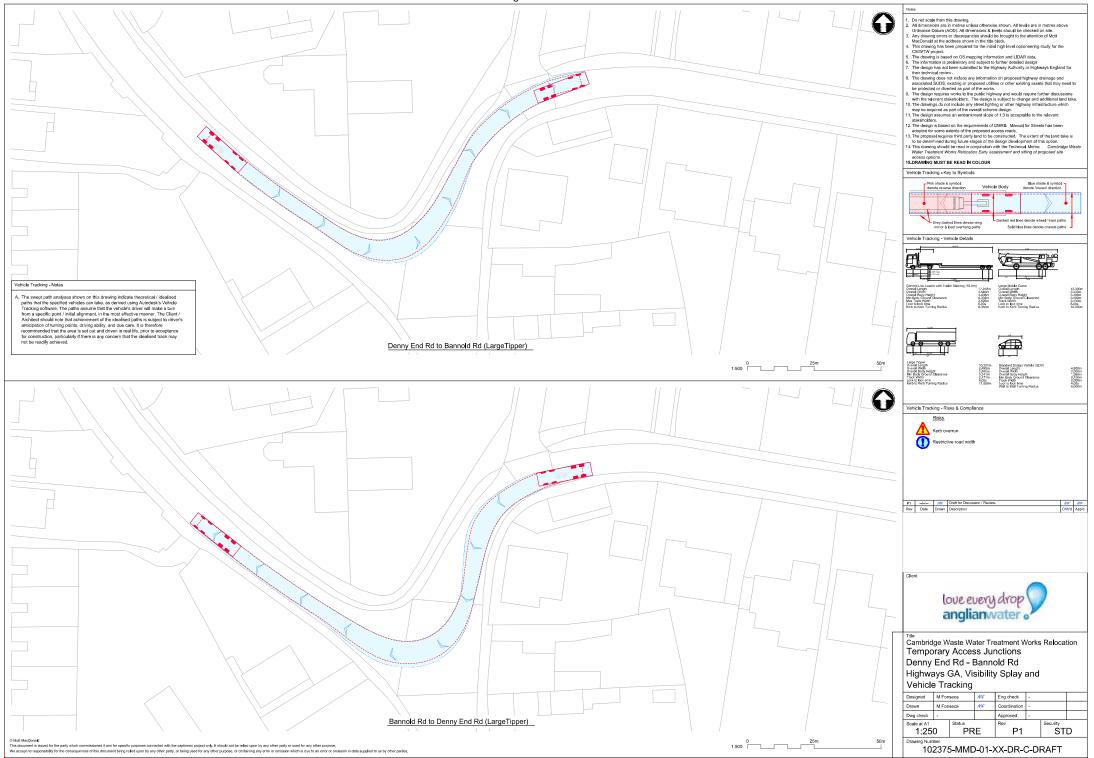




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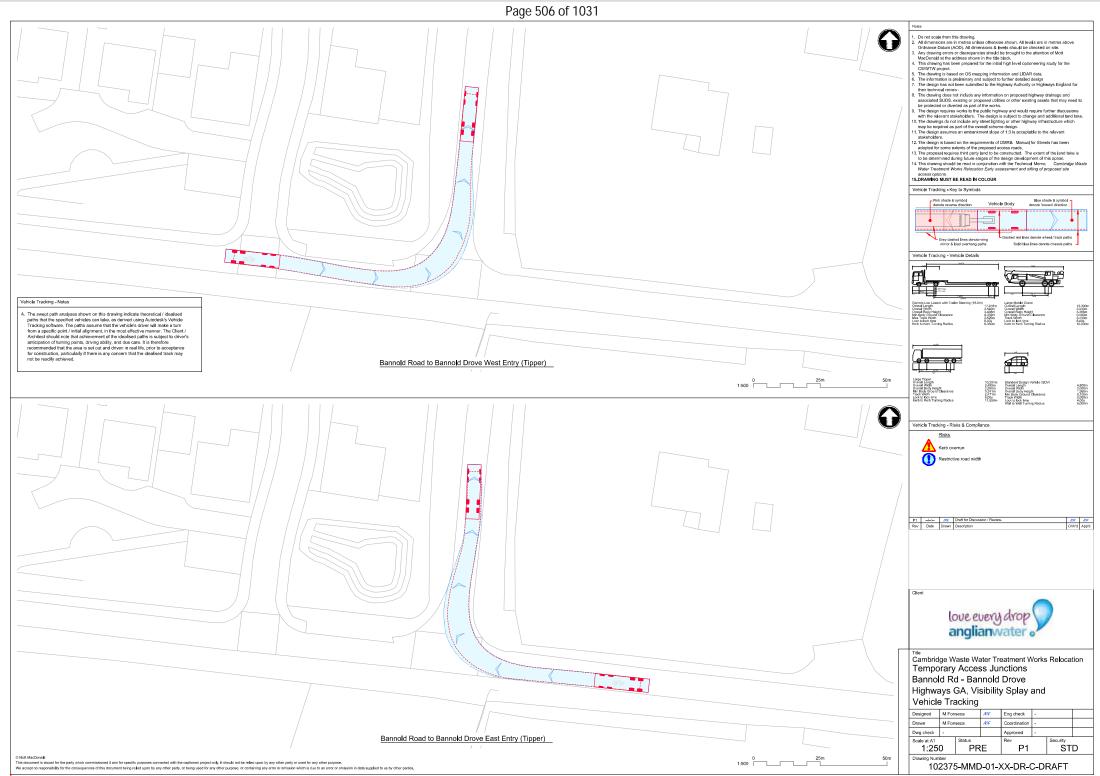
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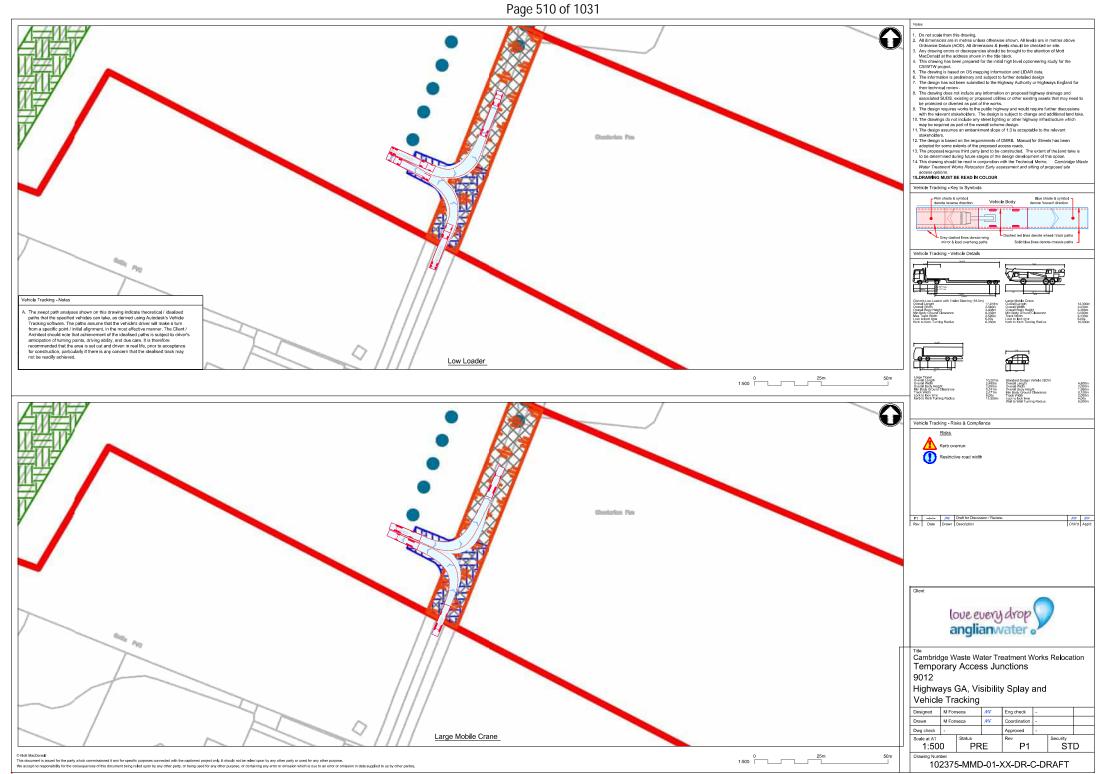


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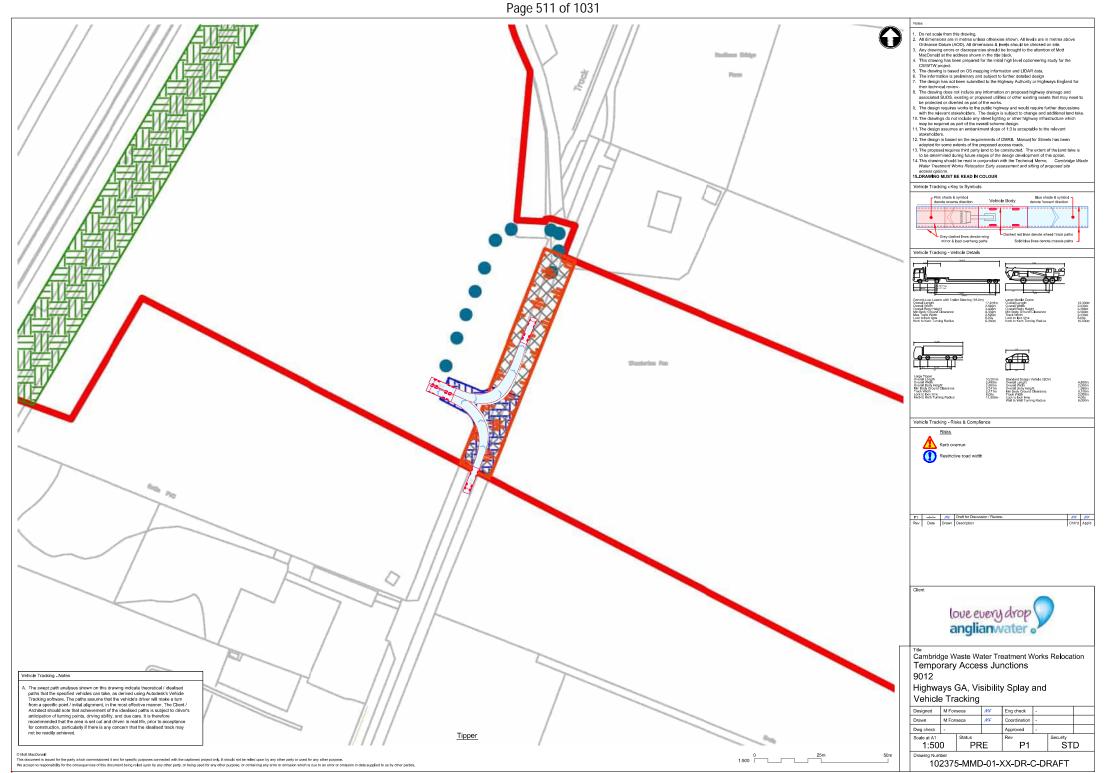




