

Norfolk Boreas Offshore Wind Farm Technical Note Revised Cawston Highway Intervention Scheme

Applicant: Norfolk Boreas Limited
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Deadline 4

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Photo: Ormonde Offshore Wind Farm

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Glossary of Acronyms

CISR	Cawston Intervention Scheme Report
C of E	Church of England
DfT	Department for Transport
ExA	Examining Authority
HGV	Heavy Goods Vehicle
HIS	Highway Intervention Scheme
Mph	Miles per hour
OS	Ordnance Survey
OTMP	Outline Traffic Management Plan
PC	Parish Council
RSA	Road Safety Audit
UK	United Kingdom

1 Introduction

1. The purpose of this technical note is to set out a revised Highway Intervention Scheme (HIS) for link 34, B1145 Cawston. This note has been prepared as a direct response to Action Point 1 from Issue Specific Hearing 3 on Onshore Effects including the draft Development Consent Order as requested by the Examining Authority (ExA).
2. The HIS is part of a package of mitigation measures that would serve to reduce traffic impacts through Cawston. These measures are set out in the revised OTMP [REP1-022] and include:
 - Prohibition of deliveries during term time school pick up and drop off times (7:30am - 9:00am and 3.00pm – 4.00pm, Monday to Friday);
 - Daily HGV caps:
 - Norfolk Boreas = 112 movements;
 - Norfolk Boreas cumulative with Hornsea Project Three (127 movements) = 239 movements.
 - Delivery management measures;
 - Driver induction, information and safety awareness measures; and
 - Communication, monitoring and enforcement measures.
3. The HIS was initially developed by Hornsea Project Three to mitigate construction traffic impacts through Cawston and was subsequently adopted by Norfolk Vanguard. The proposed scheme was developed to mitigate impacts for Hornsea Project Three alone, Norfolk Vanguard alone (by definition Norfolk Boreas alone also), or for the projects together.
4. The final detail of the HIS was an unresolved matter with Norfolk County Council, with their position in the final Statement of Common Ground for Norfolk Vanguard stating:

“[Norfolk County Council] believes a suitable access strategy can be produced that mitigates impact however, the intervention scheme drawings and proposal before us are very much ‘work in progress’. In short, the scheme needs several changes, but we anticipate they will be amendments rather than a complete re-think”
5. Norfolk County Council comments were prompted in part by the findings of an independent Road Safety Audit (RSA) which reported the following issues:
 - i) Details of signage, roadmarkings, drainage and landscape maintenance to be provided for the next stage of design;
 - ii) Marked parking bays are introduced to define available road space;

- iii) [To counter the potential obstruction of large vehicles], it is recommended a review of on-street parking is undertaken and restrictions introduced as necessary; and
 - iv) Narrow footways: It is recommended further details are provided to the widening proposed and the dimensions of both the footway and the carriageway.
6. Norfolk County Council's review of the RSA concurred with the recommendations and raised concern that the footway widening may compromise the carriageway width and in turn, safe vehicle manoeuvres. In addition, clarification was sought as to where the bus stops would be relocated to.
7. The HIS scheme that informed the RSA was submitted to the Norfolk Boreas Examination at Deadline 1 [REP1-024]. This technical note contains the details of the changes proposed to the HIS, submitted at Deadline 1 (Appendix 6 of Outline Traffic Management Plan [REP1-022]), for the purpose of addressing the matters raised by NCC and the RSA.

2 Development of Scheme by Norfolk Boreas

8. It has been agreed with Norfolk Vanguard and Hornsea Project Three that the Applicant would take forward the scheme design to address the concerns raised in the RSA and by Norfolk County Council.
9. A meeting was held with Norfolk County Council on the 4th November 2019, to inform officers of these plans and seek their view of potential options to amend the scheme.
10. It was confirmed that the Applicant is now in receipt of the AutoCAD scheme design drawings and the topographical data from Hornsea Project Three (to this date the HIS was designed on Ordinance Survey (OS) base). In addition, it was confirmed that the Applicant had collaborated with Cawston Parish Council to undertake kerbside parking surveys within the village envelope to further inform the scheme design.
11. Key areas of design focus going forward were noted as the feasibility of the footway widening and the configuration of on-street parking cognisant of the surveyed demand (provided in Appendix B).
12. Following the meeting with Norfolk County Council, a meeting was held with Cawston Parish Council on the 22nd November 2019 to update members of scheme progress and seeks views on options for potential design revisions.
13. A further meeting was held with Norfolk County Council on the 15th January 2020 to update officers on the emerging designs. The feedback received from Norfolk County Council officers was they were close to 'broad agreement' on the scheme.

3 Revised Highway Intervention Scheme

14. A drawing schedule for this technical note is presented in Table 3.1. All HIS drawings are presented on topographical survey information supplied by Hornsea Project Three. The following sections provide a rationale for the revisions to the HIS.

Table 3.1 Drawing Schedule

Appendix	Drawing Number	Drawing Title
Appendix A Revised Highway Intervention Scheme	T&P-PB5640-DR015-F1.0	Approach Driver Awareness Works on B1145
	T&P-PB5640-DR016-F1.0	Cawston Village Centre
	T&P-PB5640-DR017-F1.0	HGV Forward Visibility and Chapel Street Junction Visibility
	T&P-PB5640-DR018-F1.0	Swept Path Analysis - Articulated and Large Tipper Vehicles - Two Way Movements
	T&P-PB5640-DR019-F1.0	Swept Path Analysis - Articulated, Large Tipper Vehicles and Car - Two Way Movements
	T&P-PB5640-DR020-F1.0	Sign Schedules
Appendix B Cawston Parking Survey	T&P-PB5640-DR038-F1.0	Cawston Parking Survey - Thursday 11/07/19 10:00AM
	T&P-PB5640-DR039-F1.0	Cawston Parking Survey - Thursday 11/07/19 08:00PM
	T&P-PB5640-DR040-F1.0	Cawston Parking Survey - Saturday 13/07/19 11:00AM
	T&P-PB5640-DR041-F1.0	Cawston Parking Survey - Thursday 19/07/19 10:00AM
	T&P-PB5640-DR042-F1.0	Cawston Parking Zones

3.1 Removal of footway widening

15. A review of the topographical data provided by Hornsea Project Three revealed a narrower road carriageway than on the OS mapping used for the original scheme. As such the footpath widening cannot be accommodated and is to be removed.
16. Concerns have been raised with regards to the impact on pedestrian amenity from the removal of the proposed footpath widening. However, providing adequate road space and introducing the mandatory 20mph speed limit will reduce the likelihood of a pedestrian and vehicle conflict and therefore will mitigate the pedestrian amenity impact. It is also considered that at the narrowest points of the footpath protection is afforded by parked vehicles.

17. Furthermore, the Applicant has committed to the prohibition of HGV deliveries during school pick up and drop off times i.e. 7:30am to 9am and 3pm to 4pm, Monday to Friday, when there are higher volumes of footpath users.
18. Within the Orsted Cawston Intervention Scheme Report (CISR) [submitted at Deadline 4, ExA.AS-11.D4.V1] a review of personal injury collision throughout the village of Cawston was undertaken utilising Crashmap (open source) data. The findings of the review concluded that within the last 5 year period available (2014-2018) there were no recorded collisions involving pedestrians or cyclists. The summary concluded that there were no prevailing road safety issues on the highway network along the B1145 in the vicinity of Cawston Village Centre.
19. Further investigation to corroborate the claims made within the Cawston CISR have been undertaken by Norfolk Boreas. For robustness, all years available on Crashmap (1999 - 2018) were investigated and it was found that there were no collisions involving pedestrians or cyclist throughout Cawston along the B1145.
20. The removal of footway widening negates the requirement for the drainage details requested by the RSA.

3.2 Amendments to Parking Arrangements

21. To inform the demand for kerbside parking throughout the Cawston Village envelope, the Applicant facilitated Cawston Parish Council to undertake a series of on-street surveys. The surveys were undertaken during July 2019, at times and on days that would be representative of the demand for parking. Appendix B contains the outputs from the parking surveys.
22. The kerbside parking surveys indicate the maximum demand for parking on the north side of High Street was nine vehicles. The Applicant has used this information to reallocate road space. The parking provision on the north side of High Street has been reduced to nine spaces from the 12 spaces detailed in the HIS. This provides more road space at the western end of High Street to facilitate additional vehicle stacking and therefore reduce the probability of HGV's 'backing up' and blocking through traffic. In addition, it is proposed to add an additional bay on the south side of High Street outside the Café increasing the total provision from four bays to five.
23. To promote efficient use of kerbside parking, it is proposed not to mark out individual vehicle parking bays but to just denote the entire parking area with a broken line box (similar to the approach adopted UK wide for resident parking schemes). It is felt this approach will allow residents to self-manage and ensure the most efficient use of the available parking. The situation will be monitored and if necessary, individual bay markings could be introduced at a later stage.

