Dear Sirs

As you are aware, I submitted my written statement to deadline 3 within the deadline at 23:54 hrs on Friday 15th February, (see copy of email below).

Having checked through the file sent over the weekend, I have noticed that there was a technical error with the pagination, resulting in some attached evidence pages appearing in the middle of my written statement, breaking up the text.

My concern is this makes it very difficult to read. I have therefore repaginated the document for ease of reference for the ExA.

There are no material changes to this document other than re-pagination.

Please be so kind as to treat this document as the final version of my written statement.

Please confirm.

Cheers
Samara

samara jones - Hall written representation dead...

---------- Forwarded message ---------
From: **Samara Jones-Hall** [redacted]
Date: Fri, Feb 15, 2019 at 11:54 PM
Subject: Deadline 3 written rep
To: Manston Airport <manstonairport@pins.gsi.gov.uk>

Hi

deadline 3 written rep
Samara Jones-Hall
Twitter: @LOVE_RAMSGATE
Instagram: Love_Ramsgate

Ramsgate, East Kent, the largest Conservation Area in the whole of Kent and proudly Chalk Cliffs white, Van Gogh yellow, Royal Harbour blue, Ellington green, Pugin red, James Tissot Black

***** Email confidentiality notice *****

This message is private and confidential. If you have received this message in error, please notify us and remove it from your system.

Love Ramsgate is a private limited company incorporated in England & Wales under the name Love Ramsgate Limited, Company No 8413566

RAMSGATE HERITAGE ACTION ZONE

A. Ramsgate has been chosen as one of the country's first 'Heritage Action Zones' (HAZ).
B. It is one of just 10 areas chosen and the only one in the South East.
C. Using the heritage in the town, which has 443 listed buildings, the project aims to attract new investment into Ramsgate and create apprenticeships, boost tourism and involve schools and the community in exhibitions and heritage-related skills training.
D. The Heritage Action Zone in Ramsgate will look to achieve economic growth by using the historic environment as a catalyst.
E. The aim is for the Heritage Action Zone to grow Ramsgate into a prosperous maritime town where outstanding heritage and architecture coupled with new investment and development strengthens the economy for the benefit of the local community.
F. It has national policy status.
G. Applicant has not given the Ramsgate HAZ any consideration.

RAMSGATE CONSERVATION AREA

A. Ramsgate has the largest conservation area in Kent[1] and a large number of listed buildings[2].
B. A large number of them are under the flight swathes[3].
C. The impact of the Applicant proposal on the Conservation Area of Ramsgate **must be considered under statute and case law**.
D. Clearly this has not happened as the Applicant drew a 1km line from Manston as the boundary for the Environmental Statement.
E. The relevant statute law that must be considered is **Section 72 of the Planning (Listed Buildings and Conservation Areas) Act 1990** and **Section 66(1) of the 1990 Act.**

[1] Colliers International (October 2018) Creative Industries in Historic Buildings and Environments Conservation Area Case Studies Page 76
[2] Listed Buildings in Ramsgate, Thanet, Kent
[3] Map showing Ramsgate Conservation Area (c) Thanet District Council

F. The relevant case law is **Barnwell Manor Wind Energy Ltd v East Northamptonshire District Council and Others: CA 18 Feb 2014**[4].

G. The cited stature and case law requires a **decision-maker** to give the **desirability of preserving the building or its setting**' not merely careful consideration but **considerable importance and weight** when balancing the advantages of the proposed development against any harm from wind farm development or in this case aeroplanes.

EXAMPLES OF INWARD INVESTMENT TO RAMSGATE SINCE THE AIRPORT CLOSED IN MAY 2014 (PARTICULARLY USING EMPTY OR UNUSED HERITAGE SITES)

A. Micro Museum Expansion (2019)

B. Van Gogh Sculpture in Spencer Square (2019)

C. Wetherspoons (Royal Victoria Pavillion) (2017) a UK Top Employer[5] £4.5m development (Number of tables just under 350 with large terrace, covers 900, staff went up to 200 currently in January 120-130)

D. Foresters Hall which has been a community venue for over 200 years purchased by East Kent Mencap through a Community Asset Transfer (2019)

E. St Augustine's Visitor Centre built in 1860 (GBP 1.2m)

F. Albion House (28 bed luxury hotel) (2014) built in 1791 *voted The Telegraph's "The 50 Most Romantic Hotels in Europe" - in at number 15 (March 2017), The Times "20 Great hotels for a Weekend away" in at Number 10 (March 2017), The Times "Best Places by the Sea" (Number 26) (May 2016)*

G. Archive Homestores (10 staff members) in the Military Arches

H. Pugin's The historical Grade II Listed former Hovis Flour Mill in central Ramsgate is being transformed into a mix of contemporary residences

[4] Weekly Law Reports (ICLR)/2015/Volume 1 /*East Northamptonshire District Council and others v Secretary of State for Communities and Local Government and another - [2015] 1 WLR 45

[5] https://www.jdwetherspoon.com/news/2018/02/wetherspoon-has-been-certified-as-a-top-employer-uk-for-2018

I. £27 million development of old Ramsgate police station Cavendish Street and former Magistrate's House (2017/8)

J. Landmark Trust's Grade I listed the Grange (1844) holiday home.

K. Falstaff built in 1801 within the West Cliff conservation area as well as three seaside vacation apartments

L. Petticoat Emporium (2015) 75 individual traders covering 205 pitches as well as a variety of cabinets, rails and display options and two shops run by the shop owners: Coastal Chic and Bow Street Bags (14 staff members)

M. Ellington Park has been awarded £1.64m support from the Heritage Lottery fund **to regenerate and conserve the park**.

N. Ramsgate is part of *Pioneering Places* an ambitious project that will make East Kent an even better place to live, work and visit by exploring heritage, developing civic pride and connecting artists and communities. The investment will act as a catalyst for Ramsgate's vibrant and growing cultural scene, bringing with it greater community cohesion, educational attainment and a positive impact on jobs, health and wellbeing. The focus is a **public artwork** commissioned at a value of £300,000 of the £1, 489,255 funding to be **positioned at the Royal Harbour environs**.

O. Ramsgate received an initial £50,000 funding to rescue Ramsgate's Rock Gardens for work on the Pulhamite rocks on the Madeira Walk fountain and Albion gardens.

P. The Military Arches have 100% occupancy now (rather than 50%) (2013/14)

Q. Ramsgate Music Hall (voted best small venue by NME in 2015)

R. Ramsgate Tunnels (re-opened May 2014)

S. Circa twenty restaurants and cafes and circa 10+ shops have opened since the airport closed.

TOURISM

There has also been an unprecedented amount of tourists to Thanet year on year[6] and part of the tourist offer is heritage-based tourism as well as active/ leisure tourism and café culture.

HOUSE PRICES

The number of estate agents has increased since the closure of the airport. House prices have risen by an average of 34.31%[7] in the last 5 years compared to 30.17%[8] in Brighton and 25.28%[9] in London as well as the number of outdoor events and activities. There is also a steady rise in commuters and DFLs (Down From London/ Elsewhere).

PUBLIC FUNDING

Applicant stated within its Summary of Applicant's Oral Submissions at January 2019 Hearing (**TR02002/D1/Sub**[10]) on page 48 at 9.1.2 that (bold and underline added for emphasis):

"*the applicant's project will* ***not involve any public funding whatsoever***".

The Applicant's project **will involve public funding** if the DCO is granted.

1. TRANSPORT ASSESSMENT

A. Applicant has based its Transport Assessment on the former Thanet Transport Plan (2005). Applicant states that in preparation of its Transport Assessment for the proposed development:

[6] https://theisleofthanetnews.com/2019/01/09/record-4-2-million-visitors-give-319-million-boost-to-thanets-economy/
[7] Zoopla House Price Function
[8] *Ibid*
[9] *Ibid*
[10] Summary of Applicant's Oral Submissions at January 2019 Hearing (**TR02002/D1/Sub**) https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR020002/TR020002-002882-Deadline%201%20-%20Summary%20of%20Applicant's%20Oral%20Submissions%20at%20January%202019%20Hearings.pdf

'***little weight*** *has been placed on [Draft 1] Thanet District Transport Strategy [2015-2031] as with the [draft] Local Plan which has stalled in the planning process*[11]."

Draft 2 July 2018 version is the latest version of the Thanet District Transport Strategy (2015-2031)[12] currently on Thanet District Council website it is based on the Manston Airport site being used for **mixed-use development not an airport**.

B. As you will be aware Thanet District Council's draft Local Plan is currently with Inspectors for an independent examination.

C. Irrespective of the decisions of the Inspectors and the outcome of the Local Plan, it is my understanding that if the Applicant's DCO is granted it would effectively 'trump' the provisions in any version of the Local Plan for this site.

D. In the event of the DCO is granted, Thanet District Council and Kent County Council would need to prepare and absorb the costs of another *Thanet District Transport Strategy (2015-2031)* with the airport on the former Manston Airport site.

E. The new *Thanet District Transport Strategy (2015-2031)* would include both the provisions identified in **Table 1** below as well as any new provisions specific to the former Manston Airport site being used as a dedicated freight airport.

[11] 5.2-15 Environmental Statement - Volume 15 - Transport Assessment (Part 1) (**APP-060**) Paragraph 2.4.7

[12] Thanet District Council (July 2018) *Thanet District Transport Strategy (2015-2031)* *https://consult.thanet.gov.uk/consult.ti/TLP_PRE_SUB/view?objectId=10370612&10370612*

F. **Table 1: Transport Works Identified On or Around The Former Manston Airport under the Current Thanet District Transport Strategy (2015-2031)**[13]

Type	Description	Reason	Potential Funding Source	Cost
Road	Create new road between Toby Carvery Roundabout (A256) and B2050 (**Across Northern Grass within Manston Airport site**) to provide relief to Haine Road Corridor. Improve approach and roundabout at Westwood Cross to increase capacity	To provide enhanced access to Westwood, manage congestion and relieve the A256 Haine Road Corridor.	S106 / Part on Site	£12,000,000 (Off site Section)
Road	Improvements Spitfire junction	To manage safety at this junction	S278	£1,000,000
Cycle	Creation of a shared facility between Canterbury Road West, Ramsgate and Canterbury Road East using existing bridge facility to the east of Haine Road and north of Canterbury Road East	To link Cliffsend to wider highway network. Improve access to Mixed use development on **Former Manston Airport Site**	S106 / CIL / LTP	TBC
Cycle	Upgrade Footpath TR9 to Bridleway	To Link **Former Manston Airport** allocation to Manston Green and wider Highway network	S106 / CIL / LTP	£46,000
Cycle	Improve surface of Bridleway TR10 and widen to 3m	To Link **Former Manston Airport** allocation to Manston Green and wider Highway network	S106 / CIL / LTP	£143,000

[13] Thanet District Council (July 2018) *Thanet District Transport Strategy (2015-2031)* Appendix C Infrastructure Proposals https://consult.thanet.gov.uk/consult.ti/TLP_PRE_SUB/view?objectId=10370612&10370612

2. CONSULTATION (HEALTH, NOISE, TRANSPORT)

A. Environmental Statement has **not been prepared on a worst-case basis of number of ATMs** (freight and passenger).

B. The worst case scenario in relation to environmental matters must be based upon the Applicant's own statements in its application that (bold has been added for emphasis):

"*the increase in capability is therefore* ***83,220 movements per year of cargo*** *aircraft*[14]*".*

"…the forecast number of movements for year 5 is a total (freight and passenger) of 15,000…By year 10 the forecast is for ***18,354 movements per year****…The year 20 forecast is* ***26,469 [movements] per year***[15]*…"*

The corroborates Applicant's own statement that:

"The assessed number of ***17,170 flights*** *is therefore not, and is not likely to become,* ***a cap on the capability*** *of the posed Development*[16]**".**

3. CONSULTATION (HEALTH, NOISE, TRANSPORT, LOCAL IMPACT REPORTS)

A. Applicant has submitted the full re-opening of the airport is envisaged in 2020 following the construction activities required to return the airport to full operational use. The first full year of freight operation is expected in 2021[17]. Local Impact Reports have been compiled on this basis; however, this is not achievable and is based on incorrect assumptions rather than facts.

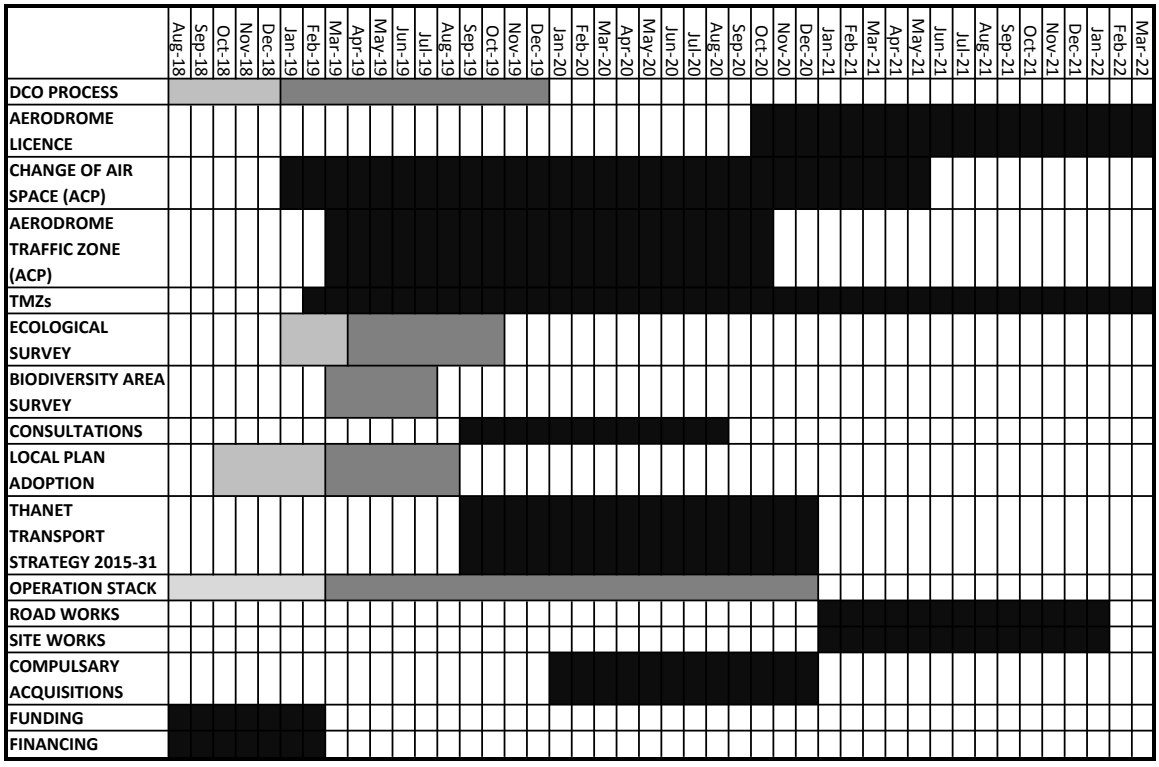
[14] RiverOak Strategic Partners (2018) 2.3 NSIP Justification TR020002/App/2.3 APP---008 at Clause 24
[15] Consultation Report (**APP-075**) Page 192
[16] *Ibid* at Clause 33
[17] Azimuth Report Volume IV (**APP-085**) Page 28/29

B. There are a number of known deadlines which confirm that if the DCO is granted (and funding and financing was in fact in place) the first full re-opening of the airport not **until 2022 at the very earliest with the first full year of freight expected in 2023.** A table showing Applicant's Known Tasks and Timelines to Date is to follow on the next page (**Table 2**).

C. As you will be aware the DCO if granted will happen before a great number of things will/ can happen.

D. Further, any investors in RiverOak Strategic Partners Limited will need to know and be comfortable that a return on any of their investment in 2016/2017/2018/2019/2020/2021 will not be seen until sometime in 2022/3 at the very earliest.

TABLE 2 SHOWING APPLICANT'S KNOWN TASKS AND TIMELINES AS OF 15 FEBRUARY 2019



NOTES

AERODROME LICENCE a formal application takes about 1 1/2 years. It is necessary to conduct a pre-certification site inspection and audit ideally 9 months to 1 year before opening. Operation Stack blocks this happening until after 31 December 2020.

CAA - CHANGE OF AIR SPACE (ACP) The Statement of Need is still not published on the online portal. Pursuant to email of 14 January received from the CAA and filed with ExA as per Deadline 1 and 2 "*the reason why the Manston ACP details do not appear on the CAA Portal is because the [Applicant] has failed to obtain the necessary Portal access permissions from [CAA]"* This means the Airspace Change Process has not begun. Once the Airspace Change Process begins it will take a further 110 weeks. ACP is governed by Gateways

CAA - AERODROME TRAFFIC ZONES (ACP) Airspace Change Process (2) has not begun. This is likely to be a Level 2C ACP and could take less than 110 weeks.

CAA - London Array and Thanet Transponder Mandatory Zones (TMZs) no update as to the "issues regarding the TMZs".

ECOLOGICAL SURVEY - time lines taken from Table 2.1 of Enclosure 1 of Applicant letter of 18 January 2019 to ExA (DEADLINE 1)

BIODIVERSITY AREA SURVEY - time lines taken from Table 3.1 of Enclosure 1 of Applicant letter of 18 January 2019 to ExA (DEADLINE 1)

CONSULTATION AND ENGAGEMENT within the Airspace Change Process there is a 12 week consultation process.