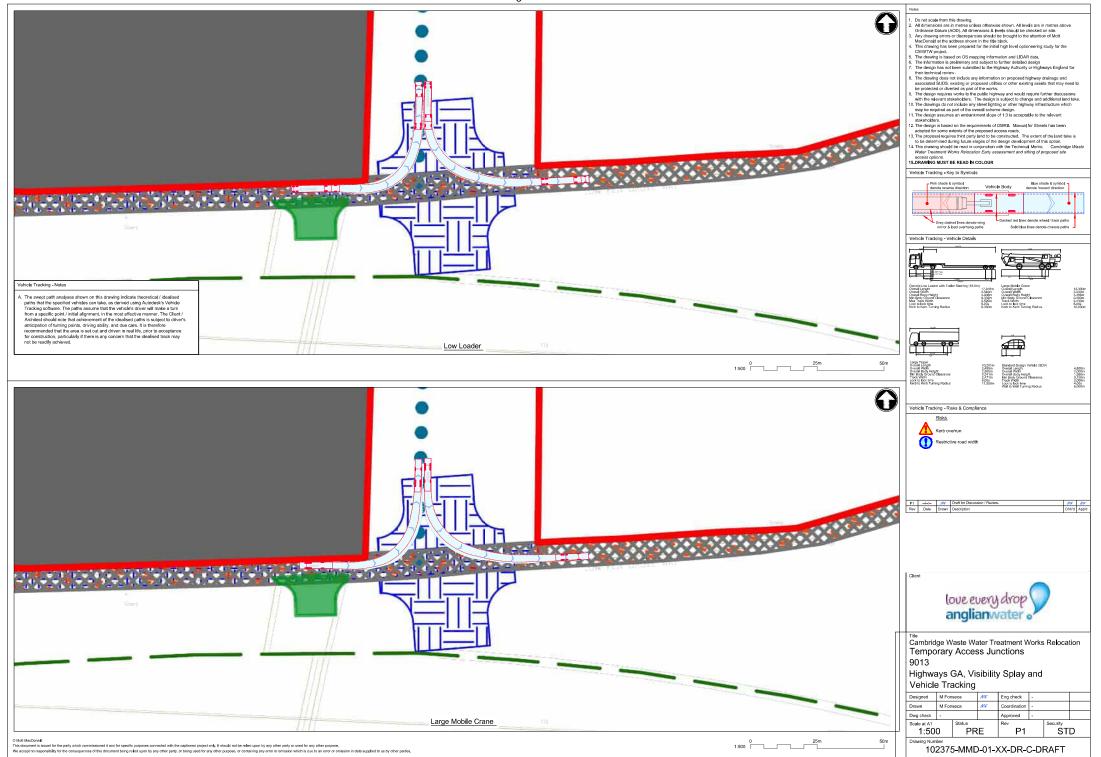
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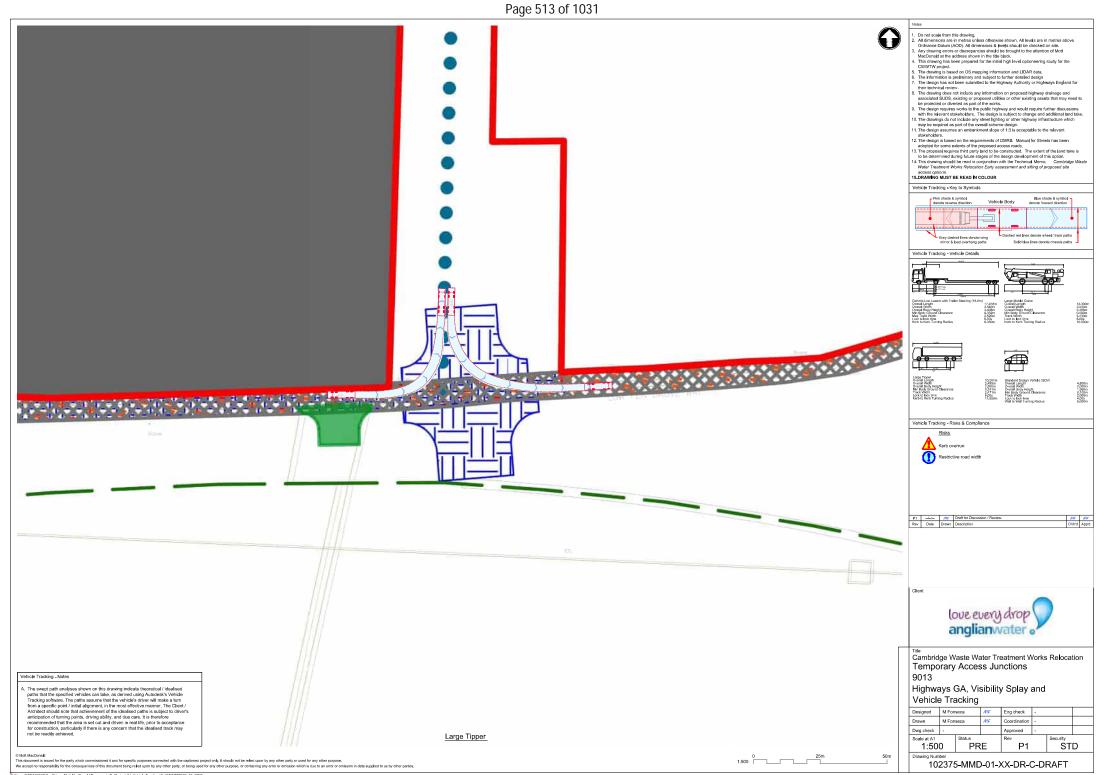
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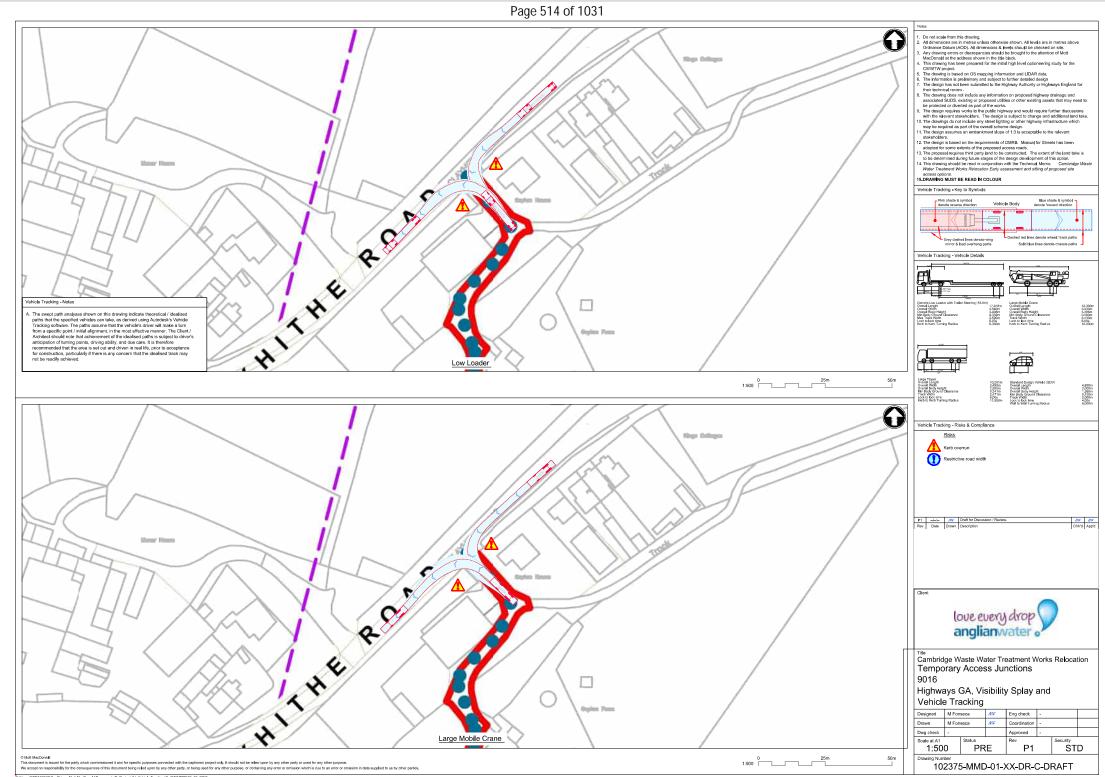
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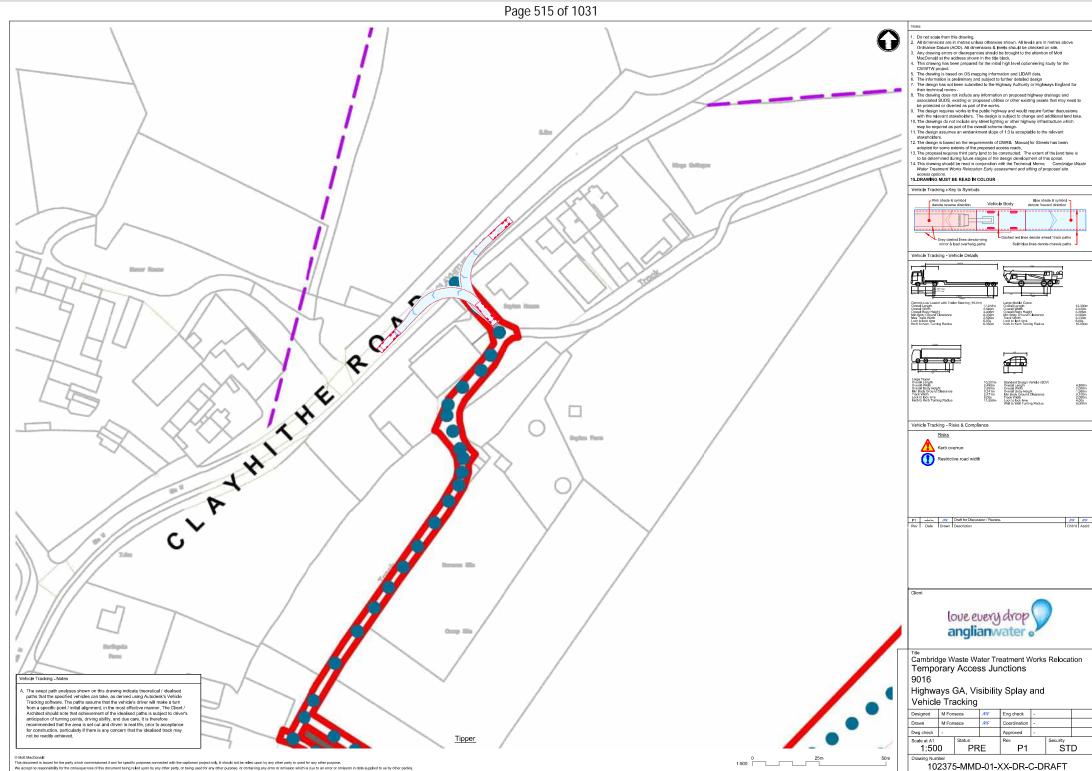
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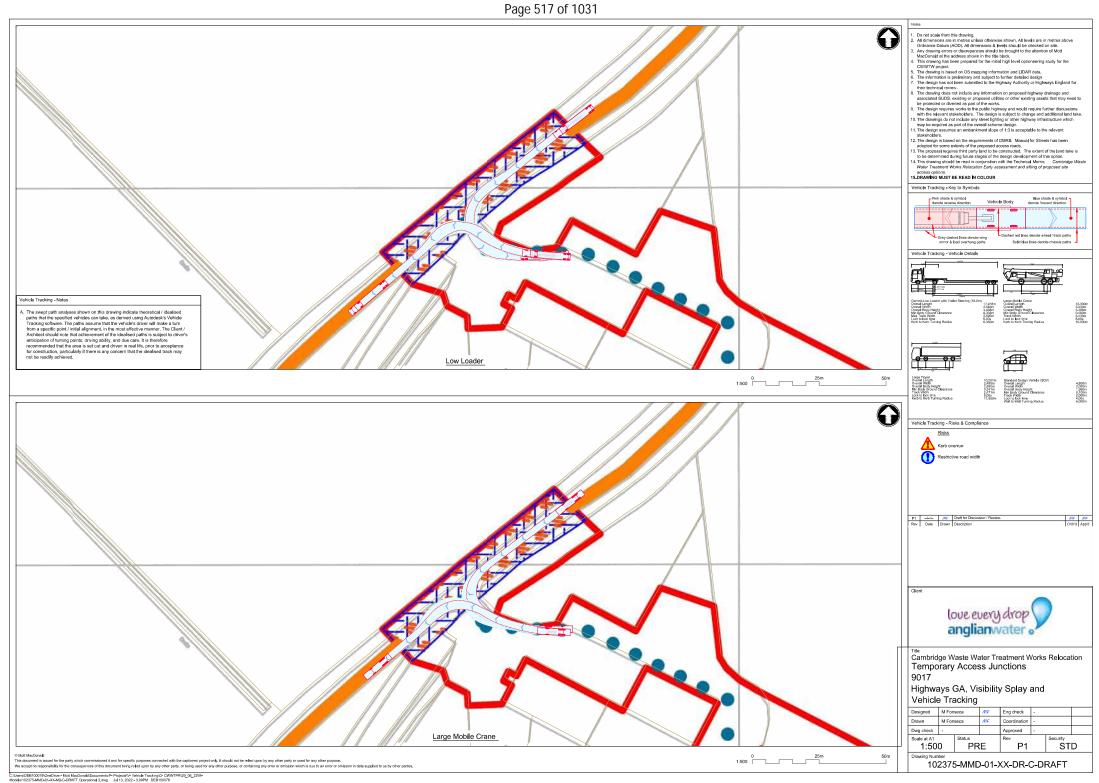
• vice macrosmu This document is seaded or the party which commissioned it and for specific purposes connected with the captioned project only. It should not be relied upon by any other party or used for any alter purpose. We accept no responsibility for the consequences of this document being relied upon by any other party, or being used for any other purpose, or containing any error or omission which is due to an error or omission in data supplied to us by other parties.