24. Finally, to enforce the parking arrangements it is proposed to implement a limited waiting traffic regulation order to ensure that indiscriminate parking does not occur during construction delivery times. This entails the making of a 'Limited Waiting' order that will prevent on-street parking, on the High Street, outside of the designated parking areas for the period between 9am and 6pm, Monday to Friday. The time slot has been selected as a balance to protect residents parking amenity but to also afford enough time for deliveries to ensure the construction works can progress in a timely manner.
25. The Limited Waiting order will be denoted on street by the presence of a single yellow line supplemented by a small plate indicating the (time) limit of the restriction. The location of the plates has been carefully chosen so as to not restrict the available footway width.

3.3 Other Road Safety/Amenity Revisions

3.3.1 20mph Zone

26. The 20mph Zone signing has been updated to ensure all 'gateways' into the designated areas are clearly signed and therefore all roads within the 20mph zone are enforceable.

3.3.2 Cawston C of E Primary School

27. Following consultation with Cawston C of E Primary School and Norfolk County Council, it is proposed to improve the current crossing point on the B1145 that serves the pupils preferred access route via Howards Way. This crossing will benefit from an upgrade to include modern (see-through) pedestrian guard rail, footway widening realignment, improved lighting and motorist warning signs.
28. This also represents an opportunity to actively involve the school in an educational road safety programme.

3.3.3 Bus Stops

29. The Applicant has committed to the prohibition of HGV deliveries during school pick up and drop off times i.e. 7:30am to 9am and 3pm to 4pm, Monday to Friday, when the bus stops experience the most intensive use. It is therefore, no longer proposed to relocate the bus stops (which was an original HIS proposal that pre-dated the Applicant's commitment).

3.3.4 Highway re-alignment

30. It is proposed to widen the carriageway on the north side of High Street adjacent to Chapel Street, removing approximately one metre of the triangular parking area.

This will provide extra space for HGVs to pass and promote clean sight lines for eastbound drivers. This proposal will not compromise the parking capacity of the triangular parking area, which will retain capacity for five vehicles.

3.3.5 Priority Traffic Flows

31. The original HIS proposed priority traffic flows at High Street ‘pinch points’ in the vicinity of Church Close and Chapel Street. This entailed the introduction of regulatory signs, mandating drivers to give way to oncoming vehicles. The regulations¹ only permit the use of mandatory signs if the carriageway is physically restricted to single traffic width (hence the footway build-outs proposed in the original HIS).
32. The Swept Path Analysis detailed in Appendix A shows that at pinch points (while it is not possible for two HGVs to pass) it is possible for a light vehicle and HGV to pass. It is therefore considered that a mandatory priority traffic arrangement would compromise the roadspace available for all road users and the scheme has been revised to replace the regulatory signs with hazard warning sign to depict “On-coming vehicles in the middle of the road”. This measure is typical of the approach adopted in Norfolk and will be augmented by the 20mph limit to encourage ‘self-policing’ of priority.

3.3.6 Road Surfacing

33. The High Street will be resurfaced to mitigate vehicle vibration from carriageway undulations and settled utility trenches. In addition, all ironwork will be raised flush with the surface and loose/damaged covers replaced.

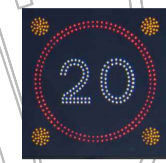
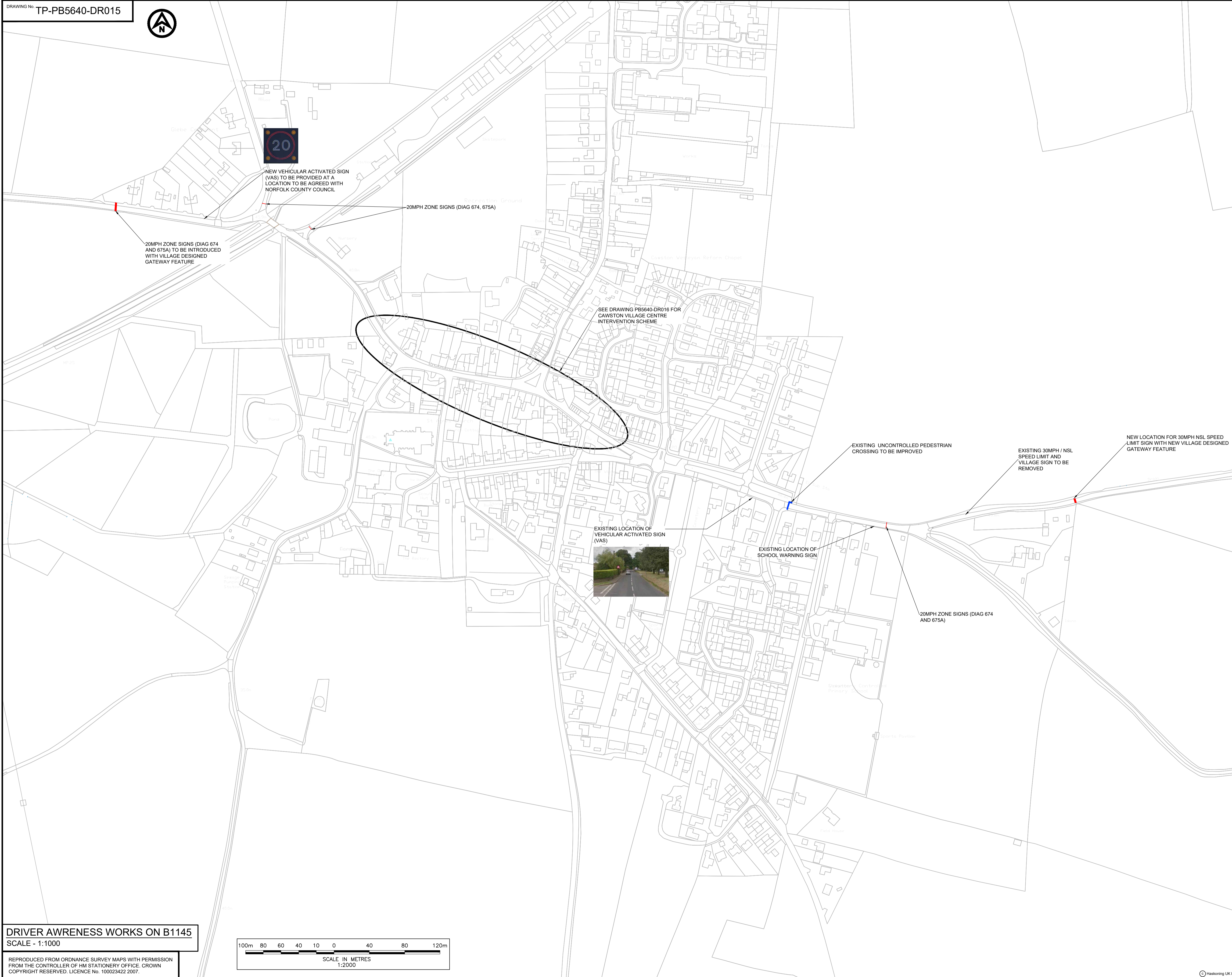
4 Summary

34. The revised HIS has been developed following consultation with Cawston Parish Council and Norfolk County Council to address the recommendations of the RSA and the concerns raised by Norfolk County Council.
35. The scheme is now designed on a topographical layer which gives confidence that the measures proposed are deliverable.
36. The revisions to the HIS are summarised as follows:
 - Removal of footway widening;
 - Details of parking restrictions;
 - Details of 20mph Zone signing;
 - Improvements to the Cawston C of E pedestrian crossing;

¹ The Traffic Signs Regulations and General Directions 2016, DfT.

- Bus stop locations;
 - High Street carriageway alignment adj. Chapel Street;
 - Removal of mandatory priority traffic management; and
 - Clarification of road surfacing.
37. The revised HIS has been submitted for RSA, the outcome of which will be reported to the Examination at Deadline 5.

