Frodsham Solar

Note on updated Construction Resourcing Schedule

December 2025

Cubico SUSTAINABLE INVESTMENTS

PINS Ref: EN010153
Document Ref: EN010153/DR/8.22
Planning Act 2008; and Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations Regulation 5(2)(q)

Revision P01

Document Control

Revision	Date	Prepared By	Reviewed / Approved By
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1.0 INTRODUCTION

1.1.1 This Technical Note (TN) has been prepared by Axis on behalf of Frodsham Solar Ltd (the 'Applicant') as part of the examination of an application for development consent for the Frodsham Solar project (the 'Proposed Development').

1.1.2 The TN addresses the potential implications in relation to traffic and noise from revisions to and clarification of the indicative construction phasing (as provided in the updates to ES Vol 2 Appendix 2-2: Indicative Construction Phasing and Resource Schedule (APP-051) and Transport Assessment (TA) Appendix B Forecast Construction Resourcing Schedule (APP-134), also submitted at Deadline 1), specifically:

i) Completion of the NBBMA prior to the commencement of works on the Solar Array Development Area (East and West), as agreed with Natural England and Cheshire West and Chester Council ('CWaCC'); and
ii) Undertaking Permitted Preliminary Works prior to the commencement of works on the Solar Array Development Area (East and West).

1.1.3 The TN also considers the impact that a delay in the start of construction by one year would have on the findings of the Transport Assessment (e.g. if the NBBMA was not able to be completed in one of its seasonal windows) (APP-134).

2.0 REVISION TO ANTICIPATED CONSTRUCTION SCHEDULE

2.1.1 The revision to the construction schedule assumes that the Eastern Array would be constructed between months 9 and 20 of the construction programme instead of between months 1 and 12, as currently assessed. It should be noted that this would effectively reduce the construction programme to 28 months. However, to provide a conservative assessment a nominal allowance for HGVs and personnel movements has been allowed for

in Month 1 and 2 should PPW be required in advance of starting the NBBMA. This retains a 30-month programme.

2.1.2 The revised schedule, as noted above, takes into account vehicle movements associated with PPW activity. It has been assumed that this will occur between months 1 and 8. In terms of vehicle movements, it has been assumed that the PPW would require 10 operatives per day on site and would generate approximately 3 HGV movements (6 two-way movements) per day, on average.

2.1.3 In addition, to more accurately reflect the fact that the bulk of activity is now programmed to be condensed within a 12-month period of the construction phase, the vehicle movements associated with welfare/fuel/water/refuse deliveries have also been re-distributed, such that there are fewer movements during months 1 to 8, and a greater number of movements during months 9 to 20. There is no change to the overall total number of movements associated with general delivery trips compared to the assessment as submitted.

2.1.4 A revised Appendix 2-2: Indicative Construction Phasing and Resource Schedule (Rev P02) is provided as Appendix A to this TN, and a revised TA Appendix B Forecast Construction Resourcing Schedule (Rev P02) is provided as Appendix B to this note.

3.0 APPRAISAL OF IMPACT OF PROPOSED REVISION TO CONSTRUCTION PHASE

3.1.1 The trip generation associated with the revised indicative construction schedule has been calculated using the same methodology as set out in Section 5.2 of the TA (APP-134). The number of HGV movements per day has been calculated from the overall number of deliveries per month based on the assumptions as set out in Table 5.2 of the TA. As set out in paragraphs 5.2.16 and 5.2.17 of the TA, it has also been assumed that a significant number of construction staff would participate in a car share, and as such an

average car/van occupancy of 2 has been assumed for construction staff trips.

3.1.2 The resultant changes to the forecast trip generation are summarised in Table 1 below.

Table 1 – Summary of Site Planning History

Two-Way Vehicle Movements	As Assessed	Revised Schedule	Change
Peak Daily Staff Trips	243 (Month 12)	331 (Month 15)	+88
Peak Daily HGV Trips	46 (Month 13)	60 (Month 11)	+14
Average Daily Staff Trips (Peak 12-month construction period)	197 (Months 6-17)	234 (Months 9-20)	+37
Average Daily HGV Trips (Peak 12-month construction schedule)	30 (Months 6-17)	36 (Months 9-20)	+6
Average Daily Staff Trips (Peak 18-month construction period)	165 (Months 2-19)	166 (Months 3-20)	+1
Average Daily HGV Trips (Peak 18-month construction period)	26 (Months 2-19)	26 (Months 9-20)	0

3.1.3 From the above table, it can be seen that the revised schedule would result in the peak month for staff movements shifting from month 12 to month 15, with an increase of 44 staff trips (88 two-way movements) per day during the busiest month.