LOCAL PLAN ADOPTION - Thanet District Council subbmitted the draft Local Plan on 30 October 2018 for examination. Hearings are said to take place April/May 2019

THANET DISTRICT TRANSPORT STRATEGY [2015-31] CURRENTLY DRAFT 2 JULY 2018 VERSION is based on the Manston Airport site being used for mixed-use development.

DfT - OPERATION STACK The Town and Country Planning (Manston Airport) Special Development Consent Order 2019 2019 N0.86 Paragraph 7.5 "I*t grants planning permission until 31 December 2020 subject to limitations and conditions*".

	Known Duration Length - Not Started
	Known Duration Length - Started
	Known Duration - Completed

4. TRANSPORTATION (reliance on aspirational infrastructure)

A. Applicant places dependency on Thanet Parkway Railway Station within its Azimuth Report (**APP-085**)[1] including being written into a map of Thanet[2]. Thanet Parkway Station does **not exist** and has **no committed funding** for delivery. The Kent County Council Thanet Parkway Railway Station Consultation did **not make reference** to the [proposed Manston] airport. This is further highlighted by Sir Roger Gale M.P letter, of response to the consultation, in which he wrote in relation to the future of Manston Airport and how **the consultation fail[ed]** to make reference to [the proposed Manston] airport[3].

B. Applicant places dependency on Lower Thames Crossing it is mentioned 15 times in its Azimuth Report (**APP-085**)[4]. Lower Thames Crossing does **not exist** and is scheduled to open at the earliest by 2027. Lower Thames Crossing's ten-week consultation concluded only months ago on 20 December 2018.

5. TRANSPORTATION (PUBLIC BUS SERVICE)

A. Applicant's development would **require re-routing and increases in frequency** of public bus service[5].

B. Applicant has used data from 2011 to show public bus routes were historically used by workers as an alternative to car 45% of the

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[1] Azimuth Report Volume IV (**APP-085**) Page 52

[2] *Ibid* Figure 15

[3] Kent County Council (August 2017) *Thanet Parkway Railway Station Public Consultation Report,* Page 29, paragraph 2

[4] Azimuth Report Volume I (**APP-085**) Page 45 (7.3.5), Page 48 (8.02 and 8.0.4), Page 49 (8.1.2), Page 50, (8.2 and 8.2.1) and Azimuth Report Volume II (**APP-085**) Pages II, 32 (4.2.17), 46 (4.4.3), 50 (4.4.19), 62 (5.3.13), 67 (6.1.4) and Azimuth Report Volume III (**APP-085**) Pages II, 14 (2.3.15) and 15 (2.3.16)

[5] 5.2-15 Environmental Statement - Volume 15 - Transport Assessment (Part 1) (**APP-060**) Paragraph 4.6.9

time which has also been fed into Applicant's Environmental Statement[6].

C. Applicant has not interrogated public bus routes with numbers of workers greater than 65 employees (in 2014 **only 144 people were employed** at Manston Airport on a mostly part-time basis[7]).

D. Applicant has not interrogated current public bus usage particularly peak time usage by school children, elderly, visitors to Canterbury for health services, current workers and others to determine whether current bus service coverage can absorb in fact workers from the proposed development without an increase in public bus services.

E. Members of the Environment and Transport Cabinet Committee met on Thursday (January 17 2019) to discuss **axes some bus routes in Thanet to save £360,000**. The changes will come into effect in April. This decision will have a significant knock on impact to remaining bus routes and capacity.

6. TRANSPORTATION (CYCLISTS/ EMERGENCY SERVICES)

A. Applicant relies on cycle routes[8]; however, also notes that:

"*a large number of collisions have occurred across the extensive study area and period selected*[9]".

7. TRANSPORTATION (PUBLIC ROADS)

A. Applicant states that significant additional works are required and:

"***a failure to appropriately improve*** *these important highway links could have an impact on the ability of the local road network to*

[6] 5.2-15 Environmental Statement - Volume 15 - Transport Assessment (Part 1) (**APP-060**) Paragraph 4.6.9
[7] Kent County Council (March 2015) *Manston Airport under private ownership: The story to date and future prospects* Page 3 Paragraph 1
[8] 5.2-15 Environmental Statement - Volume 15 - Transport Assessment (Part 1) (**APP-060**) Paragraph 4.9.1
[9] 5.2-15 Environmental Statement - Volume 15 - Transport Assessment (Part 1) (**APP-060**) Paragraph 4.9.2

serve the proposed development and ***could prejudice a future aviation operation***[10]".

B. Applicant has placed a reliance on the provision of overnight parking provisions for freight haulers and fuel road tankers.

8. TRANSPORTATION (NETWORK RAIL)

A. Applicant places reliance on Ramsgate station and a train line which serves a large number of school children who commute in to and from for schooling as well as a current and rising high volume of commuters, visitors and tourists.

B. Applicant places reliance on a shuttle bus to and from Ramsgate Station.

9. TRANSPORTATION (CO2 EMISSIONS)

A. Applicant is **solely dependent** on freight movement by **road**. As you will be aware each tonne of freight **moved by rail reduces CO2** emissions by 76% compared to road. Applicant's proposal will **increase UK CO2 emissions**, which is contra to Government targets[11].

B. Applicant is **solely dependent** on fuel road tankers by road. Applicant is **solely dependent** on passenger and worker movement by road particularly during the nighttime hours.

10. HEALTH

A. It is highly **unlikely that the sole focus** of the response from Thanet CCG Clinical Chair to the Applicant was "*the need for jobs in Thanet with the importance of socio-economic benefits to health*[12]*.*"

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[10] 5.2-15 Environmental Statement - Volume 15 - Transport Assessment (Part 1) (**APP-060**) Table 3.2

[11] Department for Transport (July 2017) *Transport Investment Strategy Moving Britain Forward*

[12] 5.2-2 Environmental Statement - Volume 2 - Chapters 11-16 (**APP-034**) Paragraph 15.3.6

B. In fact, Applicant **did not contact** Thanet Clinical Commissioning Group (CCG) and they confirmed to me by Freedom of Information Request that:

"*as far as [we] are aware**, no NHS Thanet CCG's Governing Body** member [defined as individuals that make up the CCG's governing body] has had **any correspondence** with RiverOak Strategic Partners [Applicant] or any of their associated companies and/or professional advisors and/or any third party*[13]."

B. Andrew Scott-Clark, Director of Public Health Kent County Council has confirmed that:

"*Thanet is diverse with a range of health needs with some of the **most deprived communities in Kent** being resident in the district of Thanet...A number of these will directly affected by [Applicant's] proposals **particularly Newington and Central Harbour/Eastcliffe** areas of Ramsgate. We know that these populations will **be more adversely affected by issues** such as noise and air pollution than the general population*[14]".

C. Environmental noise modifies the function of multiple body organs and systems (Table 3[15]).

Table 3 – Examples of Auditory and Nonauditory Effects of Noise on Human Health[16]

Body System	Health Effect
Sensory	Hearing loss and tinnitus

[13] NHS Email dated 11 February 2019 Freedom of Information Request response

[14] Email dated 10 October 2017 *from a pack called manston HIA pack through a Freedom of Information Act 2000 request made by third party for email correspondence between the Director of Public Health and Applicant*

[15] Sally Lechlitner Lusk, PhD, RN, FAAN, FAAOHN, Marjorie McCullagh, PhD, RN, PHNA-BC, COHN-S, FAAOHN, FAAN, Victoria Vaughan Dickson, PhD, RN, FAHA, FAAN , Jiayun Xu, PhD, RN (2017) *Reduce noise: Improve the Nation's Health* American Academy of Nursing on Policy, Nurse Outlook 65 (2017) 652-656

[16] *Ibid*

Sleep/rest	Difficulty falling asleep, awakenings, decreased sleep quality, fatigue and headache
Cardiovascular	Hypertension, heart disease, stroke and heart attack
Mental and Emotional	Declines in verbal and non-verbal learning, psychomotor function, response speed, attentiveness, memory, recall, and helpfulness, Increases in cognitive difficulties, distractibility, annoyance, aggression and hyperactivity
Reproductive	Low birth weight and prematurity
Endocrine	Overweight and obesity

D. The **prevalence of mental health issues is greater in Ramsgate** than in the Thanet area as a whole[17]. As of May this year Ramsgate will **not have experienced** Manston aviation noise for **5 years**. Noise annoyance increases where populations become **newly exposed** to noise[18]. Further, nearly 70% of the Relevant Representations submitted to the Planning Inspectorate cited noise, noise annoyance, noise sensitivity as a significant factor against the proposed development proceeding. It has been found that psychological aspects such as noise annoyance and noise sensitivity play important roles in the association between environmental noise and adverse effects on health[19].

E. Applicant's proposal will impact the Indoor Air Quality as well as Outdoor Air Quality. There is a proven correlation between inadequate ventilation and poor Indoor Air Quality in schools and poor pupil performance[20].

[17] Historic England *Urban Panel Report: Ramsgate 28-29 September 2016* Page 6, Paragraph 6
[18] Dr Charlotte Clark Queen Mary University of London (May 2015) *Aircraft Noise Effects on Health prepared for the Airports Commission* Page 18
[19] Clemence Baudin, Marie Lefevre, Patricia Champelovier, Jacques Lambert, Bernard Laumon and Anne-Sophie Evrad (3 August 2018) *Aircraft Noise and Psychological Ill-Health The Results of a Cross-Sectional Study in France* Page 13 Conclusion Paragraph
[20] https://www.cibsejournal.com/technical/learning-the-limits-how-outdoor-pollution-affects-indoor-air-quality-in-buildings/

F. These health effects of noise place **a high economic burden** on our society, which is comparable to the economic impact of passive smoking[21].

H. This high economic burden **will hit Thanet very hard** as confirmed by Andrew Scott-Clark, Director of Public Health Kent County Council:

" *...[Thanet's]* ***local health economy is struggling to deliver sustainable health care services*** *and the organisations that are responsible for delivering these (both commissioning and providing) will need to be consulted...as clearly* ***both the construction and the operation phase*** *may have* ***impact on local health services; services that are currently under significant financial and capacity pressure***[22]".

G. Currently, NHS figures show Thanet to be t**he fourth worst area in the country** for the number of GPs per patient, with just one doctor for every 2,500 people, which puts **Thanet among the bottom 2% in England**[23].

H. As of 14 February 2019, it has been announced that from Spring 2021 the **nearest emergency stroke services** to Ramsgate will be William Harvey Hospital in Ashford **over an hour away from Ramsgate**[24].

I. Cardiovascular disease (which includes all the diseases of the heart and circulation including coronary heart disease, angina, heart attack, congenital heart disease and **stroke**) is one of the

[21] Basner, M., Babisch, W., Davis, A., Brink, M., Clark, C., Janssen, S., & Stansfeld, S. (2014). *Auditory and non-auditory effects of noise on health*. Lancet, 383(9925), 1325-1332.
[22] Email dated 10 October 2017 *from a pack called manston HIA pack through a Freedom of Information Act 2000 request made by third party for email correspondence between the Director of Public Health and Applicant*
[23] https://www.bbc.co.uk/news/health-46912055
[24] https://theisleofthanetnews.com/2019/02/14/acute-stroke-service-at-margates-qeqm-will-be-axed-as-health-chiefs-agree-hyper-acute-unit-plan/

most common adverse health effects associated with aviation noise.[25]

J. Given that '***time is brain'*** and that urgent intervention can limit cerebral damage and/or death[26] the news of emergency stroke services **moving over an hour away to Ashford will have a significant and adverse impact to** Ramsgate residents life chances and palliative care public health resources.

11. PUBLIC OUTDOOR AREAS

A. Applicant's proposal will impact quiet public outdoor areas for example: parks (Ellington, Warre), squares (Vale, Spencer, Arklow), Lawns (Guildhall, Liverpool), beaches (Ramsgate Main Beach, Eastcliff Beach, Westcliff Beach), promenades (Westcliff and Eastcliff), Pegwell Bay, The Royal Esplanade and conservation areas.

B. WHO guidelines recommend existing large quiet outdoor areas **are preserved** and the signal-to-noise ratio kept low[27].

C. Ellington Park has been awarded £1.64m support from the Heritage Lottery fund **to regenerate and conserve the park**[28]. Ellington Park dates back to 1652 and is under or in very close proximity to the flight swathes and low flying planes of 400-600 feet proposed by the Applicant.

D. Ramsgate is part of *Pioneering Places* an ambitious project that will make East Kent an even better place to live, work and visit by exploring heritage, developing civic pride and connecting artists and communities. The investment will act as a catalyst for Ramsgate's vibrant and growing cultural scene, bringing with it greater community cohesion,

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[25] https://www.caa.co.uk/Consumers/Environment/Noise/Aviation-noise-and-health/

[26] S Davies, K Lees and G Donnan International Journal of Clinical Practice (2006) *Treating the acute stroke patient as an emergency: current practices and future opportunities* Summary and Conclusions

[27] Dr Charlotte Clark Queen Mary University of London (May 2015) *Aircraft Noise Effects on Health prepared for the Airports Commission* Page 25

[28] https://www.locateinkent.com/ellington-park-project-celebrates-winning-heritage-lottery-funding/

educational attainment and a positive impact on jobs, health and wellbeing. The focus is a **public artwork** commissioned at a value of £300,000 of the £1, 489,255 funding to be **positioned at the Royal Harbour environs**[29] and is under the flight swathes and low flying planes of 400-600 feet proposed by the Applicant.

E. Ramsgate received an initial £50,000 funding [30] to rescue Ramsgate's Rock Gardens for work on the Pulhamite rocks on the Madeira Walk fountain and Albion gardens, completed in 1894, and is under the flight swathes and low flying planes of 400-600 feet proposed by the Applicant.

F. Ramsgate residents currently enjoy **kitesurfing, sailing, kayaking, canoeing, diving, seal boat trips, bird watching, tennis (open air tennis courts are at Spencer Square), swimming, football, croquet, bowls, walking, cycling, golfing, and horse riding** which are under or in near proximity to the proposed flight swathes and low flying planes of 400-600 feet proposed by the Applicant.

G. Ramsgate will hold the **British Kitesurfing championships** in 2019 (its second year), was voted in the **Top 100 ITV British walks** (2018), **Active Ramsgate** was awarded GOLD in the Community Care Award (2017) and Explore Kent awarded Ramsgate in 2016 **with the first** "**We Love Walkers and Cyclists**" accreditation status and is part of the **28-mile circular Viking Coastal Trail** (one of the most attractive leisure cycle routes in Kent) which links up with Regional Route 15 of the National Cycle Network which are under or in near proximity to the proposed flight swathes and low flying planes of 400-600 feet proposed by the Applicant.

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[29] https://www.turnercontemporary.org/news/1-5million-of-investment-to-put-arts-culture-and-heritage-at-the-heart-of-communities-in-east-kent-as-it-is-chosen-as-one-of-16-great-places

[30] https://theisleofthanetnews.com/2018/12/01/richard-styles-the-history-and-future-of-ramsgates-pulhamite-rocks/

H. It holds the second largest international regatta in the UK from the marina Ramsgate Week and the Regatta, Winter Wassail, May Fayre, Great Bucket and Spade Run, Looping the Loop, Ramsgate Festival of Sound (outside and indoors), Adventures in Performance, Ramsgate Carnival, and the Christmas laser light show which are under or in near proximity to the proposed flight swathes and low flying planes of 400-600 feet proposed by the Applicant.

I. The area surrounding the town centre has extensive green spaces that provide an important resource for the health (both physical and mental) of Ramsgate's population and that make it an attractive place to live and visit.

J. Ramsgate people will lose the full use, enjoyment and potential of these public amenities and events, which contribute to civic pride, mental health and wellbeing. A large majority of which have been initiated after the airport's closure 5 years ago.

12. EDUCATIONAL SYSTEM

A. There are a large number of OFSTED rated schools, colleges, childminders and nurseries – **38 in total**[31] – that are under or in close proximity to the flight swathes and low flying planes of 400-600 feet proposed by the Applicant.

B. Most school's OFSTED rating remained consistent; however, a number of schools **improved their OFSTED rating** since the Airport's closure in March 2014 (Table 4).

Table 4: Showing Schools with Improved OFSTED Rating After Airport Closure (March 2014)

School	Improved OFSTED Rating	Year Awarded

[31] https://reports.ofsted.gov.uk/search?q=&location=Ramsgate%2C+UK&lat=51.335545&lon=1.4198949999999968&radius=2&level_1_types=0

Chilton Primary School[32]	Outstanding	2019
St Laurence in Thanet Church of England Junior Academy[33]	Good	2018
Dame Janet Primary School[34]	Good	2018
Newington Community Primary School[35]	Outstanding	2017
Newlands Primary School[36]	Good	2017
Ellington Infant School[37]	Good	2017

C. The number of OFSTED rated schools, colleges, childminders and nurseries **increased** since the airport's closure in March 2014 by **14**[38].