Appendix A Revised Highway Intervention Scheme Drawings



NEW VEHICULAR ACTIVATED SIGN (VAS) TO BE PROVIDED AT A LOCATION TO BE AGREED WITH NORFOLK COUNTY COUNCIL

20MPH ZONE SIGNS (DIAG 674, 675A)

20MPH ZONE SIGNS (DIAG 674 AND 675A) TO BE INTRODUCED WITH VILLAGE DESIGNED GATEWAY FEATURE

SEE DRAWING PB5640-DR016 FOR CAWSTON VILLAGE CENTRE INTERVENTION SCHEME

EXISTING UNCONTROLLED PEDESTRIAN CROSSING TO BE IMPROVED

EXISTING 30MPH / NSL SPEED LIMIT AND VILLAGE SIGN TO BE REMOVED

NEW LOCATION FOR 30MPH NSL SPEED LIMIT SIGN WITH NEW VILLAGE DESIGNED GATEWAY FEATURE

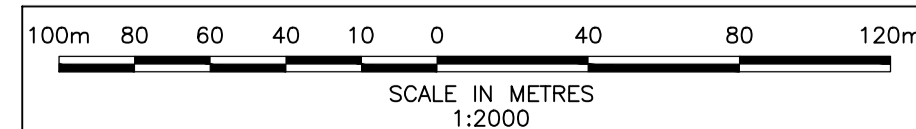
EXISTING LOCATION OF VEHICULAR ACTIVATED SIGN (VAS)



EXISTING LOCATION OF SCHOOL WARNING SIGN

20MPH ZONE SIGNS (DIAG 674 AND 675A)

DRIVER AWARENESS WORKS ON B1145
SCALE - 1:1000



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- NOTES**
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 2. This drawing has been based upon Ordnance Survey Maps and Royal Haskoning can not guarantee the accuracy of data.
 3. Access for pedestrians and cyclists is to be maintained at all times. accesses to properties are to be maintained and works programmed in consultation with property owners.
 4. Road markings and road signs are to be in accordance with the SI document "Traffic Signs Regulations and General Directions, 2016".
 5. For details of signs refer to 'Sign Schedule' drawing PB5640-DR020.

FOR CONSULTATION

REV	DATE	DESCRIPTION	BY	CHK	APP

REVISIONS

CLIENT



PROJECT
NORFOLK BOREAS OFFSHORE WIND FARM

TITLE
CAWSTON HIGHWAY INTERVENTION APPROACH DRIVER AWARENESS WORKS ON B1145



DRAWN	RNE	CHECKED	ADR	APPROVED	ADR
DATE	03.01.2019	SCALE AT A1	1:2000	CLIENTS REF.	

DRAWING No. **TP-PB5640-DR015** REVISION
CLIENT DWG No. **F1.0**



20MPH SPEED RESTRICTION
SEE DRAWING PB5640-DR015
TO CONFIRM THE FULL EXTENTS

INSTALL POST & 'ROAD NARROWS' SIGN (DIAG 516)
AND ASSOCIATED 'VEHICLES IN THE MIDDLE OF
THE ROAD' (DIAG 575) WITHIN VERGE.
SIGNAGE TO BE KEPT CLEAR OF VEGETATION.

INSTALL POST & 'NO WAITING' SIGN (DIAG 639-B)
WITHIN VERGE.
SIGNAGE TO BE KEPT CLEAR OF VEGETATION

EXTENT OF VERGE VEGETATION
CLEARANCE/CUT BACK WITHIN
HIGHWAY LAND AND VERGE.

ATTACH 'NO WAITING' SIGN (DIAG 639-A)
TO EXISTING LAMP POST

INSTALL LOW LEVEL POST & 'NO
WAITING' SIGN (DIAG 639-A) ADJACENT
TO EXISTING BRICK WALL

EXTENT OF MARKED PARKING TO
CATER FOR A MINIMUM OF 3
VEHICLES (CAR)

EXTENT OF MARKED
PARKING TO CATER
FOR A MINIMUM OF 6
VEHICLES (CARS)

INSTALL LOW LEVEL POST & 'NO
WAITING' SIGN (DIAG 639-A)
ADJACENT EXISTING FENCE

ATTACH '20 MPH ZONE ENDS' SIGN (DIAG
675A) TO EXISTING TRAFFIC SIGN POST.
SIGNAGE TO BE KEPT CLEAR OF VEGETATION.

INSTALL POST & '20MPH ZONE' SIGN (DIAG
674) WITHIN FOOTWAY

INSTALL LOW LEVEL POST & 'NO WAITING'
SIGN (DIAG 639-A) ADJACENT TO EXISTING
TELEGRAPH POLE

INSTALL 20MPH ZONE POST & 20MPH ZONE
SIGNS (DIAG 674 AND 675A) BACK TO BACK.
SIGNAGE TO BE KEPT CLEAR OF VEGETATION.

INSTALL LOW LEVEL POST & 'NO
WAITING' SIGN (DIAG 639-C)
ADJACENT TO BRICK WALL

EXTENT OF MARKED
PARKING TO CATER
FOR 2 VEHICLES (CAR)

EXTENT OF MARKED
PARKING TO CATER
FOR 3 VEHICLES (CAR)

INSTALL LOW LEVEL POST & 'NO
WAITING' SIGN (DIAG 639-A) ADJACENT
TO BUILDING WALL

INSTALL LOW LEVEL POST & 'NO WAITING'
SIGN ADJACENT TO BUILDING WALL

ATTACH '20 MPH ZONE' SIGNS (DIAG 674) TO
EXISTING TRAFFIC SIGN POSTS.
SIGNAGE TO BE KEPT CLEAR OF VEGETATION.

INSTALL POST & '20MPH ZONE ENDS' SIGNS
(DIAG 675A) WITHIN VERGE.
SIGNAGE TO BE KEPT CLEAR OF VEGETATION

INSTALL POST & 'ROAD NARROWS' SIGN (DIAG
516) AND ASSOCIATED 'VEHICLES IN THE
MIDDLE OF THE ROAD' (DIAG 575) WITHIN
VERGE.
SIGNAGE TO BE KEPT CLEAR OF VEGETATION.

EXTENT OF VERGE VEGETATION
CLEARANCE/CUT BACK WITHIN
HIGHWAY LAND AND VERGE.

20MPH SPEED RESTRICTION
SEE DRAWING PB5640-DR015 TO
CONFIRM THE FULL EXTENTS

- NOTES**
- Do not scale from this drawing. All dimensions are in metres unless noted otherwise.
 - This drawing has been based upon Ordnance Survey Maps and Topographical Survey Information and Royal Haskoning can not guarantee the accuracy of data.
 - Services are to be protected in accordance with the requirements of the relevant statutory authorities.
 - Access for pedestrians and cyclists is to be maintained at all times. accesses to properties are to be maintained and works programmed in consultation with property owners.
 - Road markings and road signs are to be in accordance with the SI document 'Traffic Signs Regulations and General Directions, 2016'.
 - For details of signs refer to 'Sign Schedule' drawing PB5640-DR020.
 - All signs to be designed to minimum allowable sizes to fit into the conservation area of Cawston.

- GENERAL KEY**
- DESIGNATED PARKING BAY LINE MARKINGS (DIAG 1028)
 - SINGLE YELLOW LINE MARKINGS (50mm THICKNESS) (DIAG 1017)
 - SINGLE WHITE LINE MARKINGS (50mm THICKNESS) (DIAG 1026.1)
 - ROAD RESURFACING WORKS TO BE COMPLETED TO HIGH STREET INCLUDING IRONWORKS RAISING AND LEVELING IN AGREEMENT WITH NORFOLK COUNTY COUNCIL
 - REALIGNED ROAD MARKINGS
 - VEGETATION CLEARANCE / CUT BACK (SEE MAINTENANCE SCHEDULE FOR TIMINGS)

FOR CONSULTATION

REV	DATE	DESCRIPTION	BY	CHK	APP
		FIRST ISSUE			

REVISIONS

CLIENT



PROJECT
**NORFOLK BOREAS
OFFSHORE WIND FARM**

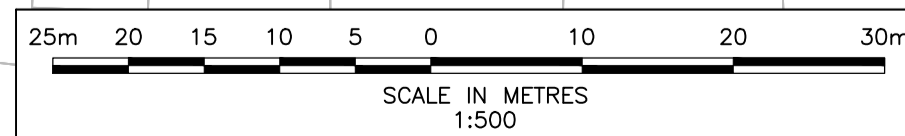
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INTERVENTION
CAWSTON VILLAGE CENTRE**