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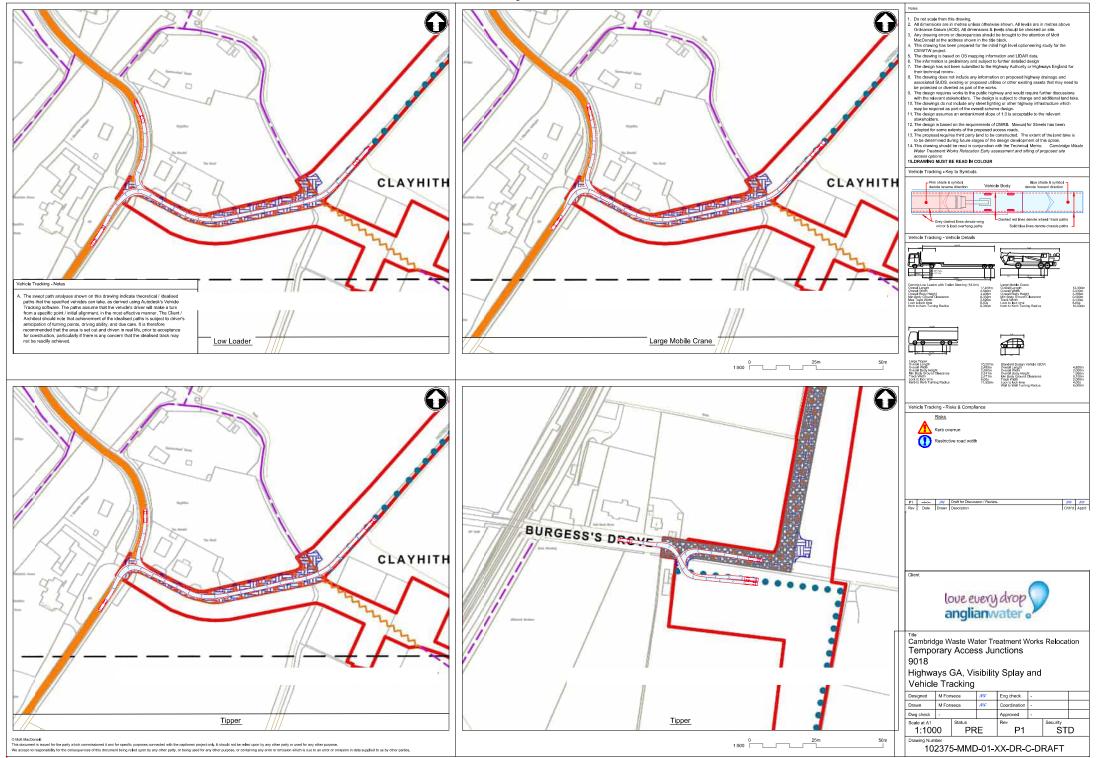
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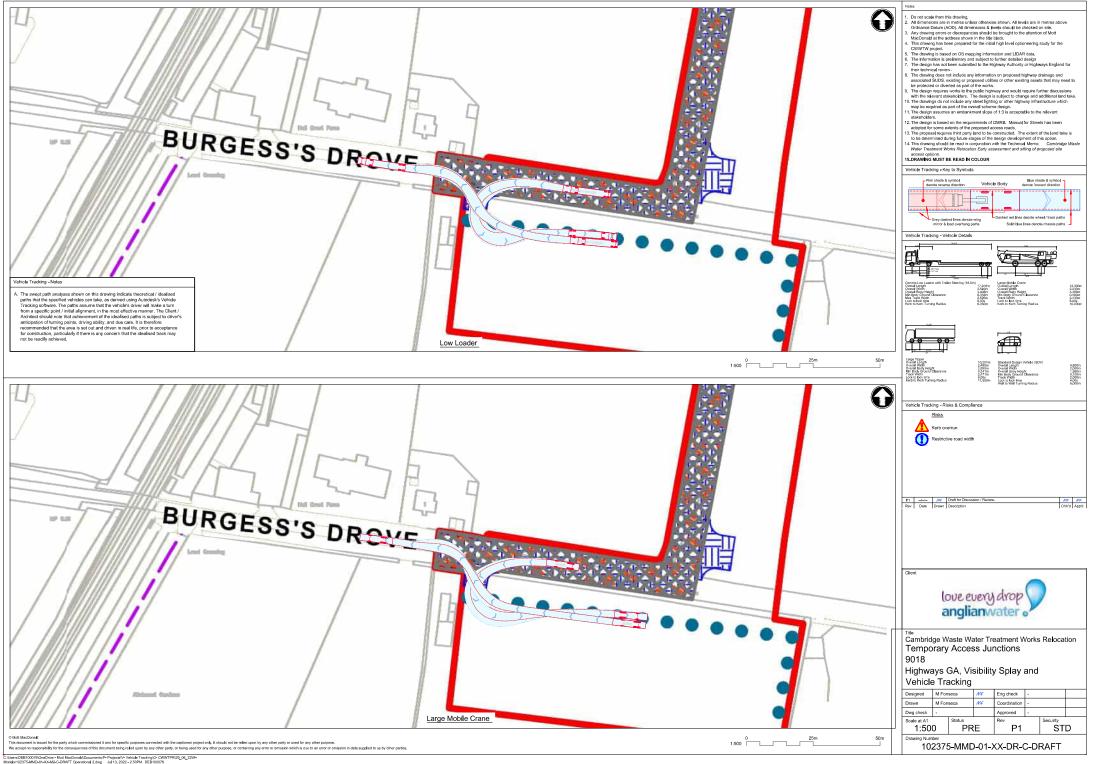


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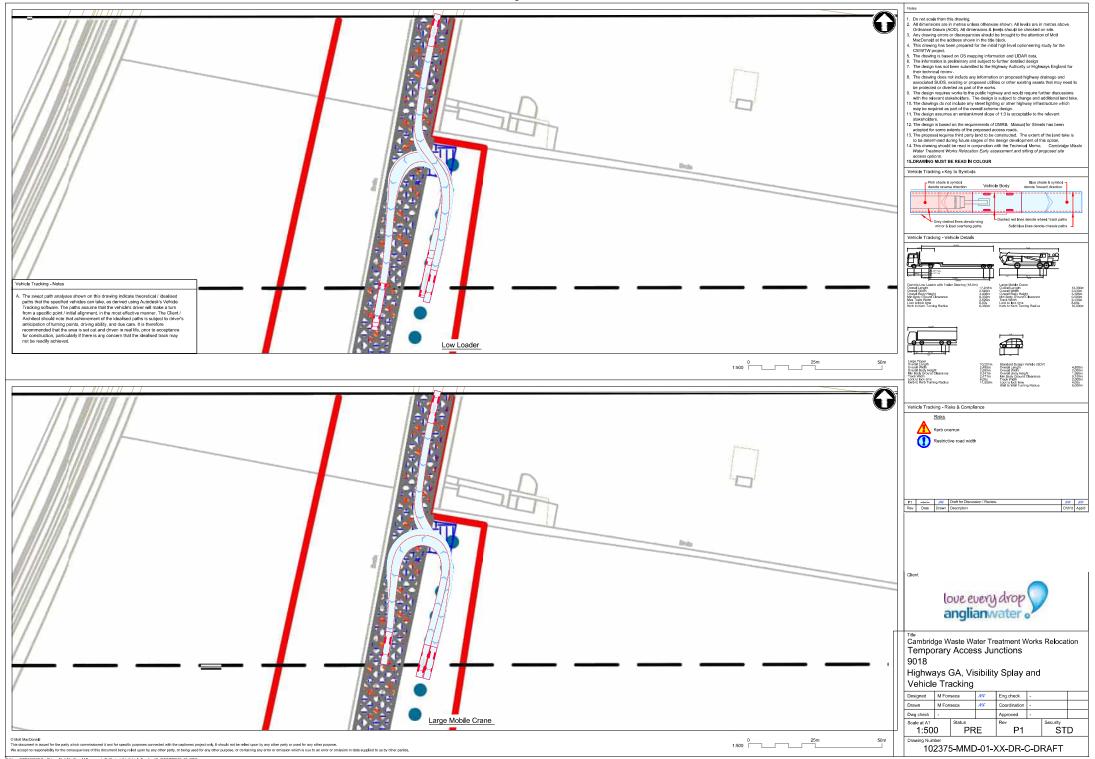


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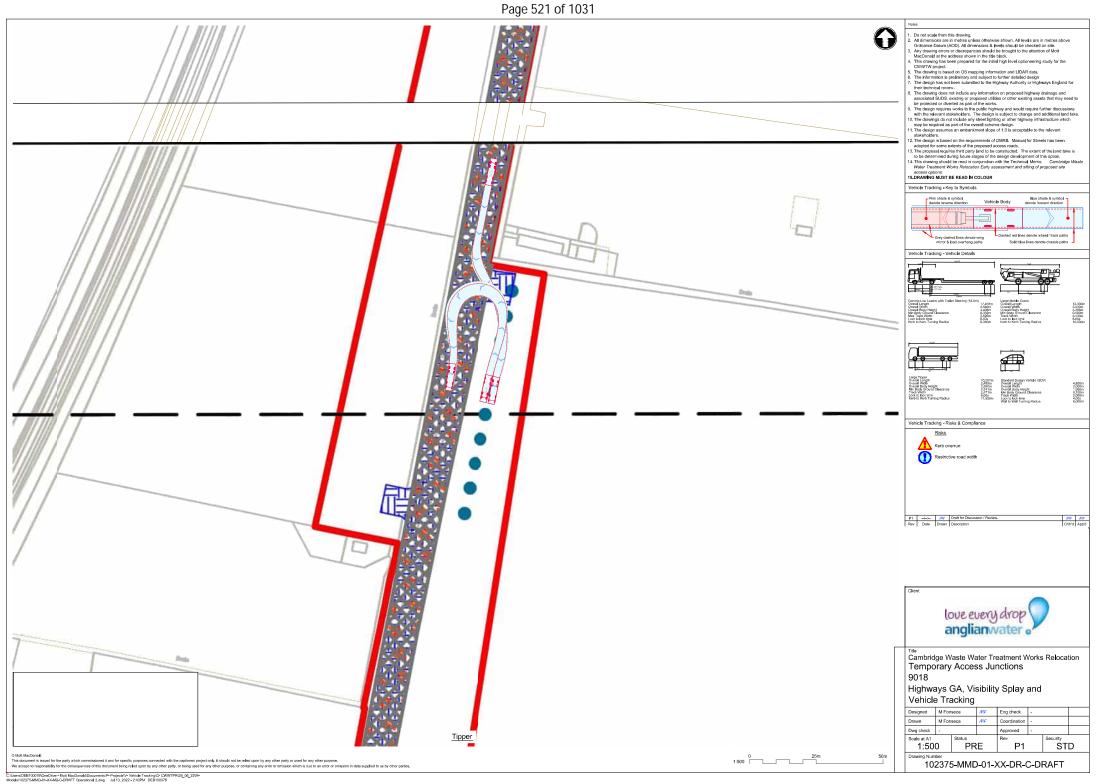




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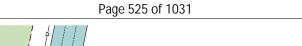
Construction traffic routes - safety