3.1.4 The peak month for HGV trips would shift from month 12 to month 11, although there would only be an increase of 7 HGV deliveries (14 two-way movements) per day during this period.

3.1.5 The busiest 12-month period of the construction phase would shift from months 6-17 to months 9-20 of the construction phase. The revised schedule would result in an increase of 19 staff trips and 3 HGV deliveries per day (37 and 6 two-way movements, respectively) on average during this period.

3.1.6 However, as set out within paragraph 5.2.9 of the TA, the development trip generation used in the assessment of traffic impacts was based on the average daily trips across the busiest 18-month period of construction, to better account for the variance in traffic movements during the construction of the eastern and western solar arrays.

3.1.7 Across this period, there would be no net change in the overall forecast daily trip generation, other than a single additional staff trip (attributable to rounding differences). As such, when compared using the same methodology as used within the TA to appraise the traffic impact of the Proposed Development, the revision to the construction schedule would result in no material change to the percentage impact assessment presented in Chapter 6 of the TA, or to the cumulative impact assessments presented in Chapter 7 of the TA.

3.1.8 With regard to the indicated increase in vehicle movements during the peak month, the additional number of HGV deliveries would equate to an increase of approximately 2 HGV movements per hour.

3.1.9 Without mitigation, the indicated increase in staff trips during the peak month would result in an additional 44 vehicle arrivals in the morning and 44 vehicle departures in the evening. However, ~~A~~as set out within Section 4.4 of the Outline Construction Traffic Management Plan (oCTMP) (as updated alongside this submission), the number of vehicle movements by construction staff would be minimised through the introduction of a Construction Staff Travel Plan, which would form part of the final CTMP that would be prepared by the contractor.

3.1.10 It should also be noted that, even if it was assumed that the revised peak month trip generation forecasts described above were to occur within the same month, this would only result in an additional impact of approximately 0.5% and 1.6% at the M56 J17 and M3 J10 junctions, respectively, in both the AM and PM peak periods, compared to the percentage impacts presented in ~~Section~~Table 6.5 of the TA. The additional impact in these periods at the A5117 junctions with Pool Lane and Thornton Green Lane would be in the order of 4-5%. The overall impact at all junctions in terms of both annual average daily traffic (AADT) and annual average weekday traffic (AAWT) would remain below 1% at the two motorway junctions, and below 3% at the A5117 junctions.

3.1.11 With regard to cumulative impacts, the combined peak month construction traffic would result in an additional percentage impact of approximately 0.5% at the motorway junctions and 1.5% at the A5117 junctions in the AAWT period, compared to the impacts presented in Table 7.3 of the TA, For the AADT period, the additional impact would be approximately 0.3% for the two motorway junctions, and less than 1% at the A5117 junctions. The additional impact in the AM and PM peak hours in the cumulative development scenario would be of the same magnitude as described in paragraph 3.1.10 above.

~~3.1.10~~3.1.12 It should also be noted that this is a conservative comparison because the peak staff and peak HGV movements would not occur within the same month.

~~3.1.11~~3.1.13 On this basis, the overall impact of the proposed alteration to the indicative construction schedule would be negligible with regard to the traffic impact assessment presented within Chapter 6 of the TA, and with regard to the assessment of cumulative impacts presented within Chapter 7 of the TA.

4.0 IMPACT ON NOISE ASSESSMENT

4.1.1 The impact of the proposed alteration to the indicative construction schedule has also been considered in relation to the assessment set out in ES Vol 2 Appendix 4-1: Noise Impact Assessment (NIA) (APP-054).

4.1.2 As set out in paragraph 5.3.15 of the NIA report, the calculations on noise impact were based on assumed maximum vehicle movements of 28 HGV deliveries (56 two-way HGV movements) and 308 two-way staff trips per day (154 arrivals and 154 departures). These figures were obtained from the preliminary traffic generation calculations which were presented within the Preliminary Environmental Information Report (PEIR), which included trip generation forecasts calculated from an early iteration of the indicative construction schedule, which assumed that the SADA Eastern and Western arrays would be constructed concurrently.