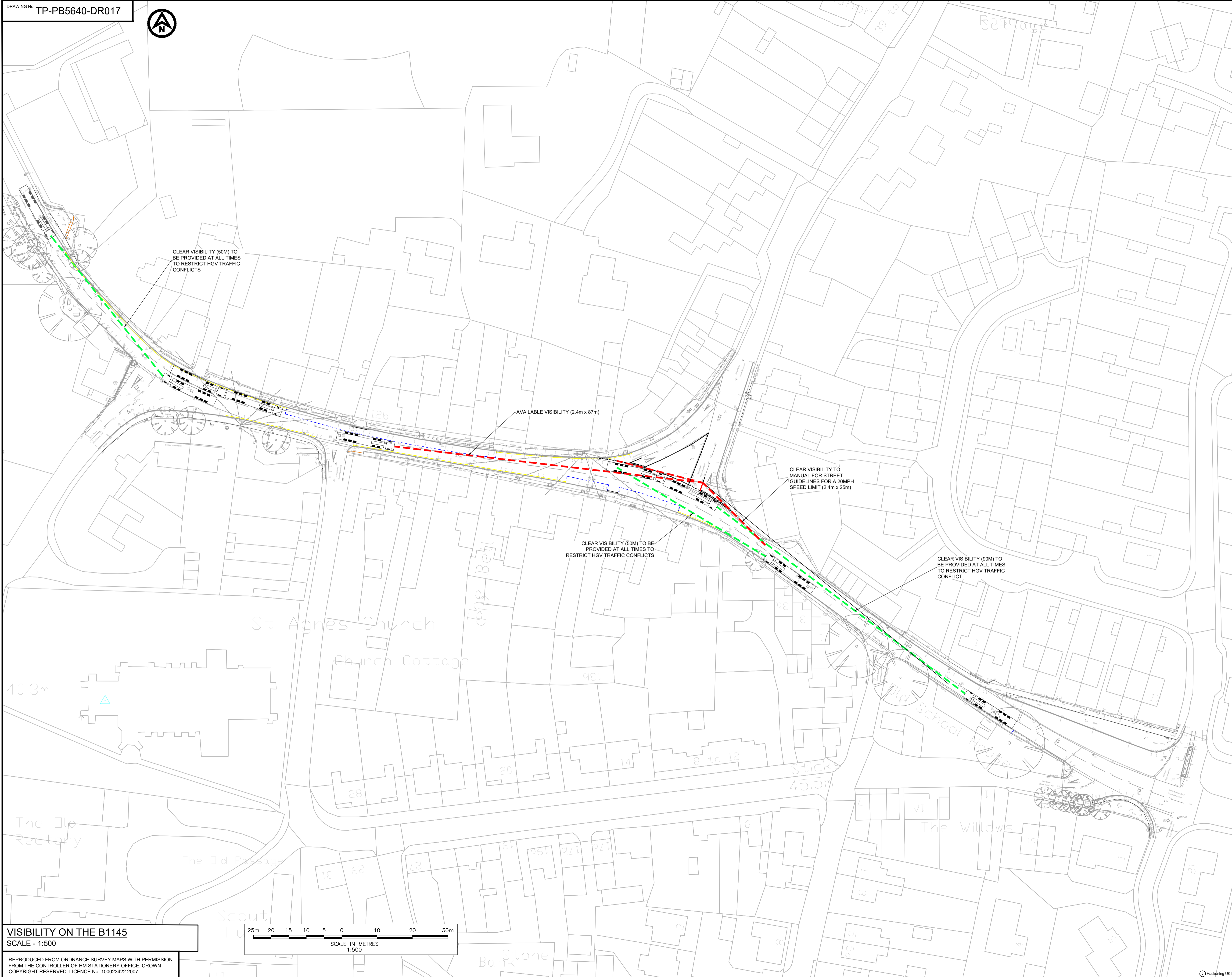
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DRAWING No.	TP-PB5640-DR016	REVISION	
CLIENT DWG No.			F1.0

CAWSTON VILLAGE CENTRE - B1145
SCALE - 1:500



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 4. Road markings and road signs are to be in accordance with the SI document 'Traffic signs regulations and general directions, 2016'.
 5. Manual For Streets SSD for a 20mph speed limit is 25m

- GENERAL KEY**
- DESIGNATED PARKING BAY LINE MARKINGS (DIAG 1028)
 - SINGLE YELLOW LINE MARKINGS (50mm THICKNESS) (DIAG 1017)
 - SINGLE WHITE LINE MARKINGS (50mm THICKNESS) (DIAG 1026.1)

- VISIBILITY KEY**
- - - JUNCTION VISIBILITY SPLAYS FOR A 20MPH SPEED LIMIT
 - - - AVAILABLE FORWARD VISIBILITY SPLAYS

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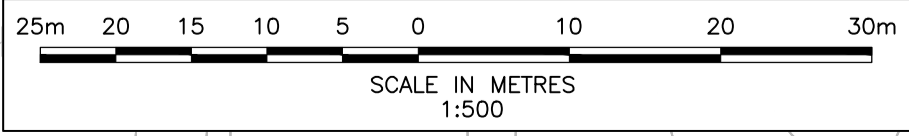
PROJECT
NORFOLK BOREAS
OFFSHORE WIND FARM

TITLE
CAWSTON HIGHWAY
INTERVENTION
HGV FORWARD VISIBILITY AND
CHAPEL STREET JUNCTION
VISIBILITY

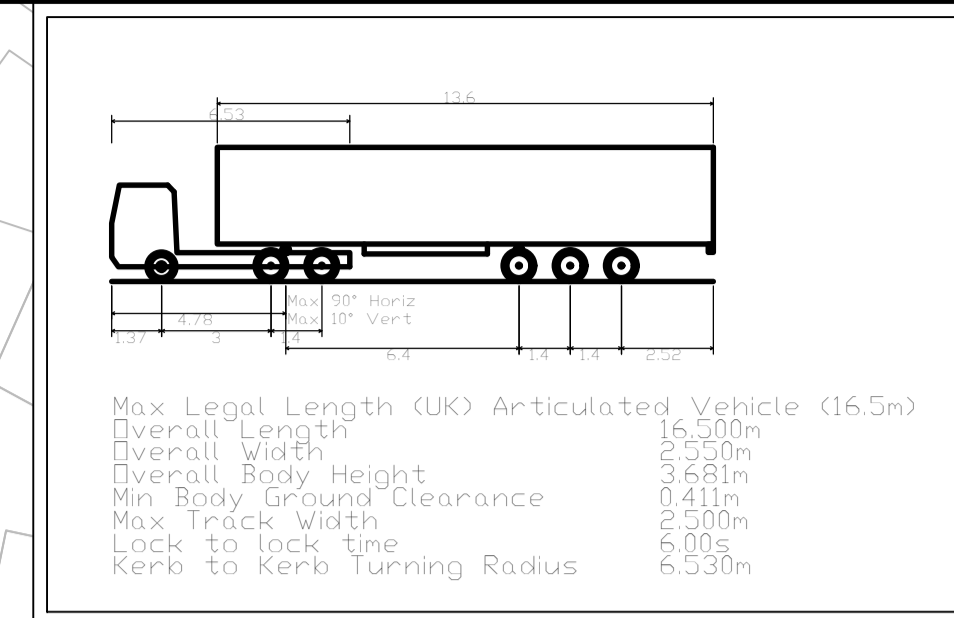


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CLIENT DWG No.					F1.0

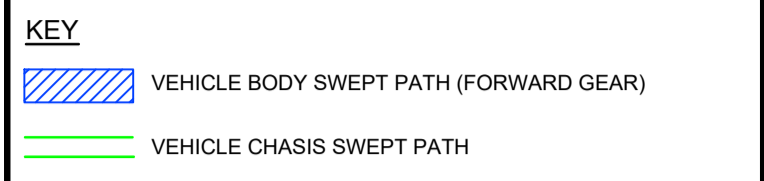
VISIBILITY ON THE B1145
SCALE - 1:500



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		FIRST ISSUE			

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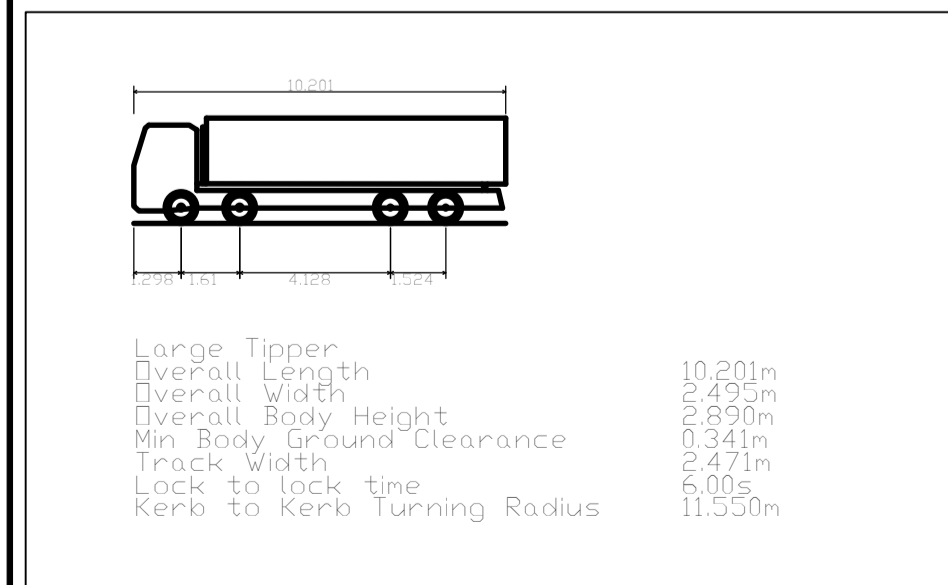
PROJECT
NORFOLK BOREAS OFFSHORE WIND FARM

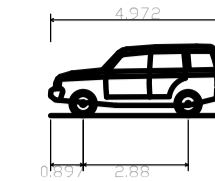
TITLE
CAWSTON HIGHWAY INTERVENTION
SWEEP PATH ANALYSIS
ARTICULATED AND LARGE TIPPER VEHICLES - TWO WAY MOVEMENTS



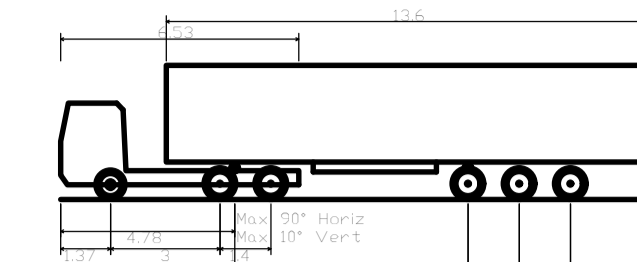
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DATE	03.01.2020	SCALE AT A1	1:500	CLIENTS REF.	