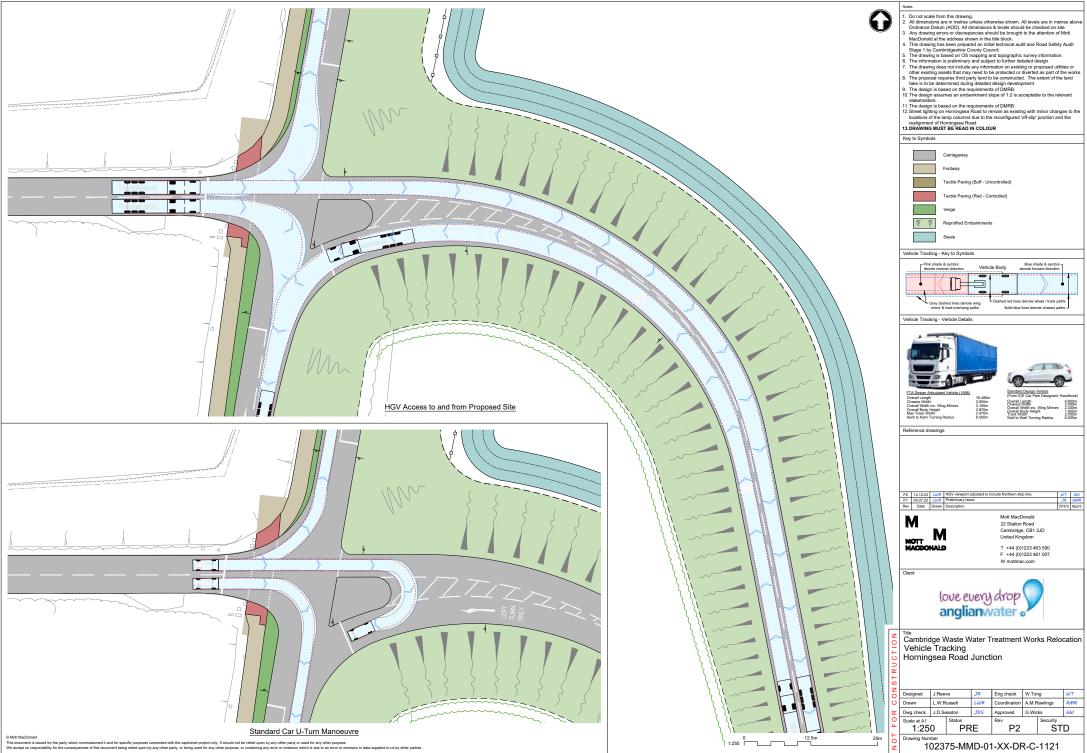
At Appendix G of the TA [AS-108] there are swept path analyses of the J34 on-slip. Please provide:

- a. a swept path analysis for the off-slip junction with the A14 overbridge, including for tipper trucks; and
- b. commentary on whether construction vehicles would be able to safely turn left or right from the J34 off-slip in the event that southbound queuing to the J34 on-slip extends close to or beyond (to the north of) the junction of the J34 off-slip and the A14 overbridge (for example when concrete pouring / directional drilling works take place during the peak periods).

The Applicant has produced these drawings. The Applicant's commentary for these swept paths is as follows:

There are no issues noted for an articulated vehicle (maximum vehicle size expected at site) to complete the left and right turn from the offslip onto Horningsea Road. It is noted that for both manoeuvres, articulated vehicles would need to encroach slightly into the opposite lane to complete the manoeuvres. In spite of this, there is no risk of collision with vehicles from opposite lanes when turning from the offslip as the traffic signal sequence at the junction ensures that when the traffic signals on the offslip are green, traffic signals on other arms would be red. In the event that southbound queuing on A14 overbridge from the on-slip extends close to or beyond the junction of the J34 offslip and the A14 overbridge, articulated vehicles would not be able to complete the right turn from the offslip due to lack of space. The left turn from the offslip onto Horningsea Road northbound north of J34 can be completed as vehicles are not expected to queue in front of the stop line on Horningsea Road southbound leading towards the offslip/A14 overbridge. Therefore, even if an articulated vehicle were to encroach on the opposite lane, there would be no traffic present on that lane owing to the location of the stop line.





CiUsers/RUS46666/Mott MacDonald/CWWTWR Highway Access - Project - CAD (Civils Design)/2.1 Issued Drawings (Main Site Works)/102376-MMD-01-XX-DR-C-1121_P2.dwg Dec 14, 2023 - 2:20AM RUS46666



C. (Users/RUS46566/Mot MacDonaldC/WWTWR Highway Access - Project - CAD (Civils Design)/2.1 Issued Drawings (Main Site Works)/102375-MMD-01-XX-DR-C-1142_P1.dwg Dec 14, 2023 - 2:23AAI RUS46566



Cambridge Waste Water Treatment Relocation Project Transport Assessment

Appendix H: Discovery Centre TRICS® Data

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5 7.9.2 180622 B20.49	Database right of TRICS Consortium Limited, 2022. Al	I rights reserved Thursday 04/08/22 Page 2
NacDonald Fleet Place	London	Licence No: 70411
TRIP RATE CALCULAT	Cal ON SELECTION PARAMETERS:	culation Reference: AUDIT-704113-220804-083
Land Use : 07 - LEI Category : I - ART (MULTI -MODAL TC	GALLERIES/MUSEUMS/EXHIBITIONS	
Selected regions and ar	295.	
16 ULSTER (REPUB DN DONEGAL	LIC OF I RELAND) 1 days	
This section displays the	number of survey days per TRICS® sub-region in the	e selected set
Primary Filtering sele	ction:	
This data displays the co are included in the trip i	hosen trip rate parameter and its selected range. Only rate calculation.	sites that fall within the parameter range
Parameter: Actual Range: Range Selected by User:	Gross floor area 750 to 750 (units: sqm) 200 to 5000 (units: sqm)	
Parking Spaces Range:	All Surveys Included	
Public Transport Provisio		
Selection by:	Include all surveys	
Date Range: 01/	01/14 to 23/11/19	
This data displays the ra included in the trip rate	nge of survey dates selected. Only surveys that were calculation.	conducted within this date range are
<u>Selected survey days:</u>		
Wednesday	1 days	
This data displays the n	umber of selected surveys by day of the week.	
<u>Selected survey types:</u> Manual count Directional ATC Count	1 days 0 days	
This data displays the n	۔ Imber of manual classified surveys and the number of r of surveys in the selected set. Manual surveys are ui	
<u>Selected Locations:</u> Edge of Town Centre	1	
consist of Free Standing	umber of surveys per main location category within the Edge of Town, Suburban Area, Neighbourhood Centre	
Not Known.		
Selected Location Sub C	ategories:	
High Street	1	

This data displays the number of surveys per location sub-category within the selected set. The location sub-categories consist of Commercial Zone, Industrial Zone, Development Zone, Residential Zone, Retail Zone, Built-Up Zone, Village, Out of Town, High Street and No Sub Category.

Secondary Filtering selection:

<u>Use Class:</u> F1(c)

1 days

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order 2005 has been used for this purpose, which can be found within the Library module of TRICS®.

Population within 500m Range: All Surveys Included

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RICS 7.9.2 180622 B20.49	Database right of TRICS Consortium Limited, 2022. All rights reserved	Thursday 04/08/22 Page 2
ott MacDonald Fleet Place	London	Licence No: 704113
Secondary Filtering	selection (Cont.):	
<i>Population within 1 m.</i> 1,001 to 5,000	<i>ile:</i> 1 days	
This data displays the	number of selected surveys within stated 1-mile radii of population.	
<i>Population within 5 mi</i> 5,001 to 25,000	<i>iles:</i> 1 days	
This data displays the	number of selected surveys within stated 5-mile radii of population.	
<u>Car ownership within .</u> 0.6 to 1.0	<u>5 miles:</u> 1 days	
This data displays the	number of selected surveys within stated ranges of average cars owned per a niles of selected survey sites.	residential dwelling,
<u>Travel Plan:</u> No	1 days	
	1 days number of surveys within the selected set that were undertaken at sites with	n Travel Plans in place,
and the number of sui	rveys that were undertaken at sites without Travel Plans.	

<u>PTAL Rating:</u> No PTAL Present

1 days

This data displays the number of selected surveys with PTAL Ratings.

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TRICS 7.9.2 180622 B20.49	Database right of TRICS Consortiun	m Limited, 2022. All rights reserved	Thursday 04/08/22 Page 3
Mott MacDonald Fleet Place	London		Licence No: 704113
LIST OF SITES relevant	to selection parameters		
1 DN-07-I-02 HIGH ROAD LETTERKENNY BALLYBOE GLENC/ Edge of Town Cen High Streat		DONEGAL	

High StreetTotal Gross floor area:750 sqmSurvey date:10/10/18

Survey Type: MANUAL

This section provides a list of all survey sites and days in the selected set. For each individual survey site, it displays a unique site reference code and site address, the selected trip rate calculation parameter and its value, the day of the week and date of each survey, and whether the survey was a manual classified count or an ATC count.

MANUALLY DESELECTED SITES

Site Ref	Reason for Deselection	
DU-07-I-01	Location unsuitable	
ES-07-I-01	Location unsuitable	

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Mott MacDonald Fleet Place London

TRIP RATE for Land Use 07 - LEISURE/I - ART GALLERIES/MUSEUMS/EXHIBITIONS MULTI-MODAL TOTAL VEHICLES Calculation factor: 100 sqm BOLD print indicates peak (busiest) period Total People to Total Vehicles ratio (all time periods and directions): 1.88

		ARRIVALS			DEPARTURES			TOTALS	
	No.	Ave.	Trip	No.	Ave.	Trip	No.	Ave.	Trip
Time Range	Days	GFA	Rate	Days	GFA	Rate	Days	GFA	Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00									
08:00 - 09:00									
09:00 - 10:00	1	750	0.267	1	750	0.133	1	750	0.400
10:00 - 11:00	1	750	0.000	1	750	0.133	1	750	0.133
11:00 - 12:00	1	750	0.000	1	750	0.000	1	750	0.000
12:00 - 13:00	1	750	0.133	1	750	0.000	1	750	0.133
13:00 - 14:00	1	750	0.133	1	750	0.133	1	750	0.266
14:00 - 15:00	1	750	0.400	1	750	0.267	1	750	0.667
15:00 - 16:00	1	750	0.533	1	750	0.267	1	750	0.800
16:00 - 17:00	1	750	0.133	1	750	0.667	1	750	0.800
17:00 - 18:00	1	750	0.000	1	750	0.133	1	750	0.133
18:00 - 19:00									
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			1.599			1.733			3.332

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.