D. Many studies have found effects of aircraft noise exposure at school or at home on children's reading comprehension or memory skills(Evans & Hygge, 2007). The RANCH study (Road traffic and Aircraft Noise and children's Cognition & Health) of 2844 9-10 year old children from 89 schools around London Heathrow, Amsterdam Schiphol, and Madrid Barajas airports found that aircraft noise was associated with **poorer reading comprehension and poorer recognition memory**, after taking social position and road traffic noise, into account (Stansfeld et al., 2005)[39].

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[32] OFSTED Inspection Report for Chilton Primary School
https://reports.ofsted.gov.uk/provider/21/141766
[33] OFSTED Inspection Report for St Laurence in Thanet Church of England Junior Academy
https://reports.ofsted.gov.uk/provider/21/138592
[34] OFSTED Inspection Report for Dame Janet Primary School
https://reports.ofsted.gov.uk/provider/21/138972
[35] OFSTED Inspection Report for Newington Community Primary
https://reports.ofsted.gov.uk/provider/21/135214
[36] OFSTED Inspection Report for Newlands Primary School
https://reports.ofsted.gov.uk/provider/21/138436
[37] OFSTED Inspection Report for Ellington Infant School
https://reports.ofsted.gov.uk/provider/21/118414
[38] OFSTED rated schools, colleges, childminders and nurseries - URN 2497261 (2018), URN EY548223 (2017), URN EY538994 (2016), URN EY496635 (2016), URN 139255 (Dec 2013), URN EY484144 (Dec 2014), URN EY556233 (2018), URN 80813 (Oct 2014), URN 144785, URN EY562005 (2018), URN EY558445 (2018), URN 142117 (2015), URN EY545910 (2017), URN 139255 (Dec 2013)
[39] Dr Charlotte Clark Queen Mary University of London (May 2015) *Aircraft Noise Effects on Health prepared for the Airports Commission* Page 19

E. The development of cognitive skills such as reading and memory is important not only in terms of educational achievement **but also for subsequent life chances and adult health** (Kuh & BenShlomo, 2004)[40].

F. There are several ways in which aircraft noise could influence children's cognition: lost teaching time - as a teacher may have to stop teaching whilst noise events occur; teacher and pupil frustration; annoyance and stress responses; reduced morale; impaired attention; children might tune out the aircraft noise and over-generalise this response to other sounds in their environment missing out on information; and sleep disturbance from home exposure which might cause performance effects the next day (Stansfeld & Clark, 2015)[41].

13. RAMSGATE TOWN CENTRE

A. Ramsgate's town centre is a '"***living' town centre***" with much charm…"*It has a different, but complementary offer to Margate – more 'up-market', smaller-scale and focused on the sea and interaction with it and on the town centre and its architecture and surrounding green spaces*[42]*.*

B. Unlike many other seaside towns Ramsgate is **open and bustling all year round.** Ramsgate has 5 bank branches (NatWest, Lloyds, Halifax, Barclays, HSBC), a post office, greengrocers, butchers, bakers, home-baking stores, haberdashers, cafes, public houses, restaurants, hairdressers, beauty salons, wellbeing practitioners, leisure centre, dentist, chemists, cobblers, clothes and shoe shops, galleries, art shops, book shop, office supplies, gift shops, churches, open market, chandlery, library, a Wilko, Aldi and Waitrose etc.

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[40] Dr Charlotte Clark Queen Mary University of London (May 2015) *Aircraft Noise Effects on Health prepared for the Airports Commission* Page 19

[41] Dr Charlotte Clark Queen Mary University of London (May 2015) *Aircraft Noise Effects on Health prepared for the Airports Commission* Page 20

[42] Historic England *Urban Panel Report: Ramsgate 28-29 September 2016* Page 16, Paragraph 7.1

C. In short, Ramsgate Town Centre continues to serve its local community very much as a traditional market town centre with a traditional mixture of independent grocery and comparison goods retail alongside cafes, public houses, restaurants and services[43].

D. Of the traditional centres within Thanet, **Ramsgate town centre has the largest turnover** at £67 million[44].

E. Over twenty (**20**) restaurants, cafes and bars and ten (**10**) retail and creative spaces (a large portion of which have been funded by private inward investment) have **opened since the closure of the airport** in May 2014. This is in sharp contrast to the nationwide trend of high street store closures and online shopping drawing footfall away[45].

F. Protecting this traditional town centre mix of uses is **important in ensuring Ramsgate Town Centre continues to contribute to the sustainability of Ramsgate as a residential community**, which is part of its attraction for visitors[46].

G. Ramsgate Town **Centre's sustainability is at risk (and by extension the sustainability of Ramsgate as a residential community and visitor attraction)** from Applicant's proposal with flight swathes directly overheard and low flying flights of 400-600 feet.

14. RAF MANSTON SPITFIRE & HURRICANE MEMORIAL MUSEUM, MANSTON HISTORY MUSEUM and ROYAL AIR FORCE MANSTON MUSEUM HISTORY MUSEUM ASSOCIATION

A. RAF Manston Museum Spitfire & Hurricane Memorial Museum is a registered charity with the number 1159597**.** The objects of the Charity "*are to advance the education of the public by maintaining a museum for the exhibition to the public of World War aircraft and*

[43] *Ibid* Page 15 Paragraph 2
[44] Arup (August 2018) *Thanet District Council Draft Local Plan to 2031 Sustainability Appraisal – Environmental Report* Page 46, Table 13: Key Sustainability Issues for Thanet
[45] https://www.bbc.co.uk/news/business-44676494
[46] Historic England *Urban Panel Report: Ramsgate 28-29 September 2016* Page 15 Paragraph 2

associated artifacts and memorabilia and to preserve the same in the best possible condition for the public benefit[47].

B. Manston History Museum is a registered charity with the number 11273253[48]. The objects of the charity are to "*advance the education of the public in the sciences, practice and history of aviation relating to Manston Airfield and its aviation connections with Thanet*[49]".

C. Royal Air Force Manston History Museum Association is a registered charity with the number 1075396. The objects of the charity are to "*record the history of RAF Manston and its surrounding satellites are RAF Ash, RAF Sandwich and RAF Dunkirk. This is achieved through increasing its collection of artifacts and through maintenance of existing exhibits and providing an insight into the history through its museum and events*[50]*".*

D. RAF Manston Museum Spitfire & Hurricane Memorial Museum, Manston History Museum and Royal Air Force Manston History Museum Association together the 'Museums'.

E. Applicant has stated at a recent SMA BBQ of 10 February 2019 in answer to a question from the public that the Museums were not part of the DCO process. Further, Applicant wants the Museums to move but would give very limited financial support (study, design and help **museum to find funding from a public or other source**). This funding would need to extend to insulating and ventilating the Museums due to proximity to the runway. Applicant has **not provided any funding towards museum noise mitigation**.

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[47] http://apps.charitycommission.gov.uk/Showcharity/RegisterOfCharities/CharityWithoutPartB.aspx?RegisteredCharityNumber=1159597&SubsidiaryNumber=0

[48] http://beta.charitycommission.gov.uk/charity-details/?regid=1179982&subid=0

[49] http://beta.charitycommission.gov.uk/charity-details/?regid=1179982&subid=0

[50] http://apps.charitycommission.gov.uk/Accounts/Ends96/0001075396_AC_20171231_E_C.PDF

F. RAF Manston Museum Spitfire & Hurricane Memorial Museum owns freehold land worth Freehold land of £505, 282[51]. It is unclear what is happening with this Freehold land, which is an asset of the charity held on trust for public benefit.

G. Applicant has stated that it will "*ensure that the Museums are advertised in the passenger terminal and will **explore** the possibility of a shuttle bus. However, a shuttle bus operation for non-passengers and the terminal might **raise security issues** and would have to be considered further at a later stage*"[52].

H. It is unclear where the perimeter of the airport will be in relation to Museums. Security concerns have escalated within aviation since the airport's closure and other similar museums for example East Midlands Aeropark have its own entrance and car parking spaces.

I. Given that the Applicant has stated, "*passenger-only operation is **unlikely to be viable** at Manston Airport*[53] and that in fact passenger services are dependent on the viability of the cargo freight business this seems a very weak commitment from Applicant to Museums.

J. Access and accessibility to Museums are also unclear as is revenue stream opportunities (eg car parking for Museums will be owned by Applicant).

K. Museums location within or close to a dedicated freight airport may hinder footfall and alienate public either by access, security barriers and to those who find the idea of a memorial to heroes within a dedicated freight airport disrespectful.

L. Museums are at risk of not achieving parts of their stated charitable objectives for public benefit.

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[51] http://apps.charitycommission.gov.uk/Accounts/Ends97/0001159597_AC_20170831_E_C.pdf
[52] 6.1 Consultation Report (**APP-075**) Page 213
[53] 6.1 Consultation Report (**APP-075**) Page 213

15. PLAN A

Applicant stated within its Summary of Applicant's Oral Submissions at January 2019 Hearing (**TR02002/D1/Sub**[54]) on page 48 at 8.2 that (bold and underline added for emphasis):

"*the applicant has no 'Plan B' to build houses on the site. It has* ***spent considerable time and effort resisting planning applications and local plan changes*** *that would* ***make non-airport development more likely****, and* ***is committed to securing and operating a successful airport from the site***[55]."

1. BACKGROUND FROM THE SALE IN MAY 2014 TO JULY 2018

A. "*Following the sale of the airport by Infratil in 2013 and its closure by new owners Lothian Shelf in May 2014 Thanet District Council made significant efforts to explore its CPO powers to support a functioning aviation use in the site.*

B. ***July 2014 –*** *Cabinet resolved to carry out a soft-market testing exercise to identify a CPO Indemnity Partner – a third party who could cover the costs of compulsory purchase of the Manston Airport site.*

C. ***December 2014 –*** *Labour controlled Cabinet decided that no further action be taken at the present time on a CPO of Manston Airport, on the basis that Thanet District Council* ***has not identified any suitable expressions*** *of interest that fulfil the requirements of the Council for a CPO indemnity partner and that it does* ***not have the financial resources*** *to pursue a CPO in its own right.*

D. ***May 2015 –*** *Extraordinary Council meeting agreed that to recommend to Cabinet that it reviews its position in relation to the Manston Airport site, taking account of all the surrounding*

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[54] Summary of Applicant's Oral Submissions at January 2019 Hearing (**TR02002/D1/Sub**) **at 8.1.2** https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR020002/TR020002-002882-Deadline%201%20-%20Summary%20of%20Applicant's%20Oral%20Submissions%20at%20January%202019%20Hearings.pdf

[55] *Ibid*

circumstances relating to an indemnity partner for a possible Compulsory Purchase Order.

E. ***July 2015 –*** *Cabinet decides to authorise specialist advice to determine whether RiverOak (Riveroak Investment Corporation LLC[56]) are a suitable indemnity partner in relation to a CPO for Manston Airport.*

F. ***October 2015 -*** *Cabinet decides to take* ***no further action*** *at the present time on a CPO of Manston Airport, on the basis that* ***RiverOak do not fulfil*** *the requirements of the Council for an indemnity partner.*

G. ***December 2015 -*** *Cabinet decides to undertake a further soft market testing exercise to identify any interest in becoming a CPO indemnity partner in relation to Manston airport.*

H. ***April 2016 -*** *The owners of the airport site submitted a planning application in April 2016[57].*

I. ***June 2016*** *- Cabinet considered the assessment of the responses to the exercise and agreed that in terms of the key lines of enquiry, the market cannot deliver on the council's requirements; there is no established market which is able to deliver, or an adequate number of operators; the market has no capacity to deliver the requirements and there is* ***no cost or other benefits in taking this matter further****.*

J. *Following this the Council sought to understand whether an airport would be a viable operation for the site and whether there would be a reasonable prospect of that occurring within the plan period of the Local Plan (i.e. to 2031) so that it could fully consider the options for the site. The Council also needed robust evidence to inform the Local Plan. Accordingly the Thanet District Council* ***appointed Avia Solutions*** *to carry out the study. Stakeholder interviews were afforded to Discovery Park, RiverOak Investment (RSP's first iteration), Sally Dixon, Ryannair, Flybe, Major European LCC,*

[56] http://www.riveroakic.com/news.html
[57] Thanet District Council (November 2016) *Economic Development in Thanet (Employment Land Update and Economic Needs Assessment).*

Network Route Development for Major European LCC, Major UK Carrier, KLM, Cargo Division for Airline Operating Freighters at Stansted, Air Cargo Charter Broker – UK, Ex-DHL, Strategic Aviation Solutions Ltd, and Sir Roger Gale MP[58]*.*

K. ***September 2016 -*** *AviaSolutions Report known as Manston Airport Viability Report*[59] *concluded that:*

"it is ***most unlikely that Manston Airport would represent a viable investment opportunity even in the longer term*** *(post 2040), and* ***certainly not during the period of the Local Plan to 2031***[60]".

L. ***January 2017 -*** the draft Local Plan was published for Consultation and known as the Proposed Revision Draft Local (Preferred Option) 2017. SP05- Former Airport Site stated that:

"*Land is allocated for* ***a mixed use settlement at the site of the former Manston Airport*** *as defined on the policies map. The site has the capacity to deliver at least 2,500 new dwellings, and up to 85,000sqm employment and leisure floorspace*[61]".

M. ***17 January 2017 –*** it is cited in their 18 January 2018 letter that lawyers for Applicant wrote to the Head of Strategic Planning at Thanet District Council in relation to the draft Local Plan.

N. ***August 2017*** - Thanet District Council commission **two more reports** one known as Analysis of Manston Airport Report by

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[58] AviaSolutions (September 2016) *Commercial Viability of Manston Airport Avia Solutions FINAL Report for Thanet District Council* Pages 48-55
[59] *Ibid*
[60] *Ibid*
[61] Thanet District Council (2017) *Proposed Revision Draft Local (Preferred Option)* SP05

Azimuth and Northpoint[62] and a further report from AviaSolutions called Local Plan Representations Review[63].

O. In this body of work Thanet District Council (TDC) commissioned AviaSolutions to provide support pertaining to TDC's treatment of Manston Airport within the Local Plan, and more specifically, to provide commentary as required with regards to Local Plan Representations (objections) it received through the public from Colin Bandick, Beau Webber, David Stevens, Philip Kruger, Dover District Council, Bob Parsons, John Jeapes and Supporters of Manston Airport[64].

P. It is worth pointing out that AviaSolutions has a team of 10 and its clients in the Aviation Sector are: *Abu Dhabi Airports Company, Abu Dhabi International Airport, ACL, ACSA, Aer Arann, Aeroporti di Paris, airBaltic, Aires, Airport Property Partnership, Arlanda, ASIG, Avinor, BAA, Bahrain Airport Company, Belfast International Airport, Bergen Airport, Berlin Airports, Birmingham Airport, Blackpool Airport, BMED, Bristol Airport, British Airways, Brussels Airport Co, CAA RCB Allocation, Cardiff Airport, Changi, CityJet, Copenhagen Airport, Cork Airport, Derry Airport,* ***East Midlands Airport****, EasyJet, Etihad Airways, Exeter Airport, Flybe, GESAC,* ***Heathrow Airport Ltd****, Hermes Airports, HIAL, IATA, INECO, Ireland West Airport Knock, ITAKA, Leeds Airport, Liverpool Airport, Loadair, London City Airport, London Gatwick Airport, Luton Borough Council/Ernst & Young,* ***Manchester Airports Group****, Newcastle Airport, Newquay Airport, Oxford Airport, Peel Airports, Polish Airports, RAF Lyneham, Riga Airport, SASI, SEA, Shannon Airport, Sheffield City Airport,* ***Southend Airport****, Tees Valley Airport, Virgin Holidays, and VTAE*[65].

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[62] AviaSolutions (August 2017) *Review of Azimuth & Northpoint Forecast for Manston Airport – Final Report for Thanet District Council* Pages

[63] Thanet District Council (August 2017) *Manston Airport Local Plan Representations – Final report for Thanet District Council*

[64] *Ibid* Pages 5-18

[65] http://www.aviasolutions.com/clients/aviation-sector/

Q. Whereas the report that Applicant is relying on the Azimuth Report (**APP-085**) written by a connected person to the Applicant with no aircargo, logistics or economics experience sole trading as Azimuth Associates[66] from her home address and who seems to have had just one client; the Applicant.

R. Proposed Revision Draft Local (Preferred Option) 2017 including the **allocation of the former Manston site** to mixed development was to proceed to Thanet District Council on **18 January 2019.**

S. **18 January 2018** – on the day of the Extraordinary Meeting of the Council lawyers for the Applicant wrote (**BDB** now **BDB Pitmans**) - *an award winning top 100 law firm*- a **7 page letter to the Chief Executive** of Thanet District Council[67] **copying in all elected members of Thanet District Council as well as the Strategic Planning Manager and Planning Applications Manager**. This letter was also put on Applicant website and supporters of the airport's social media pages. The letter strongly stated that in BDB's legal opinion that:

(i) "*The draft Local Plan has not been positively prepared;*

(ii) *it is not justified through adequate and up-to-date evidence;*

(iii) *there is no evidence available to confirm that it will be effective and deliverable over the Plan period;*

(iv) *there has not been effective joint working on cross-boundary strategic priorities;*

(v) *is not consistent with national planning and aviation policy objectives; and*

(vi) *it has not been prepared in accordance with the Duty to Cooperate or legal and procedural requirements and therefore fails the 'soundness' test. Consequently, the Plan should not be submitted for Examination*[68]."