DRAWING No. TP-PB5640-DR018 REVISION F1.0
CLIENT DWG No.





Luxury 4x4 (2006)
 Overall Length 4.972m
 Overall Width 2.034m
 Overall Body Height 1.905m
 Min Body Ground Clearance 0.279m
 Max Track Width 1.884m
 Lock to lock time 4.00s
 Kerb to Kerb Turning Radius 5.800m



Max Legal Length (UK) Articulated Vehicle (16.5m)
 Overall Length 16.500m
 Overall Width 2.500m
 Overall Body Height 3.651m
 Min Body Ground Clearance 0.411m
 Max Track Width 2.500m
 Lock to lock time 5.00s
 Kerb to Kerb Turning Radius 6.530m

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 4. Road markings and road signs are to be in accordance with the document 'Traffic signs regulations and general directions, 2016'.

KEY

- VEHICLE BODY SWEEP PATH (FORWARD GEAR)
- VEHICLE CHASSIS SWEEP PATH



POTENTIAL TWO-WAY
 ARTICULATED HGV AND CAR
 CONFLICT AREA

FOR CONSULTATION

FIRST ISSUE			
REV	DATE	DESCRIPTION	BY / CHK / APP

REVISIONS

CLIENT



PROJECT
 NORFOLK BOREAS
 OFFSHORE WIND FARM

TITLE
 CAWSTON HIGHWAY
 INTERVENTION
 SWEEP PATH ANALYSIS
 ARTICULATED, LARGE TIPPER
 VEHICLES AND CAR - TWO WAY
 MOVEMENTS

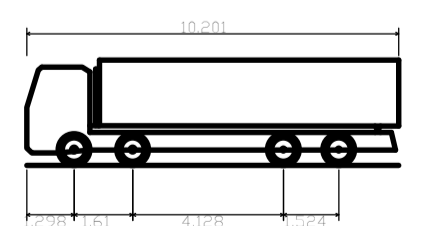


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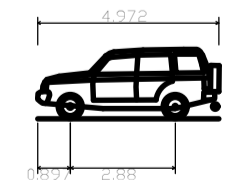
DATE	03.01.2020	SCALE AT A1	1:500	CLIENTS REF.	
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DRAWING No.	TP-PB5640-DR019	REVISION	
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CLIENT DWG No.			F1.0
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Large Tipper
 Overall Length 10.201m
 Overall Width 2.495m
 Overall Body Height 2.890m
 Min Body Ground Clearance 0.341m
 Track Width 2.471m
 Lock to lock time 5.00s
 Kerb to Kerb Turning Radius 11.550m



Luxury 4x4 (2006)
 Overall Length 4.972m
 Overall Width 2.034m
 Overall Body Height 1.905m
 Min Body Ground Clearance 0.279m
 Max Track Width 1.884m
 Lock to lock time 4.00s
 Kerb to Kerb Turning Radius 5.800m



Diagram: 674
 Width: 615mm
 Height: 925mm
 x-height: (Cawston = 37.5mm)
 Area: 0.57m²
 Material: RA2 (BS EN 12899)



Diagram: 675A
 Width: 600mm
 Height: 855mm
 x-height: n/a
 Area: 0.51m²
 Material: RA2 (BS EN 12899)



Diagram: 516
 Width: 600mm
 Height: 550mm
 x-height: n/a
 Area: 0.33m²
 Material: RA2 (BS EN 12899)

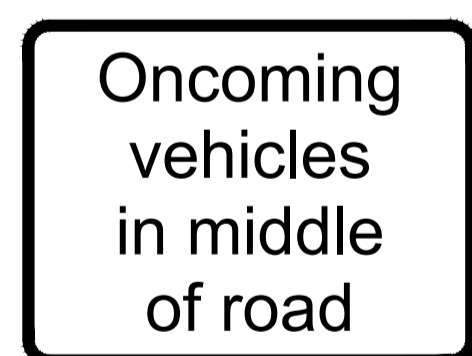


Diagram: 575
 Width: 600mm
 Height: 450mm
 x-height: 62.5mm
 Area: 0.27m²
 Material: RA2 (BS EN 12899)

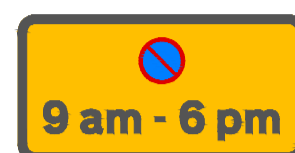


Diagram: 639-A
 Width: 135mm
 Height: 100mm
 x-height: 15mm
 Area: 0.02m²
 Material: RA2 (BS EN 12899)

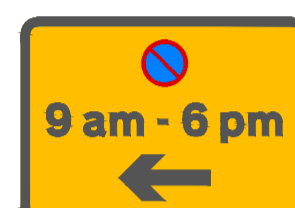


Diagram: 639-B
 Width: 135mm
 Height: 190mm
 x-height: 15mm
 Area: 0.03m²
 Material: RA2 (BS EN 12899)



Diagram: 639-C
 Width: 135mm
 Height: 190mm
 x-height: 15mm
 Area: 0.03m²
 Material: RA2 (BS EN 12899)

NOTES
 1. Do not scale from this drawing, all dimensions are in metres unless noted otherwise.
 2. This drawing has been based upon Ordnance Survey Maps and Royal Haskoning can not guarantee the accuracy of data.
 3. Access for pedestrians and cyclists is to be maintained at all times, accesses to properties are to be maintained and works programmed in consultation with property owners.
 4. Road markings and road signs are to be in accordance with the document "traffic signs regulations and general directions, 2016".

KEY

FOR CONSULTATION

REV	DATE	DESCRIPTION	BY	CHK	APP
		FIRST ISSUE			

REVISIONS

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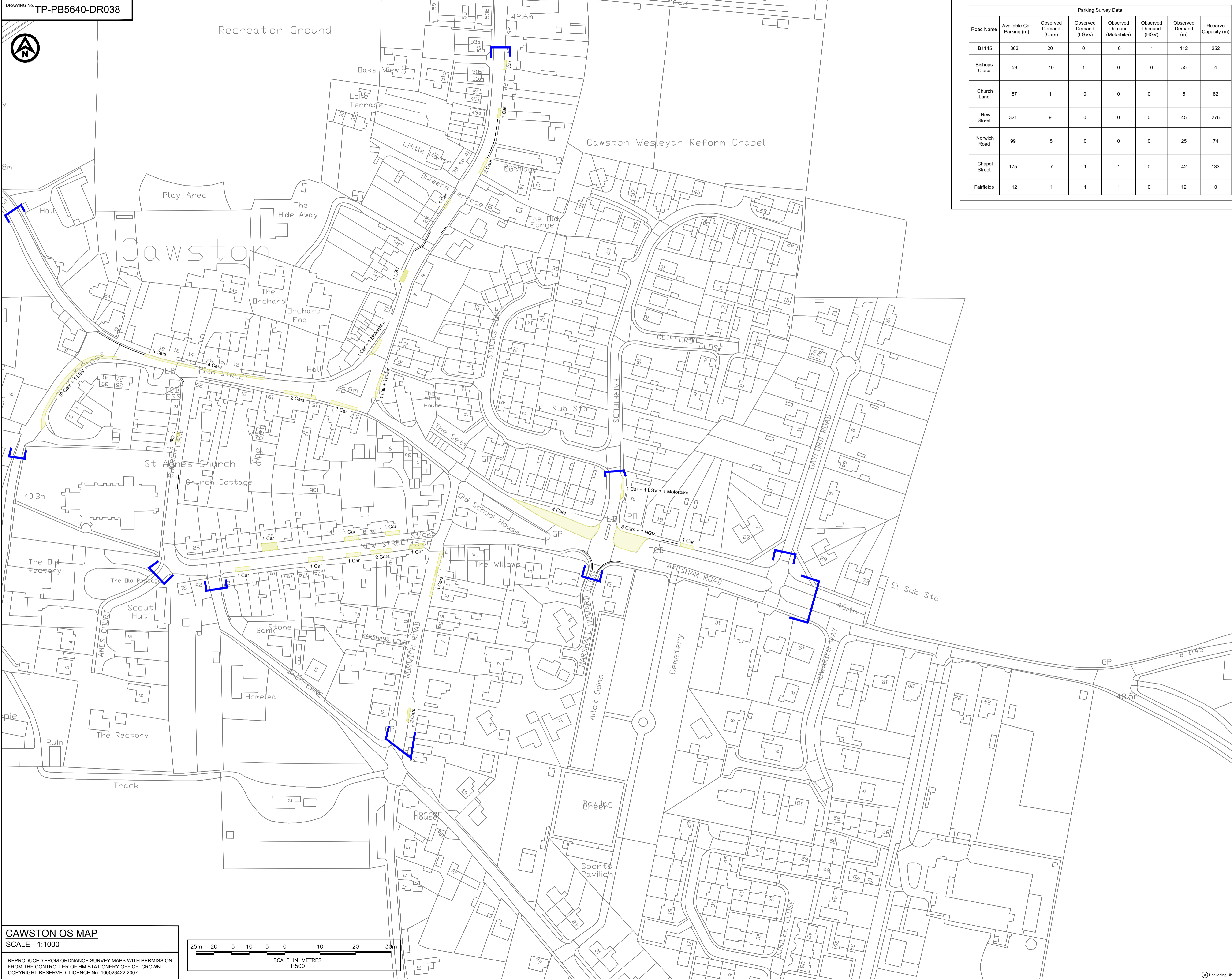
PROJECT
 NORFOLK BOREAS
 OFFSHORE WIND FARM