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Parameter summary

Trip rate parameter range selected:	750 - 750 (units: sqm)
Survey date date range:	01/01/14 - 23/11/19
Number of weekdays (Monday-Friday):	1
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	2

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are show. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

Licence No: 704113

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Mott MacDonald Fleet Place London

Thursday 04/08/22 Page 5 Licence No: 704113

TRIP RATE for Land Use 07 - LEISURE/I - ART GALLERIES/MUSEUMS/EXHIBITIONS MULTI - MODAL VEHICLE OCCUPANTS Calculation factor: 100 sqm BOLD print indicates peak (busiest) period

		ARRIVALS DEPARTURES						TOTALS	TOTALS		
	No.	Ave.	Trip	No.	Ave.	Trip	No.	Ave.	Trip		
Time Range	Days	GFA	Rate	Days	GFA	Rate	Days	GFA	Rate		
00:00 - 01:00											
01:00 - 02:00											
02:00 - 03:00											
03:00 - 04:00											
04:00 - 05:00											
05:00 - 06:00											
06:00 - 07:00											
07:00 - 08:00											
08:00 - 09:00											
09:00 - 10:00	1	750	0.267	1	750	0.133	1	750	0.400		
10:00 - 11:00	1	750	0.000	1	750	0.133	1	750	0.133		
11:00 - 12:00	1	750	0.000	1	750	0.000	1	750	0.000		
12:00 - 13:00	1	750	0.133	1	750	0.000	1	750	0.133		
13:00 - 14:00	1	750	0.267	1	750	0.133	1	750	0.400		
14:00 - 15:00	1	750	0.533	1	750	0.533	1	750	1.066		
15:00 - 16:00	1	750	0.933	1	750	0.533	1	750	1.466		
16:00 - 17:00	1	750	0.133	1	750	0.800	1	750	0.933		
17:00 - 18:00	1	750	0.000	1	750	0.133	1	750	0.133		
18:00 - 19:00											
19:00 - 20:00											
20:00 - 21:00											
21:00 - 22:00											
22:00 - 23:00											
23:00 - 24:00											
Total Rates:			2.266			2.398			4.664		

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

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Mott MacDonald Fleet Place London

TRIP RATE for Land Use 07 - LEISURE/I - ART GALLERIES/MUSEUMS/EXHIBITIONS MULTI-MODAL PEDESTRIANS Calculation factor: 100 sqm BOLD print indicates peak (busiest) period

		ARRIVALS		[DEPARTURES		TOTALS			
	No.	Ave.	Trip	No.	Ave.	Trip	No.	Ave.	Trip	
Time Range	Days	GFA	Rate	Days	GFA	Rate	Days	GFA	Rate	
00:00 - 01:00										
01:00 - 02:00										
02:00 - 03:00										
03:00 - 04:00										
04:00 - 05:00										
05:00 - 06:00										
06:00 - 07:00										
07:00 - 08:00										
08:00 - 09:00										
09:00 - 10:00	1	750	0.000	1	750	0.000	1	750	0.000	
10:00 - 11:00	1	750	0.400	1	750	0.400	1	750	0.800	
11:00 - 12:00	1	750	0.000	1	750	0.000	1	750	0.000	
12:00 - 13:00	1	750	0.000	1	750	0.000	1	750	0.000	
13:00 - 14:00	1	750	0.400	1	750	0.133	1	750	0.533	
14:00 - 15:00	1	750	0.000	1	750	0.000	1	750	0.000	
15:00 - 16:00	1	750	0.000	1	750	0.267	1	750	0.267	
16:00 - 17:00	1	750	0.000	1	750	0.000	1	750	0.000	
17:00 - 18:00	1	750	0.000	1	750	0.000	1	750	0.000	
18:00 - 19:00										
19:00 - 20:00										
20:00 - 21:00										
21:00 - 22:00										
22:00 - 23:00										
23:00 - 24:00										
Total Rates:			0.800			0.800			1.600	

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

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Mott MacDonald Fleet Place London

TRIP RATE for Land Use 07 - LEISURE/I - ART GALLERIES/MUSEUMS/EXHIBITIONS MULTI-MODAL TOTAL PEOPLE Calculation factor: 100 sqm BOLD print indicates peak (busiest) period Total People to Total Vehicles ratio (all time periods and directions): 1.88

		ARRIVALS			DEPARTURES			TOTALS	
	No.	Ave.	Trip	No.	Ave.	Trip	No.	Ave.	Trip
Time Range	Days	GFA	Rate	Days	GFA	Rate	Days	GFA	Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00									
08:00 - 09:00									
09:00 - 10:00	1	750	0.267	1	750	0.133	1	750	0.400
10:00 - 11:00	1	750	0.400	1	750	0.533	1	750	0.933
11:00 - 12:00	1	750	0.000	1	750	0.000	1	750	0.000
12:00 - 13:00	1	750	0.133	1	750	0.000	1	750	0.133
13:00 - 14:00	1	750	0.667	1	750	0.267	1	750	0.934
14:00 - 15:00	1	750	0.533	1	750	0.533	1	750	1.066
15:00 - 16:00	1	750	0.933	1	750	0.800	1	750	1.733
16:00 - 17:00	1	750	0.133	1	750	0.800	1	750	0.933
17:00 - 18:00	1	750	0.000	1	750	0.133	1	750	0.133
18:00 - 19:00									
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			3.066			3.199			6.265

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

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Mott MacDonald Fleet Place London

TRIP RATE for Land Use 07 - LEISURE/I - ART GALLERIES/MUSEUMS/EXHIBITIONS MULTI-MODAL CARS Calculation factor: 100 sqm BOLD print indicates peak (busiest) period

		ARRIVALS	RRIVALS DEPARTURES TOTALS						
	No.	Ave.	Trip	No.	Ave.	Trip	No.	Ave.	Trip
Time Range	Days	GFA	Rate	Days	GFA	Rate	Days	GFA	Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00									
08:00 - 09:00									
09:00 - 10:00	1	750	0.267	1	750	0.133	1	750	0.400
10:00 - 11:00	1	750	0.000	1	750	0.133	1	750	0.133
11:00 - 12:00	1	750	0.000	1	750	0.000	1	750	0.000
12:00 - 13:00	1	750	0.133	1	750	0.000	1	750	0.133
13:00 - 14:00	1	750	0.133	1	750	0.133	1	750	0.266
14:00 - 15:00	1	750	0.400	1	750	0.267	1	750	0.667
15:00 - 16:00	1	750	0.533	1	750	0.267	1	750	0.800
16:00 - 17:00	1	750	0.133	1	750	0.667	1	750	0.800
17:00 - 18:00	1	750	0.000	1	750	0.133	1	750	0.133
18:00 - 19:00									
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			1.599			1.733			3.332

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

TRIP RATE for Land Use 07 - LEISURE/I - ART GALLERIES/MUSEUMS/EXHIBITIONS Calculation Factor: 100 sqm Count Type: TOTAL VEHICLES

			ARRIVALS			DEPARTURE S			TOTAL S
			ARKIVALS			3		Ave	3
	No.	Ave.	Trip	No.	Ave.	Trip	No.		Trip
Time Range	Days	GFA	Rate	Days	GFA	Rate	Days	GFA	Rate
00:00-01:00									
01:00-02:00									
02:00-03:00									
03:00-04:00									
04:00-05:00									
05:00-06:00									
06:00-07:00									
07:00-08:00									
08:00-09:00									
09:00-10:00	1	750	0.267	1	750	0.133	1	750	0.4
10:00-11:00	1	750	0	1	750	0.133	1	750	0.133
11:00-12:00	1	750	0	1	750	0	1	750	0
12:00-13:00	1	750	0.133	1	750	0	1	750	0.133
13:00-14:00	1	750	0.133	1	750	0.133	1	750	0.266
14:00-15:00	1	750	0.4	1	750	0.267	1	750	0.667
15:00-16:00	1	750	0.533	1	750	0.267	1	750	0.8
16:00-17:00	1	750	0.133	1	750	0.667	1	750	0.8
17:00-18:00	1	750	0	1	750	0.133	1	750	0.133
18:00-19:00									
19:00-20:00									
20:00-21:00									
21:00-22:00									
22:00-23:00									
23:00-24:00									
Daily Trip Rates:			1.599			1.733			3.332

TRIP RATE for Land Use 07 - LEISURE/I - ART GALLERIES/MUSEUMS/EXHIBITIONS Calculation Factor: 100 sqm Count Type: VEHICLE OCCUPANTS

			ARRIVALS			DEPARTURE S			TOTAL S
	No.	Ave.	Trip	No.	Ave.	Trip	No.	Ave	Trip
Time Range	Days	GFA	Rate	Days	GFA	Rate	Days	GFA	Rate
00:00-01:00									
01:00-02:00									
02:00-03:00									
03:00-04:00									
04:00-05:00									
05:00-06:00									
06:00-07:00									
07:00-08:00									
08:00-09:00									
09:00-10:00	1	750	0.267	1	750	0.133	1	750	0.4
10:00-11:00	1	750	0	1	750	0.133	1	750	0.133
11:00-12:00	1	750	0	1	750	0	1	750	0
12:00-13:00	1	750	0.133	1	750	0	1	750	0.133
13:00-14:00	1	750	0.267	1	750	0.133	1	750	0.4
14:00-15:00	1	750	0.533	1	750	0.533	1	750	1.066
15:00-16:00	1	750	0.933	1	750	0.533	1	750	1.466
16:00-17:00	1	750	0.133	1	750	0.8	1	750	0.933
17:00-18:00	1	750	0	1	750	0.133	1	750	0.133
18:00-19:00									
19:00-20:00									
20:00-21:00									
21:00-22:00									
22:00-23:00									
23:00-24:00									
Daily Trip Rates:			2.266			2.398			4.664

TRIP RATE for Land Use 07 - LEISURE/I - ART GALLERIES/MUSEUMS/EXHIBITIONS Calculation Factor: 100 sqm Count Type: PEDESTRIANS

			ARRIVALS			DEPARTURE S			TOTAL S
			,			0		Ave	0
	No.	Ave.	Trip	No.	Ave.	Trip	No.		Trip
Time Range	Days	GFA	Rate	Days	GFA	Rate	Days	GFA	Rate
00:00-01:00									
01:00-02:00									
02:00-03:00									
03:00-04:00									
04:00-05:00									
05:00-06:00									
06:00-07:00									
07:00-08:00									
08:00-09:00									
09:00-10:00	1	750	0	1	750	0	1	750	0
10:00-11:00	1	750	0.4	1	750	0.4	1	750	0.8
11:00-12:00	1	750	0	1	750	0	1	750	0
12:00-13:00	1	750	0	1	750	0	1	750	0
13:00-14:00	1	750	0.4	1	750	0.133	1	750	0.533
14:00-15:00	1	750	0	1	750	0	1	750	0
15:00-16:00	1	750	0	1	750	0.267	1	750	0.267
16:00-17:00	1	750	0	1	750	0	1	750	0
17:00-18:00	1	750	0	1	750	0	1	750	0
18:00-19:00									
19:00-20:00									
20:00-21:00									
21:00-22:00									
22:00-23:00									
23:00-24:00									
Daily Trip Rates:			0.8			0.8			1.6

TRIP RATE for Land Use 07 - LEISURE/I - ART GALLERIES/MUSEUMS/EXHIBITIONS Calculation Factor: 100 sqm Count Type: TOTAL PEOPLE

			ARRIVALS			DEPAR S	TURE		TOTAL S
			ANNIVALS			5		Ave	5
	No.	Ave.	Trip	No.	Ave.	Trip	No.		Trip
Time Range	Days	GFA	Rate	Days	GFA	Rate	Days	GFA	Rate
00:00-01:00									
01:00-02:00									
02:00-03:00									
03:00-04:00									
04:00-05:00									
05:00-06:00									
06:00-07:00									
07:00-08:00									
08:00-09:00									
09:00-10:00	1	750	0.267	1	750	0.133	1	750	0.4
10:00-11:00	1	750	0.4	1	750	0.533	1	750	0.933
11:00-12:00	1	750	0	1	750	0	1	750	0
12:00-13:00	1	750	0.133	1	750	0	1	750	0.133
13:00-14:00	1	750	0.667	1	750	0.267	1	750	0.934
14:00-15:00	1	750	0.533	1	750	0.533	1	750	1.066
15:00-16:00	1	750	0.933	1	750	0.8	1	750	1.733
16:00-17:00	1	750	0.133	1	750	0.8	1	750	0.933
17:00-18:00	1	750	0	1	750	0.133	1	750	0.133
18:00-19:00									
19:00-20:00									
20:00-21:00									
21:00-22:00									
22:00-23:00									
23:00-24:00									
Daily Trip Rates:			3.066			3.199			6.265

TRIP RATE for Land Use 07 - LEISURE/I - ART GALLERIES/MUSEUMS/EXHIBITIONS Calculation Factor: 100 sqm Count Type: CARS