4.1.3 As such, the NIA was already based on robust assumptions regarding peak construction traffic movements. As per Table 1 above, the proposed revision to the construction schedule would result in a peak of 30 HGV deliveries (60 two-way HGV movements), with a maximum of 331 staff on site per day during the busiest month (equating to approximately 166 arrivals and 166 departures).

4.1.4 The change in the indicative resourcing schedule is therefore conservative for the vast majority of the construction period, with the peak month only seeing an increase of 4 two-way HGV movements and 24 two-way staff trips per day compared to the figures used in the noise calculations within the NIA. This level of increase would not alter the overall conclusions in the NIA that the impact of construction noise and vibration would remain negligible.

5.0 IMPACT OF POTENTIAL DELAY TO CONSTRUCTION

5.1.1 The traffic impact assessment presented within Chapters 6 and 7 of the TA assume a construction start date of 2028. The resultant growth rates obtained from the TEMPRO database which were applied to the baseline traffic flows were approximately 3.3% for the A5117 and Pool Lane, and approximately 4.0% for Grinsome Road and Marsh Lane, as set out in Table 6.2 of the TA.

5.1.2 In the event that construction was to be delayed by 1-2 years, this would result in additional background traffic growth in the order of around 2-3%, as set out in Table 2 below.

Table 2 – TEMPRO Adjusted NTM Growth Factors

Applicable Links	Road Type	Period	2028 Start Date (2024-2028)	2030 Start Date (2024-2030)
A5117, Pool Lane	A-Road	Weekday AM	1.0337	1.0543
		Weekday PM	1.0329	1.0629
		Average Weekday	1.0329	1.0643
		Average Day	1.0331	1.0699
Grinsome Road, Marsh Lane	Minor	Weekday AM	1.0422	1.0599
		Weekday PM	1.0401	1.0616
		Average Weekday	1.0400	1.0630
		Average Day	1.0401	1.0644

5.1.3 This would result in a very minor increase to the baseline traffic flows, which would have the effect of very slightly reducing the percentage impact of Proposed Development construction traffic, both when considered individually and in conjunction with cumulative development impacts. However, the scale of the changes to the baseline traffic flows and the resultant percentage impact of development traffic would be negligible and would not affect the overall conclusions drawn in the TA.

APPENDIX A - ES Vol 2 Appendix 2-2: Indicative Construction Phasing and Resource Schedule Rev P02

Programme by Month

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Solar Array Development Area West									26	68	116	156	124	142	142	142	141	135	101	14										
Solar Array Development Area East									21	68	43	64	74	109	135	135	135	133	56	41										
BESS / Frodhsam Solar Substation									5	40	44	47	42	40	47	47	47	47	31	29	29	29	29	29	28	28	28	28	28	28
SPEN Substation Grid Connection - OHL									0	0	0	0	2	7	7	1	0	0	0	0	0	0	0	0	0	0	0	4	1	
Grid Connection - Private Wire																					4	12	8	8	8	8	8	8	1	4
NBBMA			20	20	20	20	20	20																						
Permitted Preliminary Works	10	10	10	10	10	10	10	10																						
Total	**16**	**14**	**115**	**106**	**72**	**49**	**54**	**56**	**67**	**178**	**661**	**585**	**598**	**574**	**473**	**456**	**463**	**334**	**298**	**68**	**24**	**10**	**10**	**15**	**10**	**10**	**15**	**8**	**7**	**8**
	0	**0**	**20**	**20**	**20**	**20**	**20**	**20**	**52**	**176**	**203**	**266**	**242**	**299**	**331**	**326**	**323**	**314**	**188**	**84**	**33**	**41**	**37**	**37**	**36**	**36**	**36**	**41**	**30**	**32**

APPENDIX B - Transport Assessment (TA) Appendix B Forecast Construction Resourcing Schedule Rev P02