TITLE
 CAWSTON HIGHWAY
 INTERVENTION
 SIGN SCHEDULES



DRAWN	RNE	CHECKED	ADR	APPROVED	ADR
DATE	03.01.2020	SCALE AT A1	1:500	CLIENTS REF.	
DRAWING No.	TP-PB5640-DR020				REVISION
CLIENT DWG No.					F1.0

Appendix B Cawston Parking Survey

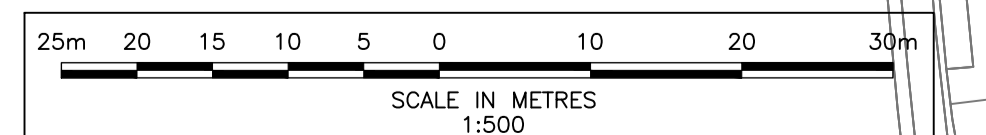


Parking Survey Data							
Road Name	Available Car Parking (m)	Observed Demand (Cars)	Observed Demand (LGVs)	Observed Demand (Motorbike)	Observed Demand (HGV)	Observed Demand (m)	Reserve Capacity (m)
B1145	363	20	0	0	1	112	252
Bishops Close	59	10	1	0	0	55	4
Church Lane	87	1	0	0	0	5	82
New Street	321	9	0	0	0	45	276
Nonwich Road	99	5	0	0	0	25	74
Chapel Street	175	7	1	1	0	42	133
Fairfields	12	1	1	1	0	12	0

NOTES
 1. Do not scale from this drawing; all dimensions are in metres unless noted otherwise.
 2. This drawing has been based upon Ordnance Survey maps and Royal HaskoningDHV can not guarantee the accuracy of data.

KEY
 - OS Mastermap data
 - Extent of parking study
 - Extent of parking restrictions - white lining
 - Observed parked vehicles

CAWSTON OS MAP
 SCALE - 1:1000
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PROJECT
NORFOLK BOREAS OFFSHORE WIND FARM

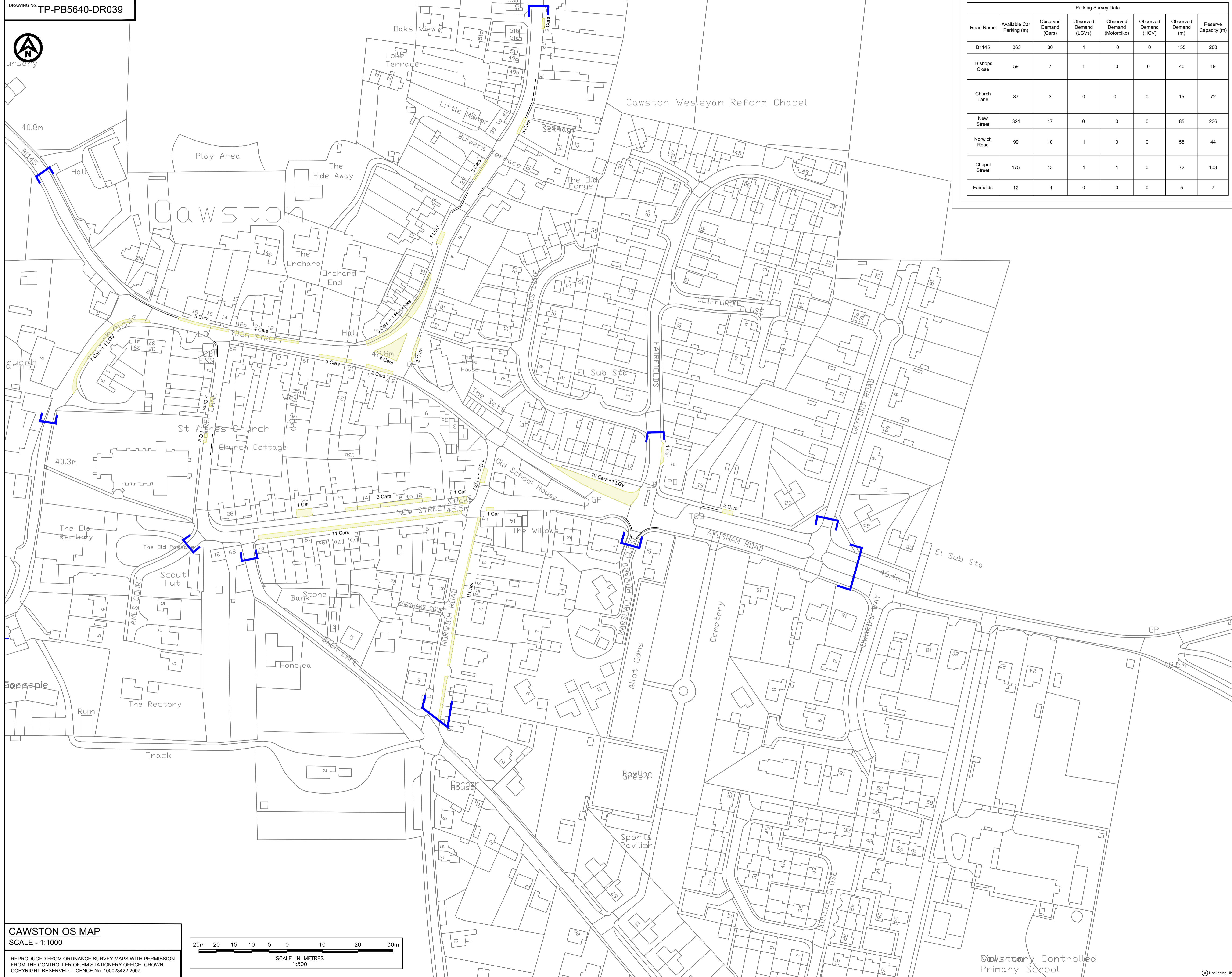
TITLE
CAWSTON PARKING SURVEY
 THURSDAY 11/07/19
 11:00AM

Royal HaskoningDHV
 Enhancing Society Together

DRAWN	DG	CHECKED	JJ	APPROVED	SS
DATE	20.08.19	SCALE AT A1	1:1000	CLIENTS REF.	
DRAWING No.	TP-PB5640-DR038	REVISION			F1.0
CLIENT DWG No.					



ursery

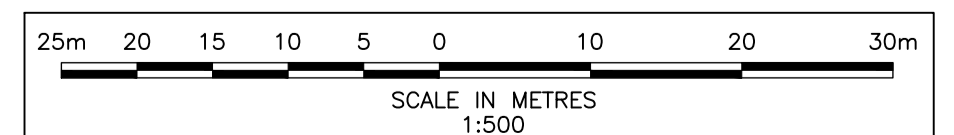


Parking Survey Data							
Road Name	Available Car Parking (m)	Observed Demand (Cars)	Observed Demand (LGVs)	Observed Demand (Motorbike)	Observed Demand (HGV)	Observed Demand (m)	Reserve Capacity (m)
B1145	363	30	1	0	0	155	208
Bishops Close	59	7	1	0	0	40	19
Church Lane	87	3	0	0	0	15	72
New Street	321	17	0	0	0	85	236
Norwich Road	99	10	1	0	0	55	44
Chapel Street	175	13	1	1	0	72	103
Fairfields	12	1	0	0	0	5	7