						DEPARTURE			TOTAL
			ARRIVALS			S		A a	S
	No.	A 1/0	Trip	No.	Av.0	Trin	No.	Ave	Trin
Time Banga		Ave. GFA	Trip Pata		Ave. GFA	Trip Poto		СЕЛ	Trip Poto
Time Range	Days	GFA	Rate	Days	GFA	Rate	Days	GFA	Rate
00:00-01:00									
01:00-02:00									
02:00-03:00									
03:00-04:00									
04:00-05:00									
05:00-06:00									
06:00-07:00									
07:00-08:00									
08:00-09:00									
09:00-10:00	1	750	0.267	1	750	0.133	1	750	0.4
10:00-11:00	1	750	0	1	750	0.133	1	750	0.133
11:00-12:00	1	750	0	1	750	0	1	750	0
12:00-13:00	1	750	0.133	1	750	0	1	750	0.133
13:00-14:00	1	750	0.133	1	750	0.133	1	750	0.266
14:00-15:00	1	750	0.4	1	750	0.267	1	750	0.667
15:00-16:00	1	750	0.533	1	750	0.267	1	750	0.8
16:00-17:00	1	750	0.133	1	750	0.667	1	750	0.8
17:00-18:00	1	750	0	1	750	0.133	1	750	0.133
18:00-19:00									
19:00-20:00									
20:00-21:00									
21:00-22:00									
22:00-23:00									
23:00-24:00									
Daily Trip Rates:			1.599			1.733			3.332

Mode split

Mode	Total number of trips	Mode split
Taxis	0	0.0%
OGVs	0	0.0%
PSVs	0	0.0%
LGVs	0	0.0%
Cars	7	34.7%
Cyclists	0	0.0%
Pedestrians	13	65.3%
Bus	0	0.0%
Rail	0	0.0%
Motorcycles	0	0.0%
Total	20	100.0%

Total people Calculation factor: 100sqm

		AF	RRIVALS				DEPARTURES		TOTALS				
Time Range	No. Days	Ave. GFA	Trip Rate	Trip rate for	No. Days2	Ave. GFA3	Trip Rate3	Trip rate for site2	No. Days3	Ave. GFA4	Trip Rate2	Trip Rate2	
00:00-01:00													
01:00-02:00													
02:00-03:00													
03:00-04:00													
04:00-05:00													
05:00-06:00													
06:00-07:00													
07:00-08:00				0					<mark>)</mark>			0	
08:00-09:00				0				(כ			0	
09:00-10:00		1 75	50 0.267	1		1 75	50 0.13	3 (<mark>)</mark>	1 75	50 0.4	. 1	
10:00-11:00		1 75	50 0.4	1		1 75	50 0.53	3	1	1 75	0.933	2	
11:00-12:00		1 75	50 0	0		1 75	50	0	<mark>)</mark>	1 75	50 O	0	
12:00-13:00		1 75	50 0.133	0		1 75	50	0	<mark>)</mark>	1 75	0.133	0	
13:00-14:00		1 75	50 0.667	1		1 75	50 0.26	7	1	1 75	0.934	2	
14:00-15:00		1 75	50 0.533	1		1 75	50 0.53	3	1	1 75	50 1.066	2	
15:00-16:00		1 75	50 0.933	2		1 75	50 0.	8	2	1 75	50 1.733	4	
16:00-17:00		1 75	50 0.133	0		1 75	50 0.	8	2	1 75	0.933	2	
17:00-18:00		1 75	50 0	0		1 75	50 0.13	<mark>3</mark> (D	1 75	0.133	0	
18:00-19:00				0				(<mark>)</mark>			0	
19:00-20:00													
20:00-21:00													
21:00-22:00													
22:00-23:00													
23:00-24:00													
Daily Trip Rates:			3.066	6			3.19	9	7		6.265	13	

		100sqm	
Total proposed	209	conversion	2.09
floorspace (sqm)		factor	



Total vehicles

			ARRIVALS			[EPARTURES			TOT	ALS	
Time Range	No. Days	Ave. GFA	Trip Rate	Trip rate for site	No. Days2	Ave. GFA3	Trip Rate3	Trip rate for site2	No. Days3	Ave. GFA4	Trip Rate2	Tri
00:00-01:00												
01:00-02:00												
02:00-03:00												
03:00-04:00												
04:00-05:00												
05:00-06:00												
06:00-07:00												
07:00-08:00				0				C				
08:00-09:00				0				C				
09:00-10:00		1 75	0 0.267	1		1 75	0 0.133	C		1 75	0 0	.4
10:00-11:00		1 75	0 0	0		1 75	0 0.133	C	<mark>)</mark>	1 75	0 0.13	33
11:00-12:00		1 75	0 0	0		1 75	0 0	C		1 75	0	0
12:00-13:00		1 75	0 0.133	0		1 75	0 0	C	<mark>)</mark>	1 75	0 0.13	33
13:00-14:00		1 75	0 0.133	0		1 75	0 0.133	C		1 75	0 0.26	i6
14:00-15:00		1 75	0 0.4	1		1 75	0 0.267	1	L	1 75	0 0.66	57 <mark>-</mark>
15:00-16:00		1 75	0 0.533	1		1 75	0 0.267	1	L	1 75	0 0	.8
16:00-17:00		1 75	0 0.133	0		1 75	0 0.667	1	L	1 75	0 0	.8
17:00-18:00		1 75	0 0	0		1 75	0 0.133	C		1 75	0 0.13	3
18:00-19:00				0				C				
19:00-20:00												
20:00-21:00												
21:00-22:00												
22:00-23:00												
23:00-24:00												
Daily Trip Rates:			1.599	3			1.733	4	L I		3.33	32

Total proposed	209
floorspace (sqm)	
100sqm	
conversion	2.09
factor	

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Taxis

			ARRIVALS			C	DEPARTURES		TOTALS			
Time Range	No. Days	Ave. GFA	Trip Rate	Trip rate for site	No. Days2	Ave. GFA3	Trip Rate3	Trip rate for site2	No. Days3	Ave. GFA4 Trip Rate2	Trip rate for site22	
00:00-01:00												
01:00-02:00												
02:00-03:00												
03:00-04:00												
04:00-05:00												
05:00-06:00												
06:00-07:00												
07:00-08:00				0	•			0			0	
08:00-09:00				0				0			0	
09:00-10:00				0	•			0			0	
10:00-11:00				0)			0			0	
11:00-12:00				0	•			0			0	
12:00-13:00				0)			0			0	
13:00-14:00				0	•			0			0	
14:00-15:00				0	•			0			0	
15:00-16:00				0	•			0			0	
16:00-17:00				0				0			0	
17:00-18:00				0				0			0	
18:00-19:00				0				0			0	
19:00-20:00												
20:00-21:00												
21:00-22:00												
22:00-23:00												
23:00-24:00												
Daily Trip Rates:				0				0			0	

Total proposed	209
floorspace (sqm)	
100sqm	
conversion	2.09
factor	

Vehicle occupants

			ARRIVALS			[DEPARTURES			TOT	ALS	
Time Range	No. Days	Ave. GFA	Trip Rate	Trip rate for site	No. Days2	Ave. GFA3	Trip Rate3	Trip rate for site2	No. Days3	Ave. GFA4	Trip Rate2	Trij
00:00-01:00												
01:00-02:00												
02:00-03:00												
03:00-04:00												
04:00-05:00												
05:00-06:00				0				С)			
06:00-07:00				0				C)			
07:00-08:00				0				C)			
08:00-09:00				0				C)			
09:00-10:00		1 75	0.267	1		1 75	0 0.133	С)	1 75	0 0	.4
10:00-11:00		1 75	50 C	0		1 75	0 0.133	С)	1 75	0 0.13	3
11:00-12:00		1 75	50 C	0		1 75	0 0	C)	1 75	0	0
12:00-13:00		1 75	0.133	0		1 75	0 0	C)	1 75	0 0.13	3
13:00-14:00		1 75	0.267	1		1 75	0 0.133	С)	1 75	0 0	.4
14:00-15:00		1 75	0.533	1		1 75	0 0.533	1		1 75	0 1.06	6
15:00-16:00		1 75	io 0.933	2		1 75	0 0.533	1		1 75	0 1.46	6
16:00-17:00		1 75	0.133	0		1 75	0 0.8	2	2	1 75	0 0.93	3
17:00-18:00		1 75	50 C	0		1 75	0 0.133	C)	1 75	0 0.13	3
18:00-19:00				0				C)			
19:00-20:00				0				C)			
20:00-21:00				0				C)			
21:00-22:00												
22:00-23:00												
23:00-24:00												
Daily Trip Rates:			2.266	5			2.398	5	;		4.66	64

Total proposed	209
floorspace (sqm)	
100sqm	
conversion	2.09
factor	

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	10

Cars

	ARRIVALS					۵	EPARTURES		TOTALS			
Time Range	No. Days	Ave. GFA	Trip Rate	Trip rate for site	No. Days2	Ave. GFA3	Trip Rate3	Trip rate for site2	No. Days3	Ave. GFA4	Trip Rate2	Trip rate for site3
00:00-01:00												
01:00-02:00												
02:00-03:00												
03:00-04:00												
04:00-05:00												
05:00-06:00				0				0)			0
06:00-07:00				0				0	•			0
07:00-08:00				0				0)			0
08:00-09:00				0				0				0
09:00-10:00		1 7.	50 0.26	/ 1		1 75	0 0.133	0)	1 75	0 0.4	1
10:00-11:00		1 7.	50 () 1		1 75	0 0.133	0		1 75	0 0.133	8 0
11:00-12:00		1 7.	50 () 1		1 75	0 0	0		1 75	0 0	0
12:00-13:00		1 7.	50 0.133	3 1		1 75	0 C	0	•	1 75	0 0.133	3 <mark>0</mark>
13:00-14:00		1 7.	50 0.133	3 1		1 75	0 0.133	0		1 75	0 0.266	5 1
14:00-15:00		1 7.	50 0.4	l <mark>1</mark> 1		1 75	0 0.267	1		1 75	0 0.667	1
15:00-16:00		1 7.	50 0.533	3 1		1 75	0 0.267	1		1 75	0.0	3 2
16:00-17:00		1 7.	50 0.133	3 1		1 75	0 0.667	1		1 75	0.0	3 2
17:00-18:00		1 7.	50 () <mark> </mark>		1 75	0 0.133	0		1 75	0 0.133	<mark>8</mark> 0
18:00-19:00				0				0				0
19:00-20:00				0				0				0
20:00-21:00				0				0				0
21:00-22:00												
22:00-23:00												
23:00-24:00												
Daily Trip Rates:			1.599	3			1.733	4			3.332	2 7

Total proposed	209
floorspace (sqm)	
100sqm	
conversion	2.09
factor	

Pedestrians

	ARRIVALS						DEPARTURES		TOTALS			
Time Range	No. Days	Ave. GFA	Trip Rate	Trip rate for site	No. Days2	Ave. GFA2	Trip Rate3	Trip rate for site2	No. Days3	Ave. GFA3	Trip Rate2	Trip rate for site3
00:00-01:00												
01:00-02:00												
02:00-03:00												
03:00-04:00												
04:00-05:00												
05:00-06:00												
06:00-07:00												
07:00-08:00				C	•			()			0
08:00-09:00				C				(0
09:00-10:00		1 75	50	0 0	•	1 75	50 C) ()	1 75	0 0.4	- 1
10:00-11:00		1 75	50 O.4	1 1		1 75	50 0.4	l <u>-</u>	L	1 75	0 0.933	2
11:00-12:00		1 75	50 (0 0)	1 75	50 C) ()	1 75	0 0	0
12:00-13:00		1 75	50 (0 0)	1 75	50 C) ()	1 75	0 0.133	8 0
13:00-14:00		1 75	50 O.4	1 1		1 75	50 0.133	3)	1 75	0 0.934	2
14:00-15:00		1 75	50 (0 0)	1 75	50 C) ()	1 75	0 1.066	5 2
15:00-16:00		1 75	50 (0 0)	1 75	50 0.267	/	L	1 75	0 1.733	8 4
16:00-17:00		1 75	50 (0 0)	1 75	50 C) ()	1 75	0 0.933	8 2
17:00-18:00		1 75	50 (0 0		1 7	50 C) (1 75	0 0.133	0
18:00-19:00				C				()			0
19:00-20:00												
20:00-21:00												
21:00-22:00												
22:00-23:00												
23:00-24:00												
Daily Trip Rates:			0.3	3 2			0.8	3	2		6.265	i <mark>13</mark>