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[66] http://azimuthassociates.co.uk
[67] BDB letter to Chief Executive of Thanet District Council 18 January 2018
[68] *Ibid*

T. This was reminiscent of a similar sort of campaign by North and South Thanet's MPs, some county councilors and district councilors when the officers of Thanet District Council found back on:

"*11 December **2014** that, in its opinion, RiverOak did **not have the necessary financial capacity** to support the Council's plan for Manston and that **RiverOak's business plan was insufficient**. It was concluded therefore that the Council would not take forward the CPO at this time*[69].

U. The campaign resulted in a very public independent review by PwC, on behalf of the Department of Transport, called for by the MPs into the officers of Thanet district Council's decision-making process about the future of Manston Airport[70]. The resulting report merely offered solutions as to how Thanet District Council could have essentially found ways to work around the Due Diligence Protocol if a party had not matched all the criteria.

V. The Extraordinary Meeting of the Council held on 18 January 2018, resulted in the leader at the time of Thanet's Council, Chris Wells, to step. It, also, resulted in 12 UKIP councilors breaking away and calling themselves the Thanet UKIP leaders. Fourteen UKIP councilors and Henry Bolton, the national party ex-leader called for Mr Wells to go in a row over the former Manston airport site[71].

W. **17 July 2018 -** the DCO application for Applicant was received by the Planning Inspectorate.

X. **19 July 2018** – Councilors against the advice of their officers voted 21 to 31 in favour to back a draft Local Plan which Applicant had lobbied for:

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[69] PwC (22 June 2015) *Review of CPO Indemnity Partner Process for Manston Airport* Final Report
PwC (22 June 2015) *Review of CPO Indemnity Partner Process for Manston Airport* Final Report [70]
PwC (22 June 2015) *Review of CPO Indemnity Partner Process for Manston Airport* Final Report
[71] Thanet Council's UKIP leader Chris Wells to step down https://www.bbc.co.uk/news/uk-england-kent-43110358

"The airport should remain protected for aviation uses until such time that the Local Plan review and DCO processes have been completed[72]*."*

2. PLAN A

A. Applicant may not necessarily at this moment have *a "'Plan B' to build houses on the [Manston] site".* But it does appear to have spent a lot of time and effort to ensure that the site is **protected for aviation uses only for at least 2 years**.

B. My understanding of the DCO process is that a NSIP DCO would 'trump' any planning application so this is not a necessary action as part of the DCO process.

C. The draft Local Plan without intervention by Applicant would make the Manston site – a mixed-use development land - worth **circa £500m**.

D. Whereas the draft Local Plan intervention by the Applicant keeps the land as aviation use only for at least 2 years.

E. This would not affect site value too much unless it can be shown at compulsory acquisition that there is little interest/value in the site as an aviation site.

F. As Applicant is the only one interested in the land after it has been 'on the market' for 5 years with Thanet District Council carrying out soft market testing and multiples reports stating it is not feasible to run a viable airport at the Manston site. It shouldn't be too hard to do.

G. Judging by the very low value Applicant has placed on the Manston site land in its Funding Statement it would be reasonable to assume this is perhaps why:

*"the applicant…has **spent considerable time and effort resisting planning applications and local plan changes** that would **make***

[72] BDB letter to Chief Executive of Thanet District Council 18 January 2018

***non-airport development more likely**, and **is committed to securing and operating a successful airport from the site**[73]."*

16. Ramsgate Environment and Manston's History

As you walk around Ramsgate you will see much of the architecture and past history of housing in Ramsgate from pre-1750. I have written a whistle stop tour around to demonstrate just how much of it was built before even the thought of an airport. The architecture was laid out with the sea, coast, tranquility and views in mind, which is very much at odds with the Applicant's proposal.

Before the port works – pre-1750

"*The largest **settlement in the area was St Lawrence**. This was the only village in the project area and the only place with ecclesiastical provision, meaning it gave its name to the parish which covered the majority of the project area until the 19th century.*

*Ramsgate appears to have begun as a **satellite settlement of St Lawrence**, providing the inland village with access to fishing and landing through the natural harbour at the only break in the cliff line between Pegwell Bay and Dumpton Gap*[74]".

"*It is also evident that Ramsgate had evolved to become **a locally important harbour by the close of the medieval period as it was taken on as a limb of nearby Cinque Port of Sandwich by the 1480s***[75]**"**.

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[73] Summary of Applicant's Oral Submissions at January 2019 Hearing (**TR02002/D1/Sub**) **at 8.1.2** https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/TR020002/TR020002-002882-Deadline%201%20-%20Summary%20of%20Applicant's%20Oral%20Submissions%20at%20January%202019%20Hearings.pdf

[74] Historic England (2018) *Historic Characterisation of Ramsgate* Prepared by LUC and Archangel Heritage Page 14

[75] *Ibid* Page 18

Growth of the port and resort – 1750 to c.1850

"*The harbour works begun in the 1750s were the result of debate over construction of a haven of refuge for shipping on this stretch of the coast.*

After a somewhat ill-fated start to the design and construction of the harbour, works commenced to the ***design of Sir Percy Brett and Captain Desmaretz3, made following survey of the harbour in 1755****, and were not completed until well into the following century. They saw the addition of harbour walls and breakwaters, referred to as the East Pier and West Pier, to create inner and outer basins. The western outer breakwaters had lighthouses sited on the end of the West Pier to act as a navigational aid. The harbour improvements were designed and overseen by many of the* ***early leading lights in civil and marine engineering, including John Smeaton, Samuel Wyatt, John Rennie and Sir John Rennie****, and included many then-innovative methods, including sluicing systems designed to reduce and remove silt from the basins.* ***The harbour established by these improvements led to Ramsgate developing as a key port on the southeast coast. The works of 1750-1850 still form the essential framework of the town's old port***[76]**".**

"*The harbour extension came at a time when the* ***concept of a seaside resort was developing and the well-to do or well-connected were seeking out seaside towns to undertake sea bathing being extolled for its therapeutic benefits amongst polite society****.*

The expanded harbour, with its capacity for more and larger vessels coupled with relative ease of access from London, and the presence of a ***decent stretch of shallow, sandy foreshore*** *enabled the town to capitalise not just on maritime trade, but also on early resort tourists. The* ***town began to attract wealthy visitors and resort facilities are documented from at least the 1760****.*

[76] *Ibid* Page 18

What does survive is the vast expansion of housing that came with the town's growing status as a maritime centre and resort*. This was focused on the* ***East and West Cliff****, around the routes to* ***Pegwell*** *and* ***Dumpton****, and comprised both properties for wealthy residents and visitors and for those at the lower end of the social spectrum. The former comprised townhouses whereas the latter comprised terraced housing of varied forms*[77]".

"*The townhouses were speculatively-built and laid out in crescents and terraces. These were aimed squarely at wealthy would-be residents and visitors and used the* ***polite architectural forms and layouts seen in fashionable contemporary spa and resort towns such as Bath and Cheltenham and in the Georgian expansion*** *of London. Some developments were even of the* ***'garden square'*** *form and included private communal ornamental gardens for residents. The townhouses featured extensive use of restrained, classically-influenced styles with frontages in either stucco or brick with stone detailing. Many were sited in* ***elevated locations overlooking the sea*** *and with some degree of separation from the main commercial centre of the town. Most were not that far from the town itself but* ***Westcliff Terrace, a relatively late example of the type built in the 1840s****, was at some distance on a then-isolated site on the Pegwell Road*[78]".

"*In the latter part of the 18th century and early 19th century some small country houses were developed at the fringes of the then built-up area of the town for those who sought a greater degree of seclusion. These were miniature versions of the* ***country houses and landscaped parks being developed by the landed aristocracy*** *and comprised ranges of service buildings and facilities such as kitchen gardens alongside the main house and* ***informal garden areas****. They included developments for incomers, such as* ***Eastcliff Lodge****, and those for families with some history in the area, such as* ***Townley House and Townley Lodge – built for the Townley family in the 1790s.*** *Such houses were the exception within the*

[77] *Ibid* Page 19
[78] *Ibid* Page 20

project area with most of the prosperous families 'making do' with the accommodation provided by townhouses[79]".

"*Indeed, warfare on the continent prevented wealthier individuals undertaking 'The Grand Tour',* ***contributing to a rise in domestic tourism****. Owing to the importance of the harbour to military movements and the potential for invasion forces to utilise this stretch of coast, batteries were* ***constructed on the East and West Cliff and at Pegwell***[80]".

"*Whilst military use is an important and defining part of the town's history, it is not one which is manifested significantly in the town's present character. It is, however, reflected in a more intangible sense to an extent by the proliferation of patriotic and commemorative street names relating to the battle of Waterloo in the roughly contemporary* ***townhouse and terraced housing developments at East Cliff (Plains of Waterloo, Wellington Crescent, Nelson Crescent, La Belle Alliance Square)***[81]*".*

Consolidation – c.1850 to 1914

"*The latter part of the 19th century and the lead up to World War I saw the* ***consolidation of the town as a resort destination****. It also saw its evolution from a resort for polite society to one attracting visitors further down the social scale.*[82]".

"*The early railway network and its later rationalisation had a distinctive impact on the development of the town.* ***Ramsgate, as a bustling port and resort, was such a prize for operators of the emerging railway network that two companies competed to provide the best connection to the town****. LCDR was able to bring its* ***line through the cliffs to the seafront right next to the harbour"***[83].

[79] *Ibid* Page 20
[80] *Ibid* Page 21
[81] *Ibid* Page 21
[82] *Ibid* Page 23
[83] *Ibid* Page 23

"*The town also developed features closely associated with seaside resorts over this period. These included large* ***seafront hotels, promenades, a pleasure pier and concert halls by the seafront (Royal Victoria Pavilion and West Cliff Hall)***[84]*."*

"*The* ***Saint Cloud (now the Comfort Inn) and the Granville****. These became Ramsgate's closest equivalent to the grand seaside hotels constructed at other English resorts during this period. The proprietor of Granville also sought to maximise the appeal of the* ***hotel by reducing the distance from the hotel on the clifftop to the beac****h. This was achieved by undertaking a considerable programme of engineering of the cliffs directly below the hotel to create an access road down to beach level and construction of a commercial development adjacent to the seafront known as Granville Marina*…The promenades were originally laid out in the mid-19th century. These ran *along the sections of the clifftop closest to the harbour. The early layout and character of the promenades has been altered by early 20th-century promenade improvements but some of the* ***Victorian shelters survive on the section by Victoria Parade at East Cliff****.* ***Ramsgate's pleasure pier, Marina Pier, was built adjacent to the Granville Marina in the 1870s****.*
The Royal Victoria Pavilion concert hall *was opened as a major seafront attraction in 1906. Whilst it is no longer in use for its primary purpose, it remains a seafront landmark due to its scale and distinctive design*[85]".

"*Ramsgate, having grown from a settlement dependent upon St Lawrence, historically lacked a church and was not a parish in its own right. In recognition of its increased size and independent role, it was created as a parish in the mid-19th century and gained its own parish church,* ***St George's, in the 1850s***[86]*."*

"As the seafront was so important for port operations and for the appeal of the resort, an innovative development was proposed which comprised the cutting of new roadways from the clifftops down to the harbour and the incorporation of **storage and ornamental features as part of the design**. Storage comprised arches under the **roadway providing access to the West Cliff, Royal Parade,**

[84] *Ibid* Page 23
[85] *Ibid* Page 24
[86] *Ibid* Page 25

and ornamental Pulhamite gardens around that leading to the **East Cliff, Madeira Walk. Royal Parade** was also given distinctive ornamentation with the use of decorative brickwork and architectural ceramics to create an arcaded appearance and the construction of Pulhamite cliffs to back the arches on the landward side of the road. These **arches also included niches for seats so that the view from the elevated roadway** could be admired. This **distinctive civic infrastructure added significantly to the appearance of the harbour area, creating an imposing but attractive backdrop to it.** It still remains a key aspect of the experience of the area and one of the **town's most characteristic features[87]".**

"The **architect AWN Pugin** and the financier **Sir Moses Montefiore**. Pugin, noted **Gothic revivalist** and promoter of his Roman Catholic faith, settled at West Cliff in the mid-19th century and began creating his ideal retreat and family home and an idealised church and religious community. His work on the first two aspects of this, a villa called **The Grange** and the adjacent **Roman Catholic church of St Augustine** lying**.** The complex of Pugin buildings around the Grange survive and, as well as evidencing Pugin's promotion of Catholicism, **are one of the key groupings of Gothic revival buildings in the country[88]".**

I am running out of time so I will move on quickly to Manston's history.

<u>Manston's History</u>

"*At the outset of the Great War, the Isle of* ***Thanet was equipped*** *with a small and precarious* ***landing strip for aircraft at St Mildreds Bay, Westgate****, on top of the chalk cliffs, at the foot of which was a promenade which had been used for seaplane operations*[89]. "*In the* ***winter of 1915-1916*** *these early aircraft first began to use the* ***open farmlands at Manston as a site for emergency landings****. Thus was*

[87] *Ibid* Page 27
[88] *Ibid* Page 27
[89] Forces War Records Unit History: RAF Manston https://www.forces-war-records.co.uk/units/631/raf-manston

soon established the Admiralty Aerodrome at Manston. It was not long after this that the ***training school, set up originally to instruct pilots in the use of the new Handley Page bombers****, was established, and so by the close of 1916 there were already two distinct units stationed at Manston, the Operational War Flight Command and the Handley Page Training School*[90].

"*At a time when Zeppelin raids were bringing the war directly to English civilians,* ***daylight bombing raids*** *by German 'Gotha' Bombers****, a twin engined biplane****, would have been considerably more effective were it not for the* ***RFC's presence*** *at Manston*[91].

"*Shortly after such formation raids and in consequence the Cabinet recommended the creation of a separate Air Ministry. The RAF was officially formed on 1 April 1918*[92]".

"*In World War II, during an eventful Battle of Britain, Manston was heavily bombed and airfield buildings destroyed... Being* ***close to the front-line*** *and having a* ***long and broad runway*** *(currently listed as 2,752 metres x 61 metres) the airfield became something of a* ***magnet for badly damaged aeroplanes*** *that had suffered from ground fire, collisions, or air attack but retained a degree of airworthiness. The* ***airfield became something of a "graveyard" for heavy bombers*** *and no doubt the less-damaged portions of aircraft landing or otherwise arriving here sometimes provided spare parts for other allied aircraft in need of repair*[93]*"*.

"*During the Cold War of the 1950s the United States Air Force used Manston as a Strategic Air Command base for its fighter and fighter-bomber units. With the USAF's withdrawal from Manston, the airfield became a joint civilian and RAF airport from 1960 and was thence employed for occasional package tour and*

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[90] Forces War Records Unit History: RAF Manston https://www.forces-war-records.co.uk/units/631/raf-manston
[91] *Ibid*
[92] *Ibid*
[93] *Ibid*

cargo flights, alongside its continuing role as an RAF base. The Air Cadets used the northern side of the airfield as a gliding site, and an Air Experience Flight flying De Havilland Chipmunks was based there. Thanks to its broad long runway, (built during World War II, along with Woodbridge's, to ***allow returning damaged bombers*** *a longer than usual runway to land on) Manston was used as a diversionary airfield for emergency military and civilian landings* [94] *"*.

[94] *Ibid*

Appendix
Supporting Evidence
(excluding weblinks cited in footnotes)

There is some pressure to relax the planning policies that have ensured that development in the past three decades has fitted to fit into the scale and intricacy of the historic city. There are several recent buildings of 10-12 stories, and the current proposal by Broadway Malayan for the Anglia Centre site includes 1250 residential units and a 25-storey tower. However, because the area is large, major redevelopment does not, so far, appear to threaten the supply of premises suitable for creative industries. A greater- if more distant- peril would arise if the erosion of the city's historic character as a result of major redevelopments led to a change in the perception of Norwich as an attractive, desirable location for small businesses.

3.7 RAMSGATE CONSERVATION AREA

3.7.1 LOCATION, ORIGINS AND ARCHITECTURAL CHARACTER

Ramsgate Conservation Area covers much of the historic town of Ramsgate. It extends to 12.2 km² and is the largest conservation area in Kent. It contains 333 listed buildings of which several are listed grade I or II*. The local authority is Thanet District Council, which also covers the nearby towns of Margate and Broadstairs and their rural hinterland. The council has not prepared a local list or formally identified unlisted buildings that make a positive contribution to the area, but a substantial number of those predating 1914 would probably fall into the latter category.

In the medieval period, Ramsgate was a limb (i.e. branch) of the Cinque Port of Sandwich, but it was essentially a fishing village until the 16th and 17th centuries. In 1749, a new stone pier was built so that the harbour was accessible at all states of tide and could serve the merchant and naval fleets as a 'Port of Refuge', subsequently becoming a 'Royal Harbour'. By the end of the 18th century it developed as one of the first English sea-bathing resorts, and was developed with numerous terraces of houses, Assembly Rooms and baths; although it still had a large fishing fleet.