- NOTES**
- Do not scale from this drawing; all dimensions are in metres unless noted otherwise.
 - This drawing has been based upon Ordnance Survey maps and Royal HaskoningDHV can not guarantee the accuracy of data.
- KEY**
- OS Mastermap data
 - Extent of parking study
 - Extent of parking restrictions - white lining
 - Observed parked vehicles

CAWSTON OS MAP
SCALE - 1:1000

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PROJECT
NORFOLK BOREAS OFFSHORE WIND FARM

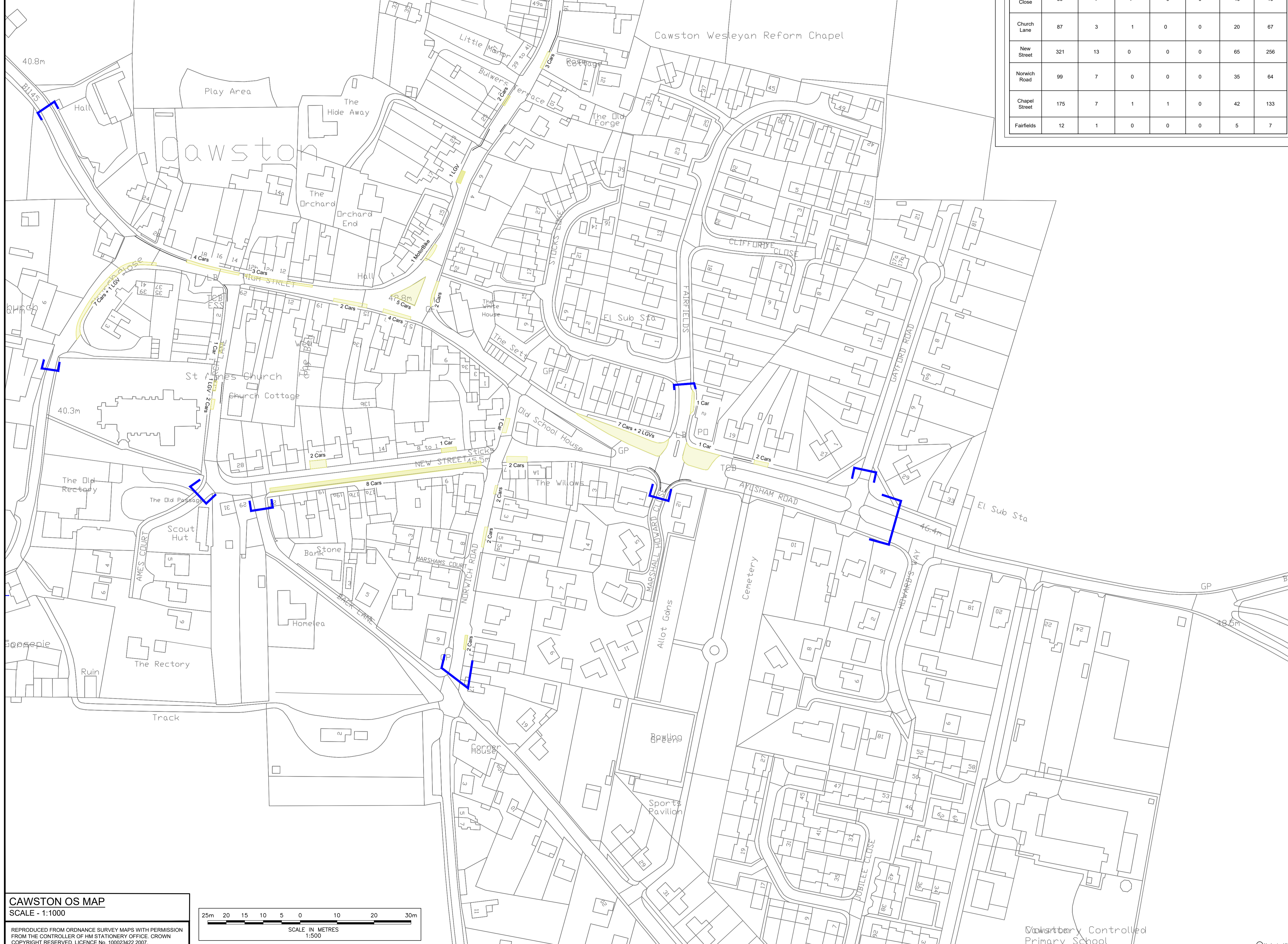
TITLE
**CAWSTON PARKING SURVEY
THURSDAY 11/07/19
08:00PM**



Rightwell House, Bottom Peterborough, Cambridgeshire, PE3 8DW
Tel: +44(0)1753 334455
Email: info@rhdhv.com
www.royalhaskoningdhv.com

DRAWN	DG	CHECKED	JJ	APPROVED	SS
DATE	20.08.19	SCALE AT A1	1:1000	CLIENTS REF.	
DRAWING No.	TP-PB5640-DR039	REVISION			F1.0
CLIENT DWG No.					

Cawston Primary School

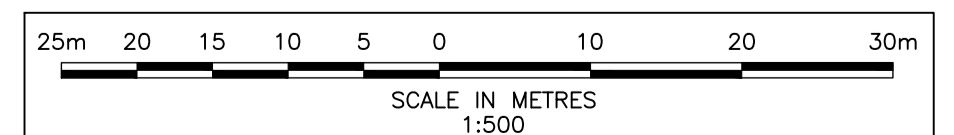


Parking Survey Data						
Road Name	Available Car Parking (m)	Observed Demand (Cars)	Observed Demand (LGVs)	Observed Demand (Motorbike)	Observed Demand (HGV)	Reserve Capacity (m)
B1145	363	28	2	0	0	213
Bishops Close	59	7	1	0	0	19
Church Lane	87	3	1	0	0	67
New Street	321	13	0	0	0	256
Norwich Road	99	7	0	0	0	64
Chapel Street	175	7	1	1	0	133
Fairfields	12	1	0	0	0	7

NOTES
 1. Do not scale from this drawing; all dimensions are in metres unless noted otherwise.
 2. This drawing has been based upon Ordnance Survey maps and Royal HaskoningDHV can not guarantee the accuracy of data.

KEY
 - OS Mastermap data
 - Extent of parking study
 - Extent of parking restrictions - white lining
 - Observed parked vehicles

CAWSTON OS MAP
 SCALE - 1:1000
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REV	DATE	DESCRIPTION	BY	CHK	APP
D.01		FIRST ISSUE			

REVISIONS



PROJECT
NORFOLK BOREAS OFFSHORE WIND FARM

TITLE
CAWSTON PARKING SURVEY
 SATURDAY 13/07/19
 11:00AM



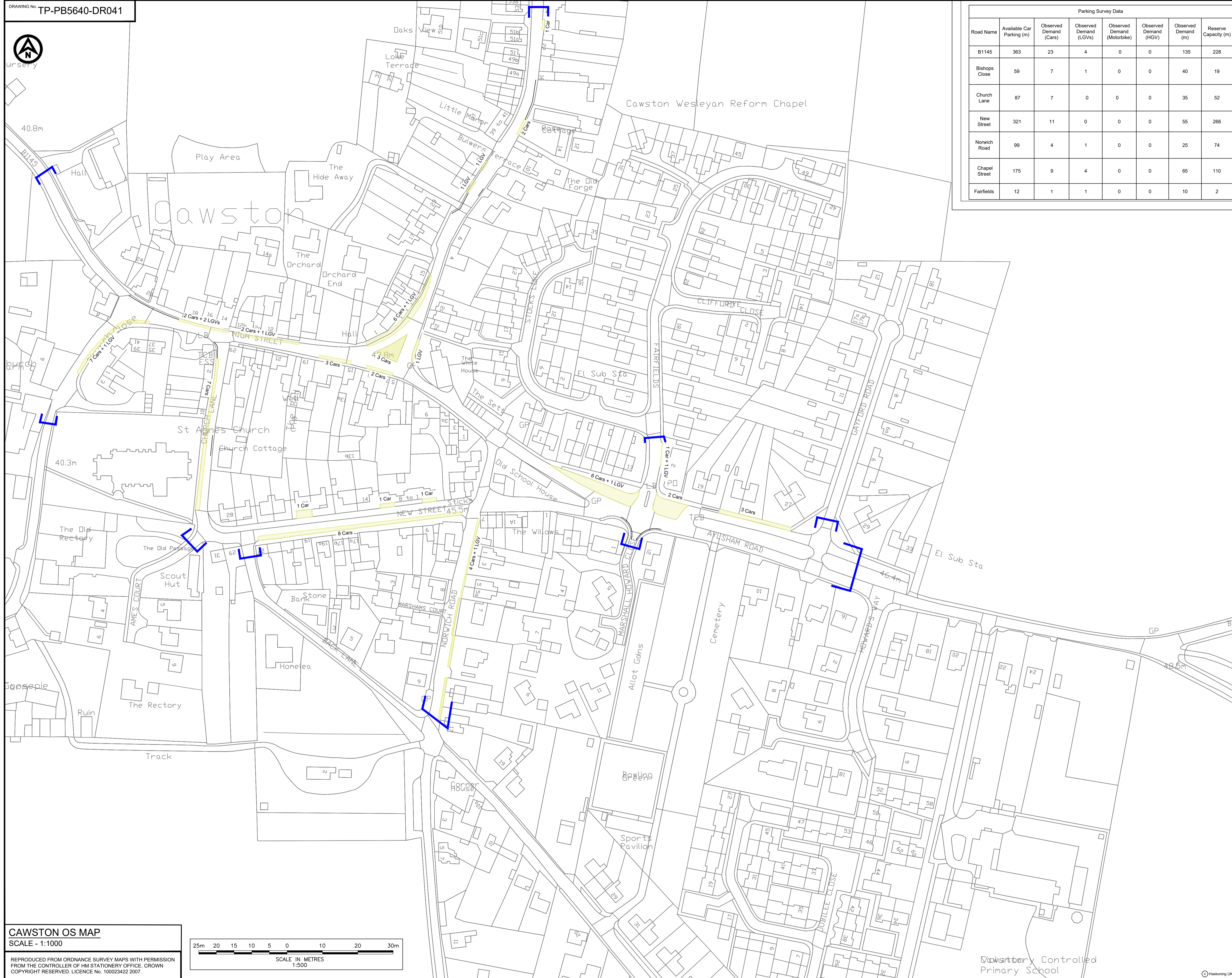
DRAWN	DG	CHECKED	JJ	APPROVED	SS
DATE	20.08.19	SCALE AT A1	1:1000	CLIENTS REF.	