Total proposed	200
floorspace (sqm)	209
100sqm	2.00
conversion factor	2.09

OGVs

			ARRIVALS			C	DEPARTURES				TOTALS	
Time Range	No. Days	Ave. GFA	Trip Rate	Trip rate for site	No. Days2	Ave. GFA3	Trip Rate3	Trip rate for site2	No. Days3	Ave. GFA4	Trip Rate2	Trip rate for site3
00:00-01:00												
01:00-02:00												
02:00-03:00												
03:00-04:00												
04:00-05:00												
05:00-06:00												
06:00-07:00												
07:00-08:00				0				C)			0
08:00-09:00				0				C				0
09:00-10:00				0				0)			0
10:00-11:00				0				C	•			0
11:00-12:00				0				C)			0
12:00-13:00				0				C	•			0
13:00-14:00				0				C				0
14:00-15:00				0				C				0
15:00-16:00				0				C				0
16:00-17:00				0				C				0
17:00-18:00				0				0				0
18:00-19:00				0				0				0
19:00-20:00												
20:00-21:00												
21:00-22:00												
22:00-23:00												
23:00-24:00												
Daily Trip Rates:				0				C				0

Total proposed	209
floorspace (sqm)	
100sqm	
conversion	2.09
factor	

PSVs

	ARRIVALS					D	EPARTURES		TOTALS			
Time Range	No. Days	Ave. GFA	Trip Rate	Trip rate for site	No. Days2	Ave. GFA3	Trip Rate3	Trip rate for site2	No. Days3	Ave. GFA4	Trip Rate2	Trip rate for site3
00:00-01:00												
01:00-02:00												
02:00-03:00												
03:00-04:00												
04:00-05:00												
05:00-06:00												
06:00-07:00												
07:00-08:00				0				C)			0
08:00-09:00				0				0)			0
09:00-10:00				0	•			C)			0
10:00-11:00				0				C				0
11:00-12:00				0				C	•			0
12:00-13:00				0				C) 			0
13:00-14:00				0				0)			0
14:00-15:00				0				0	•			0
15:00-16:00				0				0)			0
16:00-17:00				0				C) 			0
17:00-18:00				0				0)			0
18:00-19:00				0				0	•			0
19:00-20:00												
20:00-21:00												
21:00-22:00												
22:00-23:00												
23:00-24:00												
Daily Trip Rates:				0			(0				0

Total proposed	209
floorspace (sqm)	
100sqm	
conversion	2.09
factor	

LGVs

	ARRIVALS					۵	DEPARTURES		TOTALS			
Time Range	No. Days	Ave. GFA	Trip Rate	Trip rate for site	No. Days2	Ave. GFA3	Trip Rate3	Trip rate for site2	No. Days3	Ave. GFA4	Trip Rate2	Trip rate for site3
00:00-01:00												
01:00-02:00												
02:00-03:00												
03:00-04:00												
04:00-05:00												
05:00-06:00				0				C)			0
06:00-07:00				0				C)			0
07:00-08:00				0				C)			0
08:00-09:00				0				C				0
09:00-10:00				0				0)			0
10:00-11:00				0				C	•			0
11:00-12:00				0				C)			0
12:00-13:00				0				C	•			0
13:00-14:00				0				C				0
14:00-15:00				0				C	•			0
15:00-16:00				0				C)			0
16:00-17:00				0				C	•			0
17:00-18:00				0				0				0
18:00-19:00				0				C	•			0
19:00-20:00				0				C)			0
20:00-21:00				0				C)			0
21:00-22:00												
22:00-23:00												
23:00-24:00												
Daily Trip Rates:				0				0				0

Total proposed	209
floorspace (sqm)	
100sqm	
conversion	2.09
factor	

Bus passengers

Calculation factor: 100sqm

			ARRIVALS			D	EPARTURES				TOTALS	
Time Range	No. Days	Ave. GFA	Trip Rate	Trip rate for site	No. Days2	Ave. GFA2	Trip Rate3	Trip rate for site2	No. Days3	Ave. GFA3	Trip Rate2	Trip rate for site3
00:00-01:00												
01:00-02:00												
02:00-03:00												
03:00-04:00												
04:00-05:00												
05:00-06:00												
06:00-07:00												
07:00-08:00				0				0				0
08:00-09:00				0				0				0
09:00-10:00				0				0				0
10:00-11:00				0				0				0
11:00-12:00				0				0				0
12:00-13:00				0				0				0
13:00-14:00				0				0				0
14:00-15:00				0				0				0
15:00-16:00				0				0				0
16:00-17:00				0				0				0
17:00-18:00				0				0				0
18:00-19:00				0				0				0
19:00-20:00												
20:00-21:00												
21:00-22:00												
22:00-23:00												
23:00-24:00												
Daily Trip Rates:				0				0				0

Total proposed floorspace (sqm) 100sqm conversion

0

factor

Cyclists

Calculation factor: 100sqm

			ARRIVALS			D	EPARTURES				TOTALS	
Time Range	No. Days	Ave. GFA	Trip Rate	Trip rate for site	No. Days2	Ave. GFA3	Trip Rate3	Trip rate for site2	No. Days3	Ave. GFA4	Trip Rate2	Trip rate for site3
00:00-01:00												
01:00-02:00												
02:00-03:00												
03:00-04:00												
04:00-05:00												
05:00-06:00				0				C	•			0
06:00-07:00				0				C	•			0
07:00-08:00				0				C	•			0
08:00-09:00				0				C				0
09:00-10:00				0				C	•			0
10:00-11:00				0				C	•			0
11:00-12:00				0				C	•			0
12:00-13:00				0				C	•			0
13:00-14:00				0				C				0
14:00-15:00				0				C				0
15:00-16:00				0				C				0
16:00-17:00				0				C				0
17:00-18:00				0				0				0
18:00-19:00				0				C				0
19:00-20:00				0				C	•			0
20:00-21:00				0				C				0
21:00-22:00												
22:00-23:00												
23:00-24:00												
Daily Trip Rates:				0				C				0

Total proposed	209
floorspace (sqm)	
100sqm	
conversion	2.09
factor	

Motorcyclists

Calculation factor: 100sqm

			ARRIVALS			D	EPARTURES				TOTALS	
Time Range	No. Days	Ave. GFA	Trip Rate	Trip rate for site	No. Days2	Ave. GFA2	Trip Rate3	Trip rate for site2	No. Days3	Ave. GFA3	Trip Rate2	Trip rate for site3
00:00-01:00												
01:00-02:00												
02:00-03:00												
03:00-04:00												
04:00-05:00												
05:00-06:00				0				C)			0
06:00-07:00				0				C				0
07:00-08:00				0				C				0
08:00-09:00				0				0				0
09:00-10:00				0				C				0
10:00-11:00				0				C				0
11:00-12:00				0				C				0
12:00-13:00				0				C				0
13:00-14:00				0				C				0
14:00-15:00				0				C				0
15:00-16:00				0				C				0
16:00-17:00				0				C				0
17:00-18:00				0				0				0
18:00-19:00				0				0				0
19:00-20:00				0				C				0
20:00-21:00				0				0				0
21:00-22:00												
22:00-23:00												
23:00-24:00												
Daily Trip Rates:				0				C				0

Total proposed	209
floorspace (sqm)	
100sqm	
conversion	2.09
factor	

Rail passengers

Calculation factor: 100sqm

			ARRIVALS			D	DEPARTURES				TOTALS	
Time Range	No. Days	Ave. GFA	Trip Rate	Trip rate for site	No. Days2	Ave. GFA2	Trip Rate3	Trip rate for site2	No. Days3	Ave. GFA3	Trip Rate2	Trip rate for site3
00:00-01:00												
01:00-02:00												
02:00-03:00												
03:00-04:00												
04:00-05:00												
05:00-06:00												
06:00-07:00												
07:00-08:00				0				0				0
08:00-09:00				0				0				0
09:00-10:00				0				0				0
10:00-11:00				0				0				0
11:00-12:00				0				0				0
12:00-13:00				0				0				0
13:00-14:00				0				0				0
14:00-15:00				0				0				0
15:00-16:00				0				0				0
16:00-17:00				0				0				0
17:00-18:00				0				0				0
18:00-19:00				0				0				0
19:00-20:00												
20:00-21:00												
21:00-22:00												
22:00-23:00												
23:00-24:00												
Daily Trip Rates:				0				0				0

Total proposed floorspace (sqm) 100sqm conversion

0

factor



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Appendix I: MCC and ATC comparisons



Document Control

Document title	5.4.19.13 ATC to MCC Comparison
Version No.	1
Date Approved	17 October 2022
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Version History

Version	Date	Author	Checked	Approved	Description of change
1			—	—	Final



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Table 1.1: Summary of sites surveyed	۱1
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1 Sites surveyed

1.1 Overview

Table 1.1: Summary of sites surveyed

Site	Road name	%	Summary
number		difference	
Site 1	Denny End Road	8.0%	ATC is around 8% higher than MCC counts in both AM and PM peak. A possible explanation for the higher ATC figures than MCC is that the ATC captures traffic accessing and egressing the construction site access point along Denny End Lane at the Cambridgeshire Army Cadets Force from the Waterbeach direction whereas the MCC does not as the MCC is placed at the A10/Denny End Lane junction. Traffic could choose to egress from the construction site by turning left as there are queues on the right hand turn towards the A10 from the site construction access point and the MCC would not capture this movement.
Site 2	Car Dyke Road	1.1%	MCC is 10% higher than ATC in AM Peak, However ATC is 7% higher than MCC in the PM peak
Site 3	Clayhithe Road	Comparable location not available	N/A
Site 4	Bannold Road	3.5%	ATC is 2% higher than MCC in AM Peak and around 5% higher in the PM peak
Site 5	Horningsea Road	1.0%	MCC is around 109% higher than ATC counts in AM peak and 91% higher in PM peak
Site 6	Miltom Road	0.4%	MCC is 4% higher than ATC counts in AM peak, however ATC is 3% higher in PM peak
Site 7	Fen Road	Comparable location not available	N/A
Site 8	Green End Road	3.1%	MCC is 11% higher than ATC counts in AM peak, however ATC is 5% higher in PM peak
Site 9	Water Street	10.5%	MCC is around 14% higher than ATC counts in AM peak and around 8% higher in PM peak
Average		3.9%	
		0.070	



1.2 ATC Site – Denny End Road

	3-day Average (Tue-Thur)			Summary
	ATC	мсс	Percentage Difference	ATC is around 8% higher than MCC counts in both AM and PM peak. A possible explanation for the higher ATC figures than MCC is that
7000-1000	1472	1359	8.3%	the ATC captures traffic accessing and egressing the construction site access point along Denny End Lane at the Cambridgeshire Army
1600-1800	1494	1388	7.6%	Cadets Force from the Waterbeach direction whereas the MCC does not as the MCC is placed at the A10/Denny End Lane junction. Traffic could choose to egress from the construction site by turning left as there are queues on the right hand turn towards the A10 from the site construction access point and the MCC would not capture this
Total	2966	2747	8.0%	movement.