The Royal Harbour with its breakwater and associated buildings, is the defining visual and historic architectural feature of the town. The principal commercial and residential streets occupy the shallow valley that surrounds the harbour. The residential core is comprised mainly of 18th and early 19th century terraced housing. Outside this, are extensive areas of 19th and early 20th century development. Grade I listed buildings include the group comprising The Grange, St Augustine's Church, cloister and presbytery, designed for himself by the greatest of English gothic revival architect, AWN Pugin, a romantic recreation of what he saw as the medieval ideal of a Christian community; and the early 19th century church of St George. The Royal Harbour is listed Grade II*.

Much of the 19th century townscape survives and, apart from a few intrusive modern exceptions, the town preserves its historic scale of 3-4-storey terraces, with ground floor shops in the main streets.

3.7.2 POST-1945 CHANGES

Ramsgate suffered much less bomb damage than nearby Margate, for example, but, as with other English seaside towns, it suffered a significant economic decline as the domestic holiday industry was replaced by the popularity of foreign holidays. A number of initiatives to regenerate the local economy have been made.

Several unsuccessful attempts to reintroduce cross-channel ferries led to a massive industrial site (the modern 'Port of Ramsgate') being developed on reclaimed land to the west of the Royal Harbour.

Listed Buildings in Ramsgate, Thanet, Kent

1. II 1 and 2, Queens Court (/101086085-1-and-2-queens-court-ramsgate)
   Ramsgate, Thanet, Kent, CT11
2. II 1 and 3, High Street (/101336661-1-and-3-high-street-ramsgate)
   Ramsgate, Thanet, Kent, CT11
3. II 1 and 3, Royal Road (/101025882-1-and-3-royal-road-ramsgate)
   Ramsgate, Thanet, Kent, CT11
4. II 1-14, Wellington Crescent (/101281583-1-14-wellington-crescent-ramsgate)
   Ramsgate, Thanet, Kent, CT11
5. II 10, 11 and 12, La Belle Alliance Square (/101085343-10-11-and-12-la-belle-alliance-square-ramsgate)
   Ramsgate, Thanet, Kent, CT11
6. II 10, Broad Street (/101085433-10-broad-street-ramsgate)
   Ramsgate, Thanet, Kent, CT11
7. II 10, Effingham Street (/101085408-10-effingham-street-ramsgate)
   Ramsgate, Thanet, Kent, CT11
8. II 10, York Street (/101336345-10-york-street-ramsgate)
   Ramsgate, Thanet, Kent, CT11
9. II 12, Broad Street (/101100299-12-broad-street-ramsgate)
   Ramsgate, Thanet, Kent, CT11
10. II 12, West Cliff Road (/101086077-12-west-cliff-road-ramsgate)
    Ramsgate, Thanet, Kent, CT11
11. II* 124, High Street (/101336660-124-high-street-ramsgate)
    Ramsgate, Thanet, Kent, CT11
12. II 129, 131, 133 and 135, High Street (/101336637-129-131-133-and-135-high-street-ramsgate)
    Ramsgate, Thanet, Kent, CT11
13. II 132, Grange Road (/101084368-132-grange-road-ramsgate)
    Ramsgate, Thanet, Kent, CT11
14. II 136a and 136b, Grange Road (/101063704-136a-and-136b-grange-road-ramsgate)
    Ramsgate, Thanet, Kent, CT11
15. II 138, Grange Road (/101085413-138-grange-road-ramsgate)
    Ramsgate, Thanet, Kent, CT11
16. II 14, Addington Street (/101111798-14-addington-street-ramsgate)
    Ramsgate, Thanet, Kent, CT11
17. II 140, Grange Road (/101359671-140-grange-road-ramsgate)
    Ramsgate, Thanet, Kent, CT11

18. II 142, Grange Road (/101336647-142-grange-road-ramsgate)
    Ramsgate, Thanet, Kent, CT11
19. II 144, High Street (/101343664-144-high-street-ramsgate)
    Ramsgate, Thanet, Kent, CT11
20. II 148 and 150, High Street (/101085394-148-and-150-high-street-ramsgate)
    Ramsgate, Thanet, Kent, CT11
21. II 15, Harbour Street (/101068668-15-harbour-street-ramsgate)
    Ramsgate, Thanet, Kent, CT11
22. II 15, Vale Square (/101336349-15-vale-square-ramsgate)
    Ramsgate, Thanet, Kent, CT11
23. II 15-29, Wellington Crescent (/101086075-15-29-wellington-crescent-ramsgate)
    Ramsgate, Thanet, Kent, CT11
24. II 152, High Street (/101068884-152-high-street-ramsgate)
    Ramsgate, Thanet, Kent, CT11
25. II 16 and 17, Vale Square (/101203509-16-and-17-vale-square-ramsgate)
    Ramsgate, Thanet, Kent, CT11
26. II 17, 19 and 21, Cavendish Street (/101085434-17-19-and-21-cavendish-street-ramsgate)
    Ramsgate, Thanet, Kent, CT11
27. II 17, Hope's Lane (/101372270-17-hopes-lane-ramsgate)
    Ramsgate, Thanet, Kent, CT12
28. II 18 and 19, Vale Square (/101086066-18-and-19-vale-square-ramsgate)
    Ramsgate, Thanet, Kent, CT11
29. II 18, Albert Street (/101085417-18-albert-street-ramsgate)
    Ramsgate, Thanet, Kent, CT11
30. II 2 and 4, Ashburnham Road (/101336654-2-and-4-ashburnham-road-ramsgate)
    Ramsgate, Thanet, Kent, CT11
31. II 2, Paragon Street (/101085324-2-paragon-street-ramsgate)
    Ramsgate, Thanet, Kent, CT11
32. II 2, West Cliff Mansions (/101392667-2-west-cliff-mansions-ramsgate)
    Ramsgate, Thanet, Kent, CT11
33. II 20, 21 and 22, Liverpool Lawn (/101085345-20-21-and-22-liverpool-lawn-ramsgate)
    Ramsgate, Thanet, Kent, CT11
34. II 20, Addington Street (/101336628-20-addington-street-ramsgate)
    Ramsgate, Thanet, Kent, CT11
35. II 20, Albion Place (/101085419-20-albion-place-ramsgate)
    Ramsgate, Thanet, Kent, CT11
36. II 20, Paragon Street (/101367070-20-paragon-street-ramsgate)
    Ramsgate, Thanet, Kent, CT11
37. II 22, Hereson Road (/101336673-22-hereson-road-ramsgate) 📷
    Ramsgate, Thanet, Kent, CT11
38. II 24-33, Liverpool Lawn (/101085346-24-33-liverpool-lawn-ramsgate)
    Ramsgate, Thanet, Kent, CT11
39. II 27 and 29, Cavendish Street (/101336619-27-and-29-cavendish-street-ramsgate)
    Ramsgate, Thanet, Kent, CT11
40. II 27, Addington Street (/101350019-27-addington-street-ramsgate)
    Ramsgate, Thanet, Kent, CT11
41. II 27, Adelaide Gardens (/101111827-27-adelaide-gardens-ramsgate)
    Ramsgate, Thanet, Kent, CT11
42. II 29 and 31, Harbour Street (/101085382-29-and-31-harbour-street-ramsgate)
    Ramsgate, Thanet, Kent, CT11
43. II 29, Adelaide Gardens (/101085449-29-adelaide-gardens-ramsgate)
    Ramsgate, Thanet, Kent, CT11
44. II 29, Effingham Street (/101252979-29-effingham-street-ramsgate)
    Ramsgate, Thanet, Kent, CT11
45. II 29, Hardres Street (/101085387-29-hardres-street-ramsgate)
    Ramsgate, Thanet, Kent, CT11
46. II 3 and 5, Paradise (/101370064-3-and-5-paradise-ramsgate)
    Ramsgate, Thanet, Kent, CT11
47. II 3, Park Road (/101085325-3-park-road-ramsgate)
    Ramsgate, Thanet, Kent, CT11

48. II 3, Rose Hill (/101345593-3-rose-hill-ramsgate)
Ramsgate, Thanet, Kent, CT11
49. II 3-13, Spencer Square (/101086098-3-13-spencer-square-ramsgate)
Ramsgate, Thanet, Kent, CT11
50. II 31 and 29, Addington Street (/101085454-31-and-29-addington-street-ramsgate)
Ramsgate, Thanet, Kent, CT11
51. II 31, Adelaide Gardens (/101111832-31-adelaide-gardens-ramsgate)
Ramsgate, Thanet, Kent, CT11
52. II 31, Chatham Street (/101085399-31-chatham-street-ramsgate)
Ramsgate, Thanet, Kent, CT11
53. II 31, Effingham Street (/101252980-31-effingham-street-ramsgate)
Ramsgate, Thanet, Kent, CT11
54. II 32, Adelaide Gardens (/101085450-32-adelaide-gardens-ramsgate)
Ramsgate, Thanet, Kent, CT11
55. II 32, Effingham Street (/101347806-32-effingham-street-ramsgate)
Ramsgate, Thanet, Kent, CT11
56. II 33 and 35, Meeting Street (/101040024-33-and-35-meeting-street-ramsgate)
Ramsgate, Thanet, Kent, CT11
57. II 33, Addington Street (/101298971-33-addington-street-ramsgate)
Ramsgate, Thanet, Kent, CT11
58. II 35 and 37, Addington Street (/101085453-35-and-37-addington-street-ramsgate)
Ramsgate, Thanet, Kent, CT11
59. II 35, Effingham Street (/101085403-35-effingham-street-ramsgate)
Ramsgate, Thanet, Kent, CT11
60. II 36, Effingham Street (/101101746-36-effingham-street-ramsgate)
Ramsgate, Thanet, Kent, CT11
61. II 39, 41, 43 and 45, High Street (/101085373-39-41-43-and-45-high-street-ramsgate)
Ramsgate, Thanet, Kent, CT11
62. II 39, Ashburnham Road (/101085423-39-ashburnham-road-ramsgate)
Ramsgate, Thanet, Kent, CT11
63. II 39, Effingham Street (/101101779-39-effingham-street-ramsgate) 📷
Ramsgate, Thanet, Kent, CT11
64. II 4 and 6, Honeysuckle Road (/101085374-4-and-6-honeysuckle-road-ramsgate)
Ramsgate, Thanet, Kent, CT11
65. II 4, 5 and 6, La Belle Alliance Square (/101367116-4-5-and-6-la-belle-alliance-square-ramsgate)
Ramsgate, Thanet, Kent, CT11
66. II 41, Addington Street (/101186878-41-addington-street-ramsgate)
Ramsgate, Thanet, Kent, CT11
67. II 41, EFFINGHAM STREET (See details for further address information) (/101085404-41-effingham-street-see-details-for-further-address-information-ramsgate)
Ramsgate, Thanet, Kent, CT11
68. II 42 and 44, West Cliff Road (/101336342-42-and-44-west-cliff-road-ramsgate)
Ramsgate, Thanet, Kent, CT11
69. II 43 and 44, Vale Square (/101336350-43-and-44-vale-square-ramsgate)
Ramsgate, Thanet, Kent, CT11
70. II 44, Abbot's Hill (/101111824-44-abbots-hill-ramsgate)
Ramsgate, Thanet, Kent, CT11
71. II 45 and 46, Vale Square (/101203529-45-and-46-vale-square-ramsgate)
Ramsgate, Thanet, Kent, CT11
72. II 47 and 49, Queen Street (/101086084-47-and-49-queen-street-ramsgate)
Ramsgate, Thanet, Kent, CT11
73. II 49, Addington Street (/101336630-49-addington-street-ramsgate)
Ramsgate, Thanet, Kent, CT11
74. II 5, Park Road (/101054787-5-park-road-ramsgate)
Ramsgate, Thanet, Kent, CT11
75. II 5, Rose Hill (/101086086-5-rose-hill-ramsgate)
Ramsgate, Thanet, Kent, CT11
76. II 5-19, Chapel Place (/101085396-5-19-chapel-place-ramsgate)
Ramsgate, Thanet, Kent, CT11

77. II 50, Vale Square (/101336351-50-vale-square-ramsgate)
Ramsgate, Thanet, Kent, CT11
78. II 51a, High Street (/101336674-51a-high-street-ramsgate)
Ramsgate, Thanet, Kent, CT11
79. II 53, the Plains of Waterloo (/101085331-53-the-plains-of-waterloo-ramsgate)
Ramsgate, Thanet, Kent, CT11
80. II 54 and 56, Park Road (/101054768-54-and-56-park-road-ramsgate)
Ramsgate, Thanet, Kent, CT11
81. II 54, the Plains of Waterloo (/101085335-54-the-plains-of-waterloo-ramsgate)
Ramsgate, Thanet, Kent, CT11
82. II 56 and 58, West Cliff Road (/101203827-56-and-58-west-cliff-road-ramsgate)
Ramsgate, Thanet, Kent, CT11
83. II 56, the Plains of Waterloo (/101336687-56-the-plains-of-waterloo-ramsgate)
Ramsgate, Thanet, Kent, CT11
84. II 58, the Plains of Waterloo (/101055740-58-the-plains-of-waterloo-ramsgate)
Ramsgate, Thanet, Kent, CT11
85. II 59 and 61, the Plains of Waterloo (/101085332-59-and-61-the-plains-of-waterloo-ramsgate)
Ramsgate, Thanet, Kent, CT11
86. II 6, York Street (/101086051-6-york-street-ramsgate)
Ramsgate, Thanet, Kent, CT11
87. II 62, the Plains of Waterloo (/101086078-62-the-plains-of-waterloo-ramsgate)
Ramsgate, Thanet, Kent, CT11
88. II 64 and 64a, Park Road (/101336681-64-and-64a-park-road-ramsgate)
Ramsgate, Thanet, Kent, CT11
89. II 64, the Plains of Waterloo (/101086079-64-the-plains-of-waterloo-ramsgate)
Ramsgate, Thanet, Kent, CT11
90. II 65 and 67, Pegwell Road (/101055810-65-and-67-pegwell-road-ramsgate)
Ramsgate, Thanet, Kent, CT11
91. II 65a, Pegwell Road (/101085330-65a-pegwell-road-ramsgate)
Ramsgate, Thanet, Kent, CT11
92. II 66, Park Road (/101054771-66-park-road-ramsgate)
Ramsgate, Thanet, Kent, CT11
93. II 7, 9 and 11, Paradise (/101336659-7-9-and-11-paradise-ramsgate)
Ramsgate, Thanet, Kent, CT11
94. II 7, Park Road (/101085326-7-park-road-ramsgate)
Ramsgate, Thanet, Kent, CT11
95. II 70, High Street (/101085359-70-high-street-ramsgate)
Ramsgate, Thanet, Kent, CT11
96. II 72, High Street (/101085358-72-high-street-ramsgate)
Ramsgate, Thanet, Kent, CT11
97. II 72, the Plains of Waterloo (/101055722-72-the-plains-of-waterloo-ramsgate)
Ramsgate, Thanet, Kent, CT11
98. II 79, the Plains of Waterloo (/101085334-79-the-plains-of-waterloo-ramsgate)
Ramsgate, Thanet, Kent, CT11
99. II 8, West Cliff Road (/101336320-8-west-cliff-road-ramsgate)
Ramsgate, Thanet, Kent, CT11
100. II 80 and 82, Hardres Street (/101356146-80-and-82-hardres-street-ramsgate)
Ramsgate, Thanet, Kent, CT11
101. II 81, Addington Street (/101186857-81-addington-street-ramsgate)
Ramsgate, Thanet, Kent, CT11
102. II 83, Addington Street (/101085451-83-addington-street-ramsgate)
Ramsgate, Thanet, Kent, CT11
103. II 85 and 87, King Street (/101085340-85-and-87-king-street-ramsgate)
Ramsgate, Thanet, Kent, CT11
104. II 9, 11, 13 and 15, Cavendish Street (/101100313-9-11-13-and-15-cavendish-street-ramsgate)
Ramsgate, Thanet, Kent, CT11
105. II Access Road, Underpass and Retaining Walls from Court Stairs to Western Undercliff (/101086050-access-road-underpass-and-retaining-walls-from-court-stairs-to-western-undercliff-ramsgate)
Ramsgate, Thanet, Kent, CT11