DRAWING No.	TP-PB5640-DR040	REVISION	F1.0
CLIENT DWG No.			

Cawston Primary School



ursery

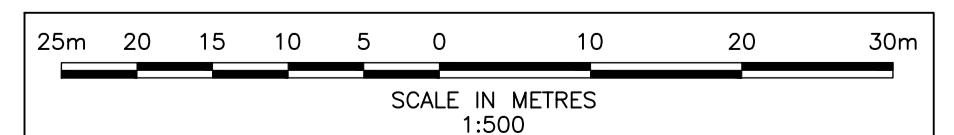


Parking Survey Data							
Road Name	Available Car Parking (m)	Observed Demand (Cars)	Observed Demand (LGVs)	Observed Demand (Motorbike)	Observed Demand (HGV)	Observed Demand (m)	Reserve Capacity (m)
B1145	363	23	4	0	0	135	228
Bishops Close	59	7	1	0	0	40	19
Church Lane	87	7	0	0	0	35	52
New Street	321	11	0	0	0	55	266
Norwich Road	99	4	1	0	0	25	74
Chapel Street	175	9	4	0	0	65	110
Fairfields	12	1	1	0	0	10	2

- NOTES**
- Do not scale from this drawing; all dimensions are in metres unless noted otherwise.
 - This drawing has been based upon Ordnance Survey maps and Royal HaskoningDHV can not guarantee the accuracy of data.
- KEY**
- OS Mastermap data
 - Extent of parking study
 - Extent of parking restrictions - white lining
 - Observed parked vehicles

CAWSTON OS MAP
SCALE - 1:1000

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PROJECT
NORFOLK BOREAS OFFSHORE WIND FARM

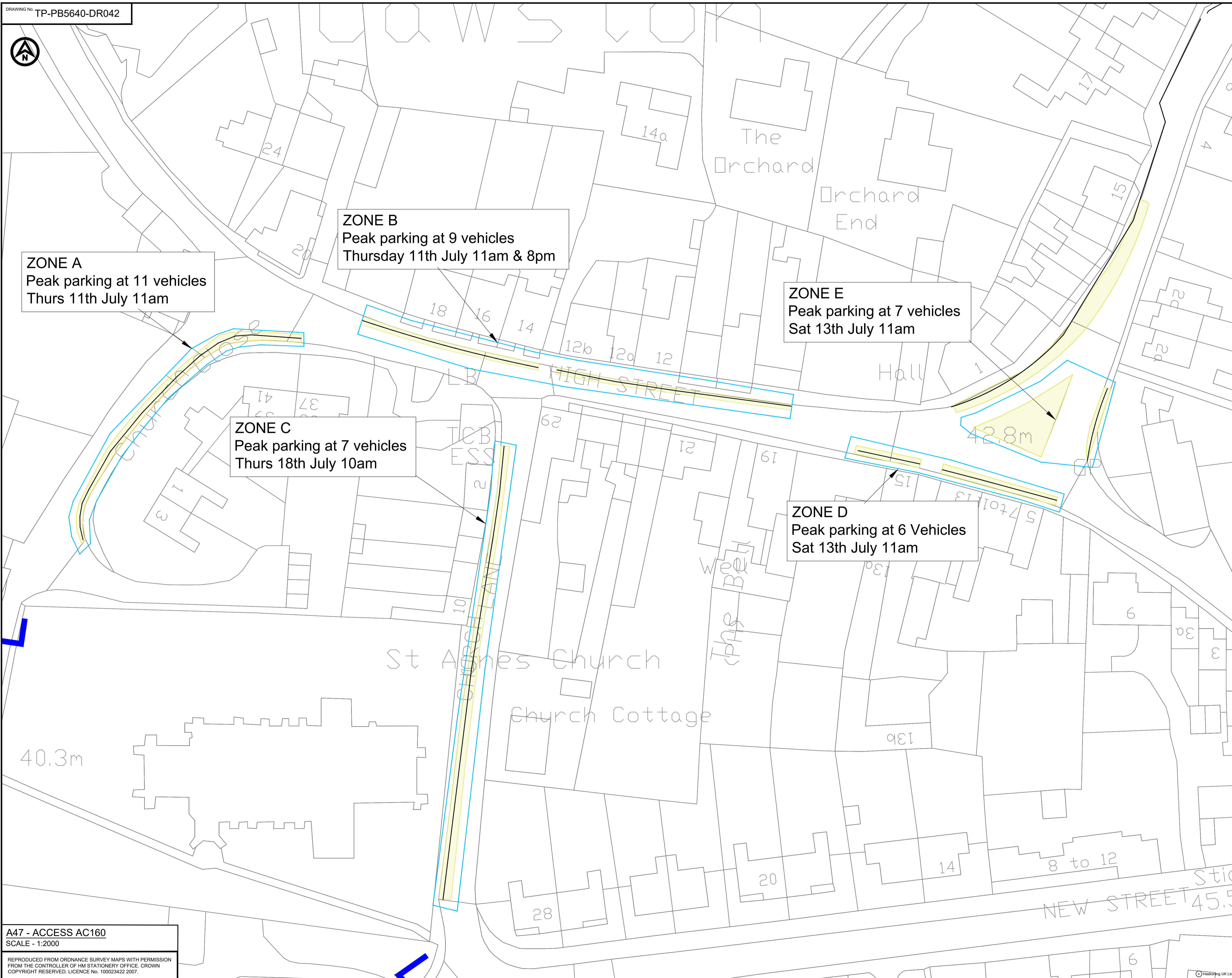
TITLE
CAWSTON PARKING SURVEY THURSDAY 18/07/19 10:00AM



DRAWN	DG	CHECKED	JJ	APPROVED	SS
DATE	20.08.19	SCALE AT A1	1:1000	CLIENTS REF.	

DRAWING No.	TP-PB5640-DR041	REVISION	F1.0
CLIENT DWG No.			

Cawston Primary School



ZONE A
Peak parking at 11 vehicles
Thurs 11th July 11am

ZONE B
Peak parking at 9 vehicles
Thursday 11th July 11am & 8pm

ZONE C
Peak parking at 7 vehicles
Thurs 18th July 10am

ZONE E
Peak parking at 7 vehicles
Sat 13th July 11am

ZONE D
Peak parking at 6 Vehicles
Sat 13th July 11am

NOTES
1. Do not scale from this drawing; all dimensions are in metres unless noted otherwise.
2. This drawing has been based upon Ordnance Survey Maps and Royal Haskoning can not guarantee the accuracy of data.

KEY
PARKING ZONES

DRAFT - NOT FOR CONSTRUCTION

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PROJECT
NORFOLK BOREAS
OFFSHORE WIND FARM

TITLE
CAWSTON PARKING ZONES



DRAWN	JI	CHECKED	ADR	APPROVED	ADR
DATE	11.02.19	SCALE AT A1	1:2000	CLIENTS REF.	
DRAWING No.	TP-PB5640-DR042	REVISION			F1.0
CLIENT DWG No.					

A47 - ACCESS AC160
SCALE - 1:2000

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