ATC Site 1 location





ATC location



MCC location





1.3 ATC Site 2 – Car Dyke Road

3-day Average (Tue-Thur)			Summary
тс	мсс	Percentage difference	MCC is 10% higher than ATC in AM
)67 🖸	1176	10.2%	Peak, However ATC is 7% higher
205 2	1121	7.4%	than MCC in the PM peak
272 2	2297	1.1%	
	rc 67 05	гс мсс 67 1176 05 1121	MCC Percentage difference 67 1176 10.2% 05 1121 7.4%

1.4 ATC Site 3 – Clayhithe Road

3-day Average (Tue-Thur)				
	ATC	мсс	Percentage difference	
7000-1000	908		NA	
1600-1800	1025		NA	
Total	1933	0	Comparable location not available	

1.5 ATC Site 4 – Clayhithe Road

	3-day Average (Tue-Thur)			Summary
	ATC	MCC	Percentage difference	ATC is 2% higher than MCC in AM
7000-1000	628	615	,.	Peak and around 5% higher in the
1600-1800	722	689	4.7%	PM peak
Total	1350	1304	3.5%	



1.6 ATC Site 5 – Horningsea Road

	3-day Average (Tue-Thur)			Summary
	ATC	мсс	Percentage difference	MCC is around 109% higher than ATC counts in AM peak and 91% higher in PM peak
7000-1000	1108	1147	3.5%	
1600-1800	1206	1144	5.4%	
Total	2314	2291	1.0%	

1.7 ATC Site 6 - Milton Road

	3-day Average (Tue-Thur)			Summary
	ATC	МСС	Percentage difference	MCC is 4% higher than ATC
7000-1000	4369	4542	4.0%	counts in AM peak, however
1600-1800	4269	4132	3.3%	ATC is 3% higher in PM peak
Total	8639	8674	0.4%	

1.8 ATC Site 7 – Fen Road

	3-day Average	e (Tue-Thur)	
	ATC (Fen Road)	MCC (Water Lane)	Percentage Difference
7000-1000	521		
1600-1800	600		
Total	1121		Comparable location not
			available

1.9 ATC Site 8 – Green End Road

	3-day Average (Tue	-Thur)		Summary
	ATC (Green End Road)	MCC (Green End Road) (NE)	Percentage Difference	MCC is 11% higher than ATC counts in
7000-	1848	2055	11.2%	AM peak, however
1000				ATC is 5% higher in
1600-	1862	1768	5.3%	PM peak
1800				
Total	3710	3823	3.1%	



1.10 ATC Site 9 – Water Street

	3-day A	verage (Tue-1	Րhur)	Summary
	ATC (Water Street)	MCC (Site 20 Water Lane) (SE)	Percentage difference	MCC is around 14% higher than ATC counts in AM peak and around 8%
7000-	998	1135	13.7%	higher in PM peak
1000				
1600-	1100	1183	7.6%	
1800				
Total	2098	2318	10.5%	



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Appendix J: Consultation 2 Stakeholder Feedback



Date	Consultee	Points raised	How and where addressed
18/08/21	Cambridge Past, Present & Future (CPPF)	The main area of uncertainty is the vehicle access. CPPF strongly objects to any proposals to provide vehicular access into the site from the farm access bridge at Honey Hill via Junction 35 (Option 2).	Option 2 was not selected, the access within the Proposed Development is Option 1b, which does not interact directly with Junction 35. The selection of vehicle access and consideration of all options is discussed further within Chapter 3: Site Selection and Alternatives (Application Document Reference 5.2.3). The assessment provided in Section 4 (Assessment of Effects) of this chapter assesses Option 1b.
12 August 2021	National Highways	Access option 1a remains National Highways' preferred option, closely followed by Option 1b. Access option 3 would be contrary to policy 'The Strategic Road Network and the delivery of sustainable development' and therefore National Highways object to this proposal.	Option 3 has not been selected on account of technical issues around creating a new junction off the A14 based on National Highways' feedback – the access is Option 1b. The selection of vehicle access and consideration of all options is discussed in further within Chapter 3: Alternatives Considered. The assessment provided in Section 4 (Assessment of Effects) of this chapter assesses Option 1b.
12 August 2021	National Highways	The TA should also consider any other development that makes up part of the application, such as the proposed recreation facilities.	Noted and accepted. The Transport Assessment Application Document Reference 5.4.19.3) covers all aspects of Proposed Development, including the proposed visitor centre.
13 August 2021	East Cambridge District Council	Most acceptable options are options 1a and 1b. To create an additional access from the A14 is unlikely to be acceptable.	The preferred access option is Option 1b.
18 August 2021	Urban and Civic	U&C offers a preliminary view that a new junction off the A14 appears, without the benefit of the detailed assessments that will follow, to be preferrable and justified given the strategic importance of the proposed facility.	Noted. Option 3 has not been selected on account of technical issues around creating a new junction off the A14 based feedback provided by National Highways– the access is Option 1b. The selection of vehicle access and consideration of all options is discussed in further detail within Chapter 3: Site Selection and Alternatives (Application Document Reference 5.2.3). The assessment provided in Section 4 (Assessment of Effects) of this chapter assesses Option 1b.
16 August 2021	Natural England	Access assessment needs to include air quality assessment. A CEMP is also needed.	Noted. An air quality assessment has been undertaken as part of Chapter 7: Air Quality (Application Document Reference 5.2.7). The CoCP Part A and B (Application Document Reference. 5.4.2.1, 5.4.2.2) requires a CEMP to be produced prior to any works commencing on site.



Date	Consultee	Points raised	How and where addressed
17 August 2021	Cambridgeshire County Council	-	Noted and accepted. As stated, Junction 34 of the A14 has been modelling in accordance with CCC requirements, whereby preliminary findings show that the junction works within capacity. The Transport Assessment (Application Document Reference. 5.4.19.3) includes information on modelling during construction, operation (including visitor traffic) and decommissioning. Mitigation proposals and drawings for Horningsea Road have taken into account the Horningsea Greenway project.
17 August 2021	South Cambridge District Council	If Option 1b remains, the District Council will expect to see within the DCO, carefully detailed designs for the junction	Option 1b-has been selected and taken forward into the Proposed Development. Option 3 has not been selected on account of technical issues around creating a new junction off the A14 based on feedback provided by National Highways. The Transport Assessment (Application Document Reference 5.4.19.3) provides details on the mitigation measures on Horningsea Road, which is also summarised in the section 2.8 of this chapter. These mitigation measures ensure that access to the site does not compromise safety along Horningsea Road The Transport Assessment Application Document Reference. 5.4.19.3) includes a review of the junctions with the A10 / Denny End Road and A10 / Car Dyke Lane to assess capacity and delay during the construction works. Bannold Road at its junction with Denny End Road is noted as narrow (Application Document Reference. 5.4.19.3) and mitigation will be in place to prevent parking on that corner to minimise traffic conflicts. The CTMP (Application Document Reference. 5.4.19.7) and CoCP (Application Document Reference. 5.4.2.1, 5.4.2.2) set out the construction route to and from the proposed WWTP site.



Date	Consultee	Points raised	How and where addressed
17 August 2021	Fen Ditton Parish Council	 FDPC considers extra mitigation is required and should include: Commitment to model overall traffic performance with historic data as a baseline and not rely on AWS surveys since these were at a time when traffic into Cambridge was below historic levels. 	The modelling approach and use of survey information has been discussed and agreed with CCC. This includes checks to ensure survey results provided by AWS are not abnormal due to the Covid-19 pandemic. The Transport Assessment (Application Document Reference 5.4.19.3) is supported by additional surveys completed to verify the data used.
24 August 2021	Horningsea Parish Council	HPC is not aware of any evaluation assessment material being published by AWS and would like to request this information to allow HPC a full understanding of the relevant facts. We also request a copy of the determination by Highways that found it was not possible to access the site from the A14, Option 3.	Chapter 3: Site Selection and Alternatives (Application Document Reference 5.2.3) provides details of the access options considered for the project. Option 3 has not been selected on account of technical issues around creating a new junction off the A14 based on feedback from National Highways.
24 August 2021	Horningsea Parish Council	We fear that the traffic volume has been underestimated. We would like to see this analysis including all of the access routes into the site; including A14 westbound and A14 eastbound.	The modelling approach and use of survey information has been discussed and agreed with CCC. This includes checks to ensure that survey results provided by AWS are not abnormal due to the Covid-19 pandemic. The Transport Assessment (Application Document Reference. 5.4.19.3) is supported by additional surveys completed to verify the data used.
24 August 2021	Horningsea Parish Council	HPC also supports reduced speed limits on Horningsea Road. Suggest reduce to 30mph and 20mph in the village and enforce with speed cameras and traffic calming measures. We also want confirmation that this mitigation is within the control of AWS.	A set of mitigation measures for Horningsea Road have been included in the design and are outlined in mitigation measures adopted as part of the Proposed Development.
24 August 2021	Horningsea Parish Council	It is a significant concern that we believe AWS has failed to factor in the cumulative traffic impact of previous recorded congestion at junction 34, reduction in traffic flows (due to Covid) during the 2021 AWS surveys, CWWTP Construction traffic, CWWTP operational traffic, the proposed additional J34 arm, Waterbeach New Town, Marleigh, development at Fulbourn, dualling of the A10, general traffic growth and the pending development of the airport site.	The modelling approach and use of survey information has been discussed and agreed with CCC. This includes checks to ensure survey results provided by the Applicant are not abnormal due to the Covid- 19 pandemic. The Transport Assessment (Document Reference 5.4.19.3) is supported by additional surveys completed to verify the data used. Impacts associated with committed developments in the area are accounted for within the TEMPro growth factors used, which has been agreed with CCC.
24 August 2021	Horningsea Parish Council	We request forecast operational HGV movements. Most of the movements are liquid sludge imports and septic tank	The Transport Assessment (Application Document Reference. 5.4.19.3) provides information on operational HGV movements. The routing of



Date	Consultee	Points raised	How and where addressed	
		movements, why are these being trucked here from	HGVs in operation has been based on sludge imports at the existing	
		destinations such as Ely and Huntingdon? We request	Cambridge WWTP. A technical note (Appendix C, Application	
		forecast for operational HGV movements and an alternative Document Ref: 5.4.19.3) outlines the origins of sludge impo		
		plan for the movement of sludge lorries to more	operation in 2020 at the existing Cambridge WWTP.	
		appropriate sites.		



Cambridge Waste Water Treatment Relocation Project Transport Assessment

Appendix K: TEMPro Growth Factor Technical Note



Document Control

Document title	itle Technical Note: Modelling Overview and TEMPro Growth Factor		
Version No.	1		
Date Approved			
Date 1 st Issued	12/01/2022		

Version History

Version	Date	Author	Description of change
0	<u>12/01/2022</u>	-	Technical note at PEI.
1	15/02/2024	-	Revisions to TEMPro growth factors following modelling review and formatting updates.

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	1.2	Survey and TEMPro growth factors	3

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able 1-1: TEMPro growth factors



1 Technical Note: Modelling overview and TEMPro growth factors

1.1 Preliminary Modelling Overview

- 1.1.1 Each option has been assessed using the industry-standard software of either Junctions9 (PICADY) or LinSig (Version 3) to anticipate if the proposed junction designs would be predicted to operate within capacity.
- 1.1.2 Junctions9 software measures performance as the ratio of flow to capacity (RFC). An RFC value is greater than one means that a turning movement has a higher level of traffic flow than its theoretical capacity. As a result, queues may occur. An RFC below 0.85 is considered acceptable as there is still scoped to accommodate future growth.
- 1.1.3 LinSig is a computer software package for assessing and designing traffic signal junctions either individually or as a network comprised of several junctions. It is used by traffic engineers to construct a model of the junction or network which can then be used to assess different designs and methods of operation. LinSig v3 software measures performance as the degree of saturation (DoS). A DoS value of greater than 100% means that a lane movement has a higher level of traffic flow than its theoretical capacity. As a result, queues may occur. A DoS below 90% is considered acceptable as there is still coped to accommodate future growth.

1.2 Survey and TEMPro growth factors

1.2.1 Survey (December 2021) data has been used to inform the base years. To estimate the future 2025 base, a TEMPro 7.2 growth factors for South Cambridgeshire have been applied to the base flows. The applied factors are outlined in Table 1-1 below:

Base Year to Scenario Year	TEMPro growth factors	
2021 – 2026	1.060	
2021 – 2028	1.082	
2021 – 2033	1.1362	
2021 – 2038	1.1857	

Table 1-1: TEMPro growth factors

1.2.2 To predict future growth as accurate as possible, TEMPro 7.2 reflects all planned growth in the area. TEMPro 7.2 growth factors are in line with the most recent Road Traffic Forecast (2018). However, as land use developments are a source of uncertainty, TEMPro 7.2 growth factors are blanket, and they do not predict where exactly growth will appear.

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- 1.2.3 It is suggested to apply unadjusted growth factors to estimate the future base as the Cambridge Wastewater Treatment plant will not generate a significant number of homes or jobs in the area.
- 1.2.4 However, if any significant developments appear in the area, forecasted trips could be excluded from the growth to avoid double counting. In this case, the developments and the number of excluded trips should be agreed with CCC.



Get in touch

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You can view all our DCO application documents and updates on the application on The Planning Inspectorate website:

https://infrastructure.planninginspectorate.gov.uk/projects/eastern/cambri dge-waste-water-treatment-plant-relocation/