106. II Admiral House (/101336686-admiral-house-ramsgate)
Ramsgate, Thanet, Kent, CT11
107. II Age Concern foresters Hall (/101040072-age-concernforesters-hall-ramsgate)
Ramsgate, Thanet, Kent, CT11
108. II Albion House (/101085418-albion-house-ramsgate)
Ramsgate, Thanet, Kent, CT11
109. II Ash House (/101356123-ash-house-ramsgate)
Ramsgate, Thanet, Kent, CT11
110. II* Barn About 50 Metres East of Ozengell Grange (/101336669-barn-about-50-metres-east-of-ozengell-grange-ramsgate)
Ramsgate, Thanet, Kent, CT11
111. II Barn at Rose Farm (Tr 3590 6695) (/101085415-barn-at-rose-farm-tr-3590-6695-ramsgate)
Ramsgate, Thanet, Kent, CT12
112. II Battlemented Courtyard with Towers and Internal Wall (/101085337-battlemented-courtyard-with-towers-and-internal-wall-ramsgate)
Ramsgate, Thanet, Kent, CT11
113. II Bench and Platform About 50 Metres East of Sunshelter (/101203661-bench-and-platform-about-50-metres-east-of-sunshelter-ramsgate)
Ramsgate, Thanet, Kent, CT11
114. II Bon Secours Nursing Home (/101085347-bon-secours-nursing-home-ramsgate)
Ramsgate, Thanet, Kent, CT11
115. II Boundary Wall to Coastguard Cottages, East, South and West of Courtyard (/101086072-boundary-wall-to-coastguard-cottages-east-south-and-west-of-courtyard-ramsgate)
Ramsgate, Thanet, Kent, CT11
116. II Bowls Pavillion (/101086087-bowls-pavillion-ramsgate)
Ramsgate, Thanet, Kent, CT11
117. II Brenan House mendleshan (/101203515-brenan-housemendleshan-ramsgate)
Ramsgate, Thanet, Kent, CT11
118. II Brewery Buildings, Now Depository (/101348497-brewery-buildings-now-depository-ramsgate)
Ramsgate, Thanet, Kent, CT11
119. II Canvendish Villas and Railed Area (/101348525-canvendish-villas-and-railed-area-ramsgate)
Ramsgate, Thanet, Kent, CT11
120. II Carramore Residential Hotel (/101281502-carramore-residential-hotel-ramsgate)
Ramsgate, Thanet, Kent, CT11
121. II Carriage Gates and Gate Piers, Walls and West Wicket Gate, the Grange, Without House (/101336329-carriage-gates-and-gate-piers-walls-and-west-wicket-gate-the-grange-without-house-ramsgate)
Ramsgate, Thanet, Kent, CT11
122. II Cavendish Baptist Church (/101348516-cavendish-baptist-church-ramsgate)
Ramsgate, Thanet, Kent, CT11
123. II* Cemetery Chapels (/101348349-cemetery-chapels-ramsgate)
Ramsgate, Thanet, Kent, CT11
124. II Chandos Cottage (/101281661-chandos-cottage-ramsgate)
Ramsgate, Thanet, Kent, CT11
125. II Chapel and Library, St Lawrence College (/101388303-chapel-and-library-st-lawrence-college-ramsgate)
Ramsgate, Thanet, Kent, CT11
126. II Chapel Cottage (/101063722-chapel-cottage-ramsgate)
Ramsgate, Thanet, Kent, CT11
127. II Chapel Cottage (/101085397-chapel-cottage-ramsgate)
Ramsgate, Thanet, Kent, CT11
128. II Chartham Terrace and Garden Wall to Right (/101336328-chartham-terrace-and-garden-wall-to-right-ramsgate)
Ramsgate, Thanet, Kent, CT11
129. II Chatham Arms (/101085341-chatham-arms-ramsgate)
Ramsgate, Thanet, Kent, CT11
130. II Chatham House School and Railed Area (/101336641-chatham-house-school-and-railed-area-ramsgate)
Ramsgate, Thanet, Kent, CT11
131. II Chest Tomb About 20 Metres South of Chancel of Church of St Laurence (/101085371-chest-tomb-about-20-metres-south-of-chancel-of-church-of-st-laurence-ramsgate)
Ramsgate, Thanet, Kent, CT11
132. II Chest Tomb and 3 Headstones About 10-20 Metres North of Chancel of Church of St Laurence (/101085364-chest-tomb-and-3-headstones-about-10-20-metres-north-of-chancel-of-church-of-st-laurence-ramsgate)
Ramsgate, Thanet, Kent, CT11

133. II Chest Tomb of James and Mary Townley and 4 Other Railed Tomb Chests About 25 Metres North West of Ch (/101085367-chest-tomb-of-james-and-mary-townley-and-4-other-railed-tomb-chests-about-25-metres-north-west-of-church-of-st-laurence-ramsgate)
Ramsgate, Thanet, Kent, CT11
134. II Chest Tomb to Thomas Tomson and Headstone to Anne Tomson, South of Church of St Laurence (/101372252-chest-tomb-to-thomas-tomson-and-headstone-to-anne-tomson-south-of-church-of-st-laurence-ramsgate)
Ramsgate, Thanet, Kent, CT11
135. II* Chilton Farmhouse (/101085400-chilton-farmhouse-ramsgate)
Ramsgate, Thanet, Kent, CT11
136. II Christ Church (/101086069-christ-church-ramsgate)
Ramsgate, Thanet, Kent, CT11
137. I Church of St Augustine of England (Roman Catholic) with Cloisters Attached (/101281779-church-of-st-augustine-of-england-roman-catholic-with-cloisters-attached-ramsgate)
Ramsgate, Thanet, Kent, CT11
138. I Church of St George (/101085430-church-of-st-george-ramsgate)
Ramsgate, Thanet, Kent, CT11
139. I Church of St Laurence (/101336662-church-of-st-laurence-ramsgate)
Ramsgate, Thanet, Kent, CT11
140. II Church of the Holy Trinity (/101085426-church-of-the-holy-trinity-ramsgate)
Ramsgate, Thanet, Kent, CT11
141. II Churchill House School with Railed Area (/101086059-churchill-house-school-with-railed-area-ramsgate)
Ramsgate, Thanet, Kent, CT11
142. II Clanmire House (/101281666-clanmire-house-ramsgate)
Ramsgate, Thanet, Kent, CT11
143. II Claremont (/101281635-claremont-ramsgate)
Ramsgate, Thanet, Kent, CT11
144. II Clifton Villa (/101336343-clifton-villa-ramsgate)
Ramsgate, Thanet, Kent, CT11
145. II Coachhouse About 10 Metres North West of Barn at Rose Farm (/101068559-coachhouse-about-10-metres-north-west-of-barn-at-rose-farm-ramsgate)
Ramsgate, Thanet, Kent, CT12
146. II Coastguard Cottages (/101203551-coastguard-cottages-ramsgate)
Ramsgate, Thanet, Kent, CT11
147. II Coastguard Cottages (/101203557-coastguard-cottages-ramsgate)
Ramsgate, Thanet, Kent, CT11
148. II Coastguard Cottages (/101336317-coastguard-cottages-ramsgate)
Ramsgate, Thanet, Kent, CT11
149. II* Conservatory and Wall to Which It is Attached (/101085336-conservatory-and-wall-to-which-it-is-attached-ramsgate)
Ramsgate, Thanet, Kent, CT11
150. II Croquet Pavillion (/101374398-croquet-pavillion-ramsgate)
Ramsgate, Thanet, Kent, CT11
151. II Custom House with Forecourt (/101068641-custom-house-with-forecourt-ramsgate)
Ramsgate, Thanet, Kent, CT11
152. II Duke of York (/101085416-duke-of-york-ramsgate)
Ramsgate, Thanet, Kent, CT11
153. II Eagle Lodge (/101086047-eagle-lodge-ramsgate)
Ramsgate, Thanet, Kent, CT11
154. II Earl St Vincent (/101336690-earl-st-vincent-ramsgate)
Ramsgate, Thanet, Kent, CT11
155. II East Cliff House (/101315682-east-cliff-house-ramsgate)
Ramsgate, Thanet, Kent, CT11
156. II East Court (/101086073-east-court-ramsgate)
Ramsgate, Thanet, Kent, CT11
157. II East Pier, No 1 Slipway, Bollards and Victoria or Dover Stairs (/101086088-east-pier-no-1-slipway-bollards-and-victoria-or-dover-stairs-ramsgate)
Ramsgate, Thanet, Kent, CT11
158. II Eastcliff Bandstand Including Attached Dance Floor, Steps and Boundary Wall with Railing (/101096005-eastcliff-bandstand-including-attached-dance-floor-steps-and-boundary-wall-with-railing-ramsgate)
Ramsgate, Thanet, Kent, CT11
159. II Eastcliff Lift (/101391989-eastcliff-lift-ramsgate)
Ramsgate, Thanet, Kent, CT11

160. II Eastern of two Concrete Second World War 4-inch gun emplacements (/101429581-eastern-of-two-concrete-second-world-war-4-inch-gun-emplacements-ramsgate)
Ramsgate, Thanet, Kent, CT12
161. II Elephant and Castle (/101085389-elephant-and-castle-ramsgate)
Ramsgate, Thanet, Kent, CT11
162. II Ellens Place with Railed Areas (/101068765-ellens-place-with-railed-areas-ramsgate)
Ramsgate, Thanet, Kent, CT11
163. II Entrance Gates with Gatepiers to North West of the Montefiore Synagogue (/101378741-entrance-gates-with-gatepiers-to-north-west-of-the-montefiore-synagogue-ramsgate)
Ramsgate, Thanet, Kent, CT11
164. II F Hinds (/101356173-f-hinds-ramsgate)
Ramsgate, Thanet, Kent, CT11
165. II Fire Station (/101101734-fire-station-ramsgate)
Ramsgate, Thanet, Kent, CT11
166. II Former Alexandra Hotel (/101068630-former-alexandra-hotel-ramsgate)
Ramsgate, Thanet, Kent, CT11
167. II Former Congregational Church (/101336692-former-congregational-church-ramsgate)
Ramsgate, Thanet, Kent, CT11
168. II Former Kent Adult Education Centre (/101392983-former-kent-adult-education-centre-ramsgate)
Ramsgate, Thanet, Kent, CT11
169. II Former Smack Boys' Home (/101376868-former-smack-boys-home-ramsgate)
Ramsgate, Thanet, Kent, CT11
170. II Fountains Pool About 50 Metres West of Sunshelter and Rock Gardens (/101281609-fountains-pool-about-50-metres-west-of-sunshelter-and-rock-gardens-ramsgate)
Ramsgate, Thanet, Kent, CT11
171. II Free Standing Wall Monument to Maxton/Holman Families, About 30 Metres West of Church of St Laurence (/101336663-free-standing-wall-monument-to-maxtonholman-families-about-30-metres-west-of-church-of-st-laurence-ramsgate)
Ramsgate, Thanet, Kent, CT11
172. II Free Standing Wall Monuments to Mayhew/Garrett Families and Wall Monument and 5 Chest Tombs About 30 (/101085368-free-standing-wall-monuments-to-mayhewgarrett-families-and-wall-monument-and-5-chest-tombs-about-30-metres-south-west-of-church-of-st-laurence-ramsgate)
Ramsgate, Thanet, Kent, CT11
173. II Freemasons Tavern (/101068838-freemasons-tavern-ramsgate)
Ramsgate, Thanet, Kent, CT11
174. II Gas Works, Offices with Railed Area, Depot and Adjoining Walls and Gate (/101085429-gas-works-offices-with-railed-area-depot-and-adjoining-walls-and-gate-ramsgate)
Ramsgate, Thanet, Kent, CT11
175. II Gate and Gatepiers About 20 Metres West of Nos 1 and 2 (/101203426-gate-and-gatepiers-about-20-metres-west-of-nos-1-and-2-ramsgate)
Ramsgate, Thanet, Kent, CT11
176. II Gate House and Walls Attached (/101085338-gate-house-and-walls-attached-ramsgate)
Ramsgate, Thanet, Kent, CT11
177. II Gate House to Cemetery About 50 Metres South of Cemetery Chapel, with Side Walls (/101085436-gate-house-to-cemetery-about-50-metres-south-of-cemetery-chapel-with-side-walls-ramsgate)
Ramsgate, Thanet, Kent, CT11
178. II Gates and Quadrant Walls Attached to King George Vi Memorial Garden (/101336689-gates-and-quadrant-walls-attached-to-king-george-vi-memorial-garden-ramsgate)
Ramsgate, Thanet, Kent, CT11
179. II Gates and Railings to Churchyard of St George (/101085432-gates-and-railings-to-churchyard-of-st-george-ramsgate)
Ramsgate, Thanet, Kent, CT11
180. II Gateway and Walls to Former Abbey School (/101338880-gateway-and-walls-to-former-abbey-school-ramsgate)
Ramsgate, Thanet, Kent, CT11
181. II Gentlemans Toilet at Montefiore Synagogue and Mausoleum (/101390615-gentlemans-toilet-at-montefiore-synagogue-and-mausoleum-ramsgate)
Ramsgate, Thanet, Kent, CT11
182. II George and Dragon Public House (/101348550-george-and-dragon-public-house-ramsgate)
Ramsgate, Thanet, Kent, CT11
183. II Grace Cottage (/101054046-grace-cottage-ramsgate)
Ramsgate, Thanet, Kent, CT11

184. II Granville House the Granville (/101203535-granville-housethe-granville-ramsgate)
Ramsgate, Thanet, Kent, CT11
185. II Granville Marina (/101391165-granville-marina-ramsgate)
Ramsgate, Thanet, Kent, CT11
186. II Granville Terrace st Clu Hotel (/101086071-granville-terracest-clu-hotel-ramsgate)
Ramsgate, Thanet, Kent, CT11
187. II Group of 11 Brick Chest Tombs to South of Chancel of Church of St Laurence (/101336666-group-of-11-brick-chest-tombs-to-south-of-chancel-of-church-of-st-laurence-ramsgate)
Ramsgate, Thanet, Kent, CT11
188. II Group of 3 Chest Tombs About 5-15 Metres South of Chancel of Church of St Laurence (/101085372-group-of-3-chest-tombs-about-5-15-metres-south-of-chancel-of-church-of-st-laurence-ramsgate)
Ramsgate, Thanet, Kent, CT11
189. II Group of 3 Chest Tombs, About 50 Metres West of Church of St Laurence (/101085369-group-of-3-chest-tombs-about-50-metres-west-of-church-of-st-laurence-ramsgate)
Ramsgate, Thanet, Kent, CT11
190. II Group of 4 Cannon and Tideball Post (/101086097-group-of-4-cannon-and-tideball-post-ramsgate)
Ramsgate, Thanet, Kent, CT11
191. II Group of 4 Chest Tombs About 35 Metres North West of Church of St Laurence (/101373888-group-of-4-chest-tombs-about-35-metres-north-west-of-church-of-st-laurence-ramsgate)
Ramsgate, Thanet, Kent, CT11
192. II Group of 4 Headstones About 10-15 Metres South West of Church of St Laurence (/101085361-group-of-4-headstones-about-10-15-metres-south-west-of-church-of-st-laurence-ramsgate)
Ramsgate, Thanet, Kent, CT11
193. II Group of 4 Headstones About 20 Metres North West of Church of St Laurence (/101049107-group-of-4-headstones-about-20-metres-north-west-of-church-of-st-laurence-ramsgate)
Ramsgate, Thanet, Kent, CT11
194. II Group of 6 Headstones South of Chancel of Church of St Laurence (/101372282-group-of-6-headstones-south-of-chancel-of-church-of-st-laurence-ramsgate)
Ramsgate, Thanet, Kent, CT11
195. II Group of Chest Tomb and 4 Headstones to Long Family, Within 2 Metres North of Church of St Laurence (/101051661-group-of-chest-tomb-and-4-headstones-to-long-family-within-2-metres-north-of-church-of-st-laurence-ramsgate)
Ramsgate, Thanet, Kent, CT11
196. II Haine Farmhouse (/101068554-haine-farmhouse-ramsgate)
Ramsgate, Thanet, Kent, CT12
197. II Hanover Cottage vine Cottage (/101336645-hanover-cottagevine-cottage-ramsgate)
Ramsgate, Thanet, Kent, CT11
198. II* Harbour Cross Wall, Sluices, Bollards, Dry Dock, Basin Gates, Wing Wall and Dundee Steps (/101336324-harbour-cross-wall-sluices-bollards-dry-dock-basin-gates-wing-wall-and-dundee-steps-ramsgate)
Ramsgate, Thanet, Kent, CT11
199. II Headstone to Francis Holman and Anne Grigson About 5 Metres West of Church of St Laurence (/101085366-headstone-to-francis-holman-and-anne-grigson-about-5-metres-west-of-church-of-st-laurence-ramsgate)
Ramsgate, Thanet, Kent, CT11
200. II Headstone to George Cock About 1 Metre North of North Chapel of Church of St Laurence (/101085362-headstone-to-george-cock-about-1-metre-north-of-north-chapel-of-church-of-st-laurence-ramsgate)
Ramsgate, Thanet, Kent, CT11
201. II Headstone to Hephzibah and Alfred Pite, at 384 661, About 200 Metres North East of Cemetery Chapel (/101336639-headstone-to-hephzibah-and-alfred-pite-at-384-661-about-200-metres-north-east-of-cemetery-chapel-ramsgate)
Ramsgate, Thanet, Kent, CT11
202. II Headstone with Barrel Tomb and Headstone About 10 Metres South West of Church of St Laurence (/101372262-headstone-with-barrel-tomb-and-headstone-about-10-metres-south-west-of-church-of-st-laurence-ramsgate)
Ramsgate, Thanet, Kent, CT11
203. II Heastone Fixed to Churchyard Wall About 25 Metres South of Church of St Laurence (/101336665-heastone-fixed-to-churchyard-wall-about-25-metres-south-of-church-of-st-laurence-ramsgate)
Ramsgate, Thanet, Kent, CT11
204. II Honeysuckle Inn (/101336667-honeysuckle-inn-ramsgate)
Ramsgate, Thanet, Kent, CT11
205. II Hotel St Placids and Railed Area (/101203534-hotel-st-placids-and-railed-area-ramsgate)
Ramsgate, Thanet, Kent, CT11
206. II Inner Basin Walls, Bollards, Slipway and Steps (/101031843-inner-basin-walls-bollards-slipway-and-steps-ramsgate)
Ramsgate, Thanet, Kent, CT11