	Programme by Month																													
		Jan-28	Feb-28	Mar-28	Apr-28	May-28	Jun-28	Jul-28	Aug-28	Sep-28	Oct-28	Nov-28	Dec-28	Jan-29	Feb-29	Mar-29	Apr-29	May-29	Jun-29	Jul-29	Aug-29	Sep-29	Oct-29	Nov-29	Dec-29	Jan-30	Feb-30	Mar-30	Apr-30	May-30	Jun-30
	Month	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**
Solar Array Development Area West	**Total HGVs (per month)**										19	232	293	348	282	222	189	210	81	48											
	26 tonne artic											40	55	69	74	75	70	94	81	48											
	30 tonne tipper										19	193	238	279	199	138	117	117													
	Concrete truck														9	9	2														
Solar Array Development Area West	**Personnel (per day)**									26	68	116	156	124	142	142	142	141	135	101	14										
Solar Array Development Area East	**Total HGVs (per month)**										32	251	141	153	169	99	105	102	112	92											
	26 tonne artic											4	7	29	49	48	53	51	53	28											
	30 tonne tipper										32	246	135	124	120	52	53	51	53	56											
	Concrete truck																		7	8											
Solar Array Development Area East	**Personnel (per day)**									21	68	43	64	74	109	135	135	135	133	56	41										
BESS / Frodsham Solar Substation	**Total HGVs (per month)**									28	73	140	103	57	66	109	113	113	103	119	40										
	26 tonne artic														11	40	41	41	36	47	17										
	30 tonne tipper									28	73	140	81	35	28	23	24	24	22	24	8										
	Concrete truck												22	22	27	46	48	48	45	48	15										
BESS / Frodsham Solar Substation	**Personnel (per day)**									5	40	44	47	42	40	47	47	47	47	31	29	29	29	29	29	28	28	28	28	28	28
SPEN Substation Grid Connection - OHL	**Total HGVs (per month)**									1	1	0	0	2	5	5	1														
	26 tonne artic									1	1	0	0	2	5	5	1														
	30 tonne tipper																														
	Concrete truck																														
SPEN Substation Grid Connection - OHL	**Personnel (per day)**									0	0	0	0	2	7	7	1	0	0	0	0	0	0	0	0	0	0	0	4	1	
Grid Connection - Private Wire	**Total HGVs (per month)**																						1	1	1	1	1	1	1		
	26 tonne artic																						1	1	1	1	1	1	1		
	30 tonne tipper																														
	Concrete truck																														
Grid Connection - Private Wire	**Personnel (per day)**																					4	12	8	8	8	8	8	8	1	4
NBBMA	**Total HGVs (per month)**			83	84	40	30	25	37																						
	26 tonne artic			33	34	40	30	25	37																						
	30 tonne tipper			50	50																										
	Concrete truck																														
NBBMA	**Personnel (per day)**			20	20	20	20	20	20																						
Permitted Preliminary Works	**Total HGVs (per month)**	3	3	3	3	3	3	3	3																						
	26 tonne artic	3	3	3	3	3	3	3	3																						
	30 tonne tipper																														
	Concrete truck																														
Permitted Preliminary Works	**Personnel (per day)**	10	10	10	10	10	10	10	10																						
Welfare	**Welfare**	5		10		10		10			15		10		15		10			10		10			5			5			5
Fuel	**Fuel**	2	4	4	4	4	4	4	4	8	8	8	8	8	8	8	8	8	8	8	8	4	4	4	4	4	4	4	2	2	
Water	**Water**	5	5	10	10	10	10	10	10	20	20	20	20	20	20	20	20	20	20	11	10	10	5	5	5	5	5	5	5	5	3
Refuse	**Refuse**	4	5	8	8	8	5	5	5	10	10	10	10	10	10	10	10	10	10	10	10										
Total	**Total HGVs (per month)**	**16**	**14**	**115**	**106**	**72**	**49**	**54**	**56**	**67**	**178**	**661**	**585**	**598**	**574**	**473**	**456**	**463**	**334**	**298**	**68**	**24**	**10**	**10**	**15**	**10**	**10**	**15**	**8**	**7**	**8**
	Total Personnel (per day)	**0**	**0**	**20**	**20**	**20**	**20**	**20**	**20**	**52**	**176**	**203**	**266**	**242**	**299**	**331**	**326**	**323**	**314**	**188**	**84**	**33**	**41**	**37**	**37**	**36**	**36**	**36**	**41**	**30**	**32**

axis

Figure: Appendix B - REV P02
Project Name: Frodsham Solar DCO
Project Number: 3272-01
Description: Forecast Construction Resourcing Schedule