207. II Jacob's Ladder (/101031336-jacobs-ladder-ramsgate)
Ramsgate, Thanet, Kent, CT11
208. II K6 Telephone Kiosk (/101085328-k6-telephone-kiosk-ramsgate)
Ramsgate, Thanet, Kent, CT11
209. II K6 Telephone Kiosk (/101390736-k6-telephone-kiosk-ramsgate)
Ramsgate, Thanet, Kent, CT11
210. II Lift from Western Undercliff to Royal Esplanade at Tr 3763 6422 (/101281487-lift-from-western-undercliff-to-royal-esplanade-at-tr-3763-6422-ramsgate)
Ramsgate, Thanet, Kent, CT11
211. II Lighthouse on West Pier (/101086089-lighthouse-on-west-pier-ramsgate)
Ramsgate, Thanet, Kent, CT11
212. II Liverpool House liverpool Villa nos 34 and 35 and Railings (/101367450-liverpool-houseliverpool-villanos-34-and-35-and-railings-ramsgate)
Ramsgate, Thanet, Kent, CT11
213. II Lloyds Bank (/101086083-lloyds-bank-ramsgate)
Ramsgate, Thanet, Kent, CT11
214. II Lower Lodge (/101336658-lower-lodge-ramsgate)
Ramsgate, Thanet, Kent, CT11
215. II* Mausoleum of Sir Moses and Lady Judith Montefiore (/101085375-mausoleum-of-sir-moses-and-lady-judith-montefiore-ramsgate)
Ramsgate, Thanet, Kent, CT11
216. II Mausoleum to Earl of Dunmow with 2 Tomb Chests and Headstone About 100 Metres West of Church of St L (/101372893-mausoleum-to-earl-of-dunmow-with-2-tomb-chests-and-headstone-about-100-metres-west-of-church-of-st-laurence-ramsgate)
Ramsgate, Thanet, Kent, CT11
217. II Memorial Bust and Railings to Ew Pugin, About 50 Metres South of the Granville Hotel (/101336316-memorial-bust-and-railings-to-ew-pugin-about-50-metres-south-of-the-granville-hotel-ramsgate)
Ramsgate, Thanet, Kent, CT11
218. II Memorial to the Great War (/101085348-memorial-to-the-great-war-ramsgate)
Ramsgate, Thanet, Kent, CT11
219. II Monument to Woodward Family About 75 Metres North of Cemetery Chapel, with Plot Wall (/101085395-monument-to-woodward-family-about-75-metres-north-of-cemetery-chapel-with-plot-wall-ramsgate)
Ramsgate, Thanet, Kent, CT11
220. II National Westminster Bank (/101336670-national-westminster-bank-ramsgate)
Ramsgate, Thanet, Kent, CT11
221. II No 1 (Chancery House) and No 5, Effingham Street (/101336644-no-1-chancery-house-and-no-5-effingham-street-ramsgate)
Ramsgate, Thanet, Kent, CT11
222. II No 1 and Railed Area (/101085316-no-1-and-railed-area-ramsgate)
Ramsgate, Thanet, Kent, CT11
223. II No 1 and Railed Area (/101085350-no-1-and-railed-area-ramsgate)
Ramsgate, Thanet, Kent, CT11
224. II No 1 and Railed Area (/101085401-no-1-and-railed-area-ramsgate)
Ramsgate, Thanet, Kent, CT11
225. II No 1 and Railed Area (/101086081-no-1-and-railed-area-ramsgate)
Ramsgate, Thanet, Kent, CT11
226. II No 1 with Railed Area (/101099168-no-1-with-railed-area-ramsgate)
Ramsgate, Thanet, Kent, CT11
227. II No 10 and Railed Area (/101085320-no-10-and-railed-area-ramsgate)
Ramsgate, Thanet, Kent, CT11
228. II No 10 and Railed Area (/101315889-no-10-and-railed-area-ramsgate)
Ramsgate, Thanet, Kent, CT11
229. II No 10 with Railed Area (/101336652-no-10-with-railed-area-ramsgate)
Ramsgate, Thanet, Kent, CT11
230. II No 11 and Railed Area (/101085321-no-11-and-railed-area-ramsgate)
Ramsgate, Thanet, Kent, CT11
231. II No 11 with Railed Area (/101085420-no-11-with-railed-area-ramsgate)
Ramsgate, Thanet, Kent, CT11
232. II No 12 and Railed Area (/101045927-no-12-and-railed-area-ramsgate)
Ramsgate, Thanet, Kent, CT11
233. II No 12 with Railed Area (/101085407-no-12-with-railed-area-ramsgate)
Ramsgate, Thanet, Kent, CT11

234. II No 126 and Railed Forecourt (/101085357-no-126-and-railed-forecourt-ramsgate)
Ramsgate, Thanet, Kent, CT11
235. II No 127 and Walled Forecourt (/101068848-no-127-and-walled-forecourt-ramsgate)
Ramsgate, Thanet, Kent, CT11
236. II No 13 and Railed Area (/101336657-no-13-and-railed-area-ramsgate)
Ramsgate, Thanet, Kent, CT11
237. II No 14 and Area (/101085428-no-14-and-area-ramsgate)
Ramsgate, Thanet, Kent, CT11
238. II No 14 and Railed Area (/101045892-no-14-and-railed-area-ramsgate)
Ramsgate, Thanet, Kent, CT11
239. II No 14 and Railed Area (/101054838-no-14-and-railed-area-ramsgate)
Ramsgate, Thanet, Kent, CT11
240. II No 15 and Railed Area (/101085322-no-15-and-railed-area-ramsgate)
Ramsgate, Thanet, Kent, CT11
241. II No 15 and Railed Area (/101085354-no-15-and-railed-area-ramsgate)
Ramsgate, Thanet, Kent, CT11
242. II No 154 and Forecourt (/101336638-no-154-and-forecourt-ramsgate)
Ramsgate, Thanet, Kent, CT11
243. II No 16 and Railed Area (/101370023-no-16-and-railed-area-ramsgate)
Ramsgate, Thanet, Kent, CT11
244. II No 17 and Railed Area (/101085355-no-17-and-railed-area-ramsgate)
Ramsgate, Thanet, Kent, CT11
245. II No 18 and Railed Area (/101045908-no-18-and-railed-area-ramsgate)
Ramsgate, Thanet, Kent, CT11
246. II No 19, Wall and Rear Courtyard (/101085388-no-19-wall-and-rear-courtyard-ramsgate)
Ramsgate, Thanet, Kent, CT11
247. II No 2 and Railed Area (/101040032-no-2-and-railed-area-ramsgate)
Ramsgate, Thanet, Kent, CT11
248. II No 2 and Railed Area (/101336653-no-2-and-railed-area-ramsgate)
Ramsgate, Thanet, Kent, CT11
249. II No 2 and Railed Area (/101336678-no-2-and-railed-area-ramsgate)
Ramsgate, Thanet, Kent, CT11
250. II No 20 and Railed Area (/101336341-no-20-and-railed-area-ramsgate)
Ramsgate, Thanet, Kent, CT11
251. II No 22 and Railed Area (/101099103-no-22-and-railed-area-ramsgate)
Ramsgate, Thanet, Kent, CT11
252. II No 28 and Yard Wall (/101085435-no-28-and-yard-wall-ramsgate)
Ramsgate, Thanet, Kent, CT11
253. II No 3 and Railed Area (/101068734-no-3-and-railed-area-ramsgate)
Ramsgate, Thanet, Kent, CT11
254. II No 3 and Railed Area (/101085317-no-3-and-railed-area-ramsgate)
Ramsgate, Thanet, Kent, CT11
255. II No 3 and Railed Area (/101336693-no-3-and-railed-area-ramsgate)
Ramsgate, Thanet, Kent, CT11
256. II No 3 with Railed Area (/101099157-no-3-with-railed-area-ramsgate)
Ramsgate, Thanet, Kent, CT11
257. II No 3 with Railed Area (/101101781-no-3-with-railed-area-ramsgate)
Ramsgate, Thanet, Kent, CT11
258. II No 34 with Area (/101085405-no-34-with-area-ramsgate)
Ramsgate, Thanet, Kent, CT11
259. II No 4 and Railed Area (/101040040-no-4-and-railed-area-ramsgate)
Ramsgate, Thanet, Kent, CT11
260. II No 4 and Railed Area (/101085318-no-4-and-railed-area-ramsgate)
Ramsgate, Thanet, Kent, CT11
261. II No 4 and Railed Area (/101086076-no-4-and-railed-area-ramsgate)
Ramsgate, Thanet, Kent, CT11
262. II No 4 with Railed Area (/101085422-no-4-with-railed-area-ramsgate)
Ramsgate, Thanet, Kent, CT11
263. II No 5 and Railed Area (/101085351-no-5-and-railed-area-ramsgate)
Ramsgate, Thanet, Kent, CT11

264. II No 5 and Railed Area (/101336679-no-5-and-railed-area-ramsgate)
Ramsgate, Thanet, Kent, CT11
265. II No 5 with Railed Area (/101099153-no-5-with-railed-area-ramsgate)
Ramsgate, Thanet, Kent, CT11
266. II No 50 and Railed Forecourt (/101111800-no-50-and-railed-forecourt-ramsgate)
Ramsgate, Thanet, Kent, CT11
267. II No 52 and Railed Area (/101366653-no-52-and-railed-area-ramsgate)
Ramsgate, Thanet, Kent, CT11
268. II No 52 and Railed Forecourt (/101086063-no-52-and-railed-forecourt-ramsgate)
Ramsgate, Thanet, Kent, CT11
269. II No 55 and Railed Area (/101055785-no-55-and-railed-area-ramsgate)
Ramsgate, Thanet, Kent, CT11
270. II No 57 and Railed Area (/101336684-no-57-and-railed-area-ramsgate)
Ramsgate, Thanet, Kent, CT11
271. II No 6 and Railed Area (/101040007-no-6-and-railed-area-ramsgate)
Ramsgate, Thanet, Kent, CT11
272. II No 6 and Railed Area (/101101783-no-6-and-railed-area-ramsgate)
Ramsgate, Thanet, Kent, CT11
273. II No 6 and Railed Area (/101149359-no-6-and-railed-area-ramsgate)
Ramsgate, Thanet, Kent, CT11
274. II No 6 with Area (/101068681-no-6-with-area-ramsgate)
Ramsgate, Thanet, Kent, CT11
275. II No 6 with Courtyard Wall and Garage/Outhouse (/101086052-no-6-with-courtyard-wall-and-garageouthouse-ramsgate)
Ramsgate, Thanet, Kent, CT11
276. II No 6 with Railed Area (/101085421-no-6-with-railed-area-ramsgate)
Ramsgate, Thanet, Kent, CT11
277. II No 60 and Railed Area (/101336321-no-60-and-railed-area-ramsgate)
Ramsgate, Thanet, Kent, CT11
278. II No 64 and Railed Area (/101356144-no-64-and-railed-area-ramsgate)
Ramsgate, Thanet, Kent, CT11
279. II No 66 and Railed Area (/101336322-no-66-and-railed-area-ramsgate)
Ramsgate, Thanet, Kent, CT11
280. II No 67 and Railed Area (/101336685-no-67-and-railed-area-ramsgate)
Ramsgate, Thanet, Kent, CT11
281. II No 69 and Railed Area (/101366621-no-69-and-railed-area-ramsgate)
Ramsgate, Thanet, Kent, CT11
282. II No 7 and Railed Area (/101085319-no-7-and-railed-area-ramsgate)
Ramsgate, Thanet, Kent, CT11
283. II No 7 and Railed Area (/101085352-no-7-and-railed-area-ramsgate)
Ramsgate, Thanet, Kent, CT11
284. II No 71 and Railed Area (/101085452-no-71-and-railed-area-ramsgate)
Ramsgate, Thanet, Kent, CT11
285. II No 72 with Railed Area (/101085386-no-72-with-railed-area-ramsgate)
Ramsgate, Thanet, Kent, CT11
286. II No 73 and Railed Area (/101186863-no-73-and-railed-area-ramsgate)
Ramsgate, Thanet, Kent, CT11
287. II No 8 and Railed Area (/101040020-no-8-and-railed-area-ramsgate)
Ramsgate, Thanet, Kent, CT11
288. II No 8 and Railed Area (/101336680-no-8-and-railed-area-ramsgate)
Ramsgate, Thanet, Kent, CT11
289. II No 81 and Railed Forecourt (/101366651-no-81-and-railed-forecourt-ramsgate)
Ramsgate, Thanet, Kent, CT11
290. II No 9 and Railed Area (/101336656-no-9-and-railed-area-ramsgate)
Ramsgate, Thanet, Kent, CT11
291. II Nos 1 and 2 and Wall (/101336688-nos-1-and-2-and-wall-ramsgate) 📷
Ramsgate, Thanet, Kent, CT11
292. II Nos 1 to 19 Inclusive, with Railed Areas (/101085414-nos-1-to-19-inclusive-with-railed-areas-ramsgate)
Ramsgate, Thanet, Kent, CT11
293. II Nos 1 to 5 Inclusive with Railed Areas (/101085402-nos-1-to-5-inclusive-with-railed-areas-ramsgate)
Ramsgate, Thanet, Kent, CT11

294. II Nos 1 to 5 Inclusive, with Railed Areas (/101085398-nos-1-to-5-inclusive-with-railed-areas-ramsgate)
Ramsgate, Thanet, Kent, CT11
295. II Nos 1 to 6 with Railed Areas (/101336668-nos-1-to-6-with-railed-areas-ramsgate)
Ramsgate, Thanet, Kent, CT11
296. II Nos 1-19 Inclusive, with Railed Areas (/101054018-nos-1-19-inclusive-with-railed-areas-ramsgate)
Ramsgate, Thanet, Kent, CT11
297. II Nos 1-23 West Cliff Terrace Inclusive, with Terracing to South (/101055848-nos-1-23-west-cliff-terrace-inclusive-with-terracing-to-south-ramsgate)
Ramsgate, Thanet, Kent, CT11
298. II Nos 1-31 with Railed Areas (/101099136-nos-1-31-with-railed-areas-ramsgate)
Ramsgate, Thanet, Kent, CT11
299. II Nos 1-9 Inclusive, with Railed Areas and Gardens (/101203491-nos-1-9-inclusive-with-railed-areas-and-gardens-ramsgate)
Ramsgate, Thanet, Kent, CT11
300. II Nos 10 and 11 and Railed Area (/101085353-nos-10-and-11-and-railed-area-ramsgate)
Ramsgate, Thanet, Kent, CT11
301. II Nos 10 to 14 with Railed Area (/101052310-nos-10-to-14-with-railed-area-ramsgate)
Ramsgate, Thanet, Kent, CT11
302. II Nos 11, 13, 15 and 17 with Railed Areas (/101025852-nos-11-13-15-and-17-with-railed-areas-ramsgate)
Ramsgate, Thanet, Kent, CT11
303. II Nos 12 and 13 and Railings (/101085448-nos-12-and-13-and-railings-ramsgate)
Ramsgate, Thanet, Kent, CT11
304. II Nos 12 to 15 Inclusive, with Railed Areas (/101336651-nos-12-to-15-inclusive-with-railed-areas-ramsgate)
Ramsgate, Thanet, Kent, CT11
305. II Nos 12-22 and Railed Areas (/101085424-nos-12-22-and-railed-areas-ramsgate)
Ramsgate, Thanet, Kent, CT11
306. II Nos 13 and 15 and Railed Area (/101099118-nos-13-and-15-and-railed-area-ramsgate)
Ramsgate, Thanet, Kent, CT11
307. II Nos 13-19 with Railed Area (/101348703-nos-13-19-with-railed-area-ramsgate)
Ramsgate, Thanet, Kent, CT11
308. II Nos 14 and 15 with Railed Areas (/101085344-nos-14-and-15-with-railed-areas-ramsgate)
Ramsgate, Thanet, Kent, CT11
309. II Nos 14 to 29 Inclusive with Railed Areas (/101086056-nos-14-to-29-inclusive-with-railed-areas-ramsgate)
Ramsgate, Thanet, Kent, CT11
310. II Nos 17-22 Inclusive, with Railed Areas (/101085323-nos-17-22-inclusive-with-railed-areas-ramsgate)
Ramsgate, Thanet, Kent, CT11
311. II Nos 18 to 38 with Railed Areas (/101085447-nos-18-to-38-with-railed-areas-ramsgate)
Ramsgate, Thanet, Kent, CT11
312. II Nos 2 and 4 with Areas (/101085383-nos-2-and-4-with-areas-ramsgate)
Ramsgate, Thanet, Kent, CT11
313. II Nos 2-10 with Railed Areas (/101099170-nos-2-10-with-railed-areas-ramsgate)
Ramsgate, Thanet, Kent, CT11
314. II Nos 21 to 33 and Railed Steps (/101336640-nos-21-to-33-and-railed-steps-ramsgate)
Ramsgate, Thanet, Kent, CT11
315. II Nos 23 and 24 with Railed Areas (/101367105-nos-23-and-24-with-railed-areas-ramsgate)
Ramsgate, Thanet, Kent, CT11
316. II Nos 23, 25, 27 and 29 with Railed Areas (/101085390-nos-23-25-27-and-29-with-railed-areas-ramsgate)
Ramsgate, Thanet, Kent, CT11
317. II Nos 24 and 26 and Railed Areas (/101336650-nos-24-and-26-and-railed-areas-ramsgate)
Ramsgate, Thanet, Kent, CT11
318. II Nos 25 and 27 and Railed Area (/101068712-nos-25-and-27-and-railed-area-ramsgate)
Ramsgate, Thanet, Kent, CT11
319. II Nos 3 and 4 and Railed Areas (/101281691-nos-3-and-4-and-railed-areas-ramsgate)
Ramsgate, Thanet, Kent, CT11
320. II Nos 3, 4 and 5 and Railed Area (/101086070-nos-3-4-and-5-and-railed-area-ramsgate)
Ramsgate, Thanet, Kent, CT11
321. II Nos 3-13 with Railed Areas (/101336649-nos-3-13-with-railed-areas-ramsgate)
Ramsgate, Thanet, Kent, CT11
322. II Nos 30-34 Inclusive with Railed Areas (/101336348-nos-30-34-inclusive-with-railed-areas-ramsgate)
Ramsgate, Thanet, Kent, CT11

323. II Nos 34 and 36 and Railed Forecourt (/101086062-nos-34-and-36-and-railed-forecourt-ramsgate)
Ramsgate, Thanet, Kent, CT11
324. II Nos 35, 36 and 37 and Railed Areas (/101086057-nos-35-36-and-37-and-railed-areas-ramsgate)
Ramsgate, Thanet, Kent, CT11
325. II Nos 38 and 39 and Railed Areas (/101086058-nos-38-and-39-and-railed-areas-ramsgate)
Ramsgate, Thanet, Kent, CT11
326. II Nos 38 and 40 with Railed Areas (/101068750-nos-38-and-40-with-railed-areas-ramsgate)
Ramsgate, Thanet, Kent, CT11
327. II Nos 38, 40, 42 and 44 and Railed Areas (/101085427-nos-38-40-42-and-44-and-railed-areas-ramsgate)
Ramsgate, Thanet, Kent, CT11
328. II Nos 4-44 with Railed Areas (/101025310-nos-4-44-with-railed-areas-ramsgate)
Ramsgate, Thanet, Kent, CT11
329. II Nos 46, 48 and 50 and Railed Areas (/101099133-nos-46-48-and-50-and-railed-areas-ramsgate)
Ramsgate, Thanet, Kent, CT11
330. II Nos 49 and 51 with Railed Areas (/101055817-nos-49-and-51-with-railed-areas-ramsgate)
Ramsgate, Thanet, Kent, CT11
331. II Nos 5 and 6 with Railed Areas (/101086096-nos-5-and-6-with-railed-areas-ramsgate)
Ramsgate, Thanet, Kent, CT11
332. II Nos 5 to 17 and Railed Areas (/101336643-nos-5-to-17-and-railed-areas-ramsgate)
Ramsgate, Thanet, Kent, CT11
333. II Nos 5, 7 and 9 Including Railed Areas and Gardens (/101086092-nos-5-7-and-9-including-railed-areas-and-gardens-ramsgate)
Ramsgate, Thanet, Kent, CT11
334. II Nos 56 and 58 and Railed Areas (/101085384-nos-56-and-58-and-railed-areas-ramsgate)
Ramsgate, Thanet, Kent, CT11
335. II Nos 60 and 62 with Railed Area (/101085385-nos-60-and-62-with-railed-area-ramsgate)
Ramsgate, Thanet, Kent, CT11
336. II Nos 63 and 65 and Railed Areas (/101055778-nos-63-and-65-and-railed-areas-ramsgate)
Ramsgate, Thanet, Kent, CT11
337. II Nos 68 and 70 and Railed Areas (/101086080-nos-68-and-70-and-railed-areas-ramsgate)
Ramsgate, Thanet, Kent, CT11
338. II Nos 7, 9 and 11 Railed Areas (/101085425-nos-7-9-and-11-railed-areas-ramsgate)
Ramsgate, Thanet, Kent, CT11
339. II Nos 71 to 77 and Railed Areas (/101085333-nos-71-to-77-and-railed-areas-ramsgate)
Ramsgate, Thanet, Kent, CT11
340. II Nos 75 and 77 with Railed Areas (/101336629-nos-75-and-77-with-railed-areas-ramsgate)
Ramsgate, Thanet, Kent, CT11
341. II Oddfellows Hall (/101085356-oddfellows-hall-ramsgate)
Ramsgate, Thanet, Kent, CT11
342. II Office Block, Retaining Walls at Flour Mills (/101085349-office-block-retaining-walls-at-flour-mills-ramsgate)
Ramsgate, Thanet, Kent, CT11
343. II Ozengell Grange (/101085377-ozengell-grange-ramsgate)
Ramsgate, Thanet, Kent, CT12
344. II Pair of K6 Telephone Kiosks (/101336671-pair-of-k6-telephone-kiosks-ramsgate)
Ramsgate, Thanet, Kent, CT11
345. II Pair of Stone Lions About 100 Metres South West of St Clu Hotel (/101281639-pair-of-stone-lions-about-100-metres-south-west-of-st-clu-hotel-ramsgate)
Ramsgate, Thanet, Kent, CT11
346. II Pegwell Inn (/101055833-pegwell-inn-ramsgate)
Ramsgate, Thanet, Kent, CT11
347. II Pegwell Lodge (/101366578-pegwell-lodge-ramsgate)
Ramsgate, Thanet, Kent, CT11
348. II Pegwell Village Hotel (/101336683-pegwell-village-hotel-ramsgate)
Ramsgate, Thanet, Kent, CT11
349. II Penistone House (/101085360-penistone-house-ramsgate)
Ramsgate, Thanet, Kent, CT11
350. II Pines Lodge (/101085406-pines-lodge-ramsgate)
Ramsgate, Thanet, Kent, CT11
351. II Powder Magazine and Walls at South West End of Cross Wall (/101376681-powder-magazine-and-walls-at-south-west-end-of-cross-wall-ramsgate)
Ramsgate, Thanet, Kent, CT11

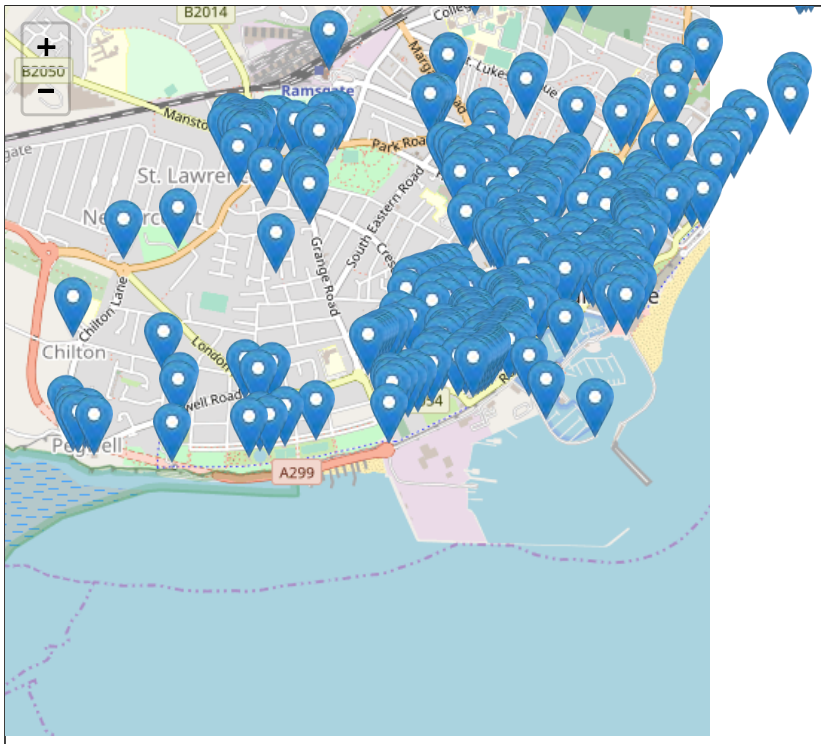
352. II Prayer Hall and Section of Attached Cemetery Wall to Ramsgate Jewish Cemetery (/101392476-prayer-hall-and-section-of-attached-cemetery-wall-to-ramsgate-jewish-cemetery-ramsgate)
Ramsgate, Thanet, Kent, CT11
353. II Priory House (/101086048-priory-house-ramsgate)
Ramsgate, Thanet, Kent, CT11
354. II Queen Charlotte Public House (/101299002-queen-charlotte-public-house-ramsgate)
Ramsgate, Thanet, Kent, CT11
355. II Railed Chest Tomb and 2 Wall Plaques About 25 Metres North East of Church of St Laurence (/101085363-railed-chest-tomb-and-2-wall-plaques-about-25-metres-north-east-of-church-of-st-laurence-ramsgate)
Ramsgate, Thanet, Kent, CT11
356. II Railed Monument to Dick Family and Adjacent Railed Chest Tomb About 100 Metres South West of Church (/101085370-railed-monument-to-dick-family-and-adjacent-railed-chest-tomb-about-100-metres-south-west-of-church-of-st-laurence-ramsgate)
Ramsgate, Thanet, Kent, CT11
357. II Railed Tomb and Headstone About 40 Metres North of Church of St Laurence (/101373848-railed-tomb-and-headstone-about-40-metres-north-of-church-of-st-laurence-ramsgate)
Ramsgate, Thanet, Kent, CT11
358. II Railed Tomb Chest to John Proctor Andendon, About 60 Metres West of Church of St Laurence (/101051051-railed-tomb-chest-to-john-proctor-andendon-about-60-metres-west-of-church-of-st-laurence-ramsgate)
Ramsgate, Thanet, Kent, CT11
359. II Railings and Gate About 10 Metres North of Ramsgate Library (/101336648-railings-and-gate-about-10-metres-north-of-ramsgate-library-ramsgate)
Ramsgate, Thanet, Kent, CT11
360. II Railings and Wall About 20 Metres West of Chancery House (/101347785-railings-and-wall-about-20-metres-west-of-chancery-house-ramsgate)
Ramsgate, Thanet, Kent, CT11
361. II Ramsgate General Hospital, Main Buildings (/101262019-ramsgate-general-hospital-main-buildings-ramsgate)
Ramsgate, Thanet, Kent, CT11
362. II Ramsgate Library (/101357573-ramsgate-library-ramsgate)
Ramsgate, Thanet, Kent, CT11
363. II Ramsgate Station (British Rail) (/101086060-ramsgate-station-british-rail-ramsgate)
Ramsgate, Thanet, Kent, CT11
364. II Rank Hovis Flour Mills (/101298860-rank-hovis-flour-mills-ramsgate)
Ramsgate, Thanet, Kent, CT11
365. II Rochester Lodge (/101372626-rochester-lodge-ramsgate)
Ramsgate, Thanet, Kent, CT11
366. II Rock Garden About 30 Metres East of Sunshelter (/101086074-rock-garden-about-30-metres-east-of-sunshelter-ramsgate)
Ramsgate, Thanet, Kent, CT11
367. II Rock Gardens and Cascade (/101336691-rock-gardens-and-cascade-ramsgate)
Ramsgate, Thanet, Kent, CT11
368. II Rock Gardens and Cliff Stairs About 30 Metres South of Sunshelter (/101336319-rock-gardens-and-cliff-stairs-about-30-metres-south-of-sunshelter-ramsgate)
Ramsgate, Thanet, Kent, CT11
369. II Rose of England (/101085391-rose-of-england-ramsgate)
Ramsgate, Thanet, Kent, CT11
370. II Royal Oak Hotel royal Oak Shades (/101085379-royal-oak-hotelroyal-oak-shades-ramsgate)
Ramsgate, Thanet, Kent, CT11
371. II Royal Sailors Rest (/101085378-royal-sailors-rest-ramsgate)
Ramsgate, Thanet, Kent, CT11
372. II Royal Victoria Pavillion (/101336672-royal-victoria-pavillion-ramsgate)
Ramsgate, Thanet, Kent, CT11
373. II Royal Villa (/101086065-royal-villa-ramsgate)
Ramsgate, Thanet, Kent, CT11
374. II Sailors' Church and Former Sailors' Home (/101086091-sailors-church-and-former-sailors-home-ramsgate)
Ramsgate, Thanet, Kent, CT11
375. II Shed About 100 Metres South of Barn at Rose Farm (/101085376-shed-about-100-metres-south-of-barn-at-rose-farm-ramsgate)
Ramsgate, Thanet, Kent, CT12
376. II St Augustine's Abbey with perimeter wall (/101281732-st-augustines-abbey-with-perimeter-wall-ramsgate)
Ramsgate, Thanet, Kent, CT11
377. II St Benet's (/101336330-st-benets-ramsgate)
Ramsgate, Thanet, Kent, CT11

378. I St Edwards (/101086095-st-edwards-ramsgate)
Ramsgate, Thanet, Kent, CT11
379. II St George's Hall star Snooker Centre (/101085410-st-georges-hallstar-snooker-centre-ramsgate)
Ramsgate, Thanet, Kent, CT11
380. II St Lawrence House (/101084360-st-lawrence-house-ramsgate)
Ramsgate, Thanet, Kent, CT11
381. II St Mildred's (/101086046-st-mildreds-ramsgate)
Ramsgate, Thanet, Kent, CT11
382. II Stable and Coachhouse About 20 Metres North East of No 20 (/101086067-stable-and-coachhouse-about-20-metres-north-east-of-no-20-ramsgate)
Ramsgate, Thanet, Kent, CT11
383. II Stable Block to North of East Court (/101203575-stable-block-to-north-of-east-court-ramsgate)
Ramsgate, Thanet, Kent, CT11
384. II Sun Shelter and Rock Gardens, Winterstoke Gardens (/101336318-sun-shelter-and-rock-gardens-winterstoke-gardens-ramsgate)
Ramsgate, Thanet, Kent, CT11
385. II* Synagogue and Adjacent Outbuilding (/101051632-synagogue-and-adjacent-outbuilding-ramsgate)
Ramsgate, Thanet, Kent, CT11
386. II Tancrey House (/101086068-tancrey-house-ramsgate)
Ramsgate, Thanet, Kent, CT11
387. II Terracing, Arcading and Balustrades to Royal Parade (/101336326-terracing-arcading-and-balustrades-to-royal-parade-ramsgate)
Ramsgate, Thanet, Kent, CT11
388. II The Admiral Fox (/101336646-the-admiral-fox-ramsgate)
Ramsgate, Thanet, Kent, CT11
389. II The Artillery Arms (/101336327-the-artillery-arms-ramsgate)
Ramsgate, Thanet, Kent, CT11
390. II The Belle Vue Tavern and Attached Block (/101085329-the-belle-vue-tavern-and-attached-block-ramsgate)
Ramsgate, Thanet, Kent, CT11
391. II The Camden Arms (/101054011-the-camden-arms-ramsgate)
Ramsgate, Thanet, Kent, CT11
392. II The Castle Hotel (/101085380-the-castle-hotel-ramsgate)
Ramsgate, Thanet, Kent, CT11
393. II* The Clock House (/101336325-the-clock-house-ramsgate)
Ramsgate, Thanet, Kent, CT11
394. II The Cottage (/101068876-the-cottage-ramsgate)
Ramsgate, Thanet, Kent, CT11
395. II The Cottage (/101085411-the-cottage-ramsgate)
Ramsgate, Thanet, Kent, CT11
396. II The Crown Hotel (/101203931-the-crown-hotel-ramsgate)
Ramsgate, Thanet, Kent, CT11
397. II The Deal Cutter (/101085342-the-deal-cutter-ramsgate)
Ramsgate, Thanet, Kent, CT11
398. II The Eagle Inn (/101068870-the-eagle-inn-ramsgate)
Ramsgate, Thanet, Kent, CT11
399. II The Falstaff (/101336627-the-falstaff-ramsgate)
Ramsgate, Thanet, Kent, CT11
400. I The Grange (/101203285-the-grange-ramsgate)
Ramsgate, Thanet, Kent, CT11
401. II The Hermitage (/101086064-the-hermitage-ramsgate)
Ramsgate, Thanet, Kent, CT11
402. II The Iron Duke and Railed Area (/101349101-the-iron-duke-and-railed-area-ramsgate)
Ramsgate, Thanet, Kent, CT11
403. II The Lazarus Hart Havens of Rest (/101086061-the-lazarus-hart-havens-of-rest-ramsgate)
Ramsgate, Thanet, Kent, CT11
404. II The Lido Boating Pond and Retaining Walls (/101057651-the-lido-boating-pond-and-retaining-walls-ramsgate)
Ramsgate, Thanet, Kent, CT11
405. II The Lido, Eastern Quadrant (/101336323-the-lido-eastern-quadrant-ramsgate)
Ramsgate, Thanet, Kent, CT11
406. II The Lido, Western Quadrant (/101038939-the-lido-western-quadrant-ramsgate)
Ramsgate, Thanet, Kent, CT11

407. II The Lodge (/101085327-the-lodge-ramsgate)
Ramsgate, Thanet, Kent, CT11
408. II The Lodge and Courtyard Bon Secours Nursing Home (/101367425-the-lodge-and-courtyard-bon-secours-nursing-home-ramsgate)
Ramsgate, Thanet, Kent, CT11
409. II The Obelisk (/101086090-the-obelisk-ramsgate)
Ramsgate, Thanet, Kent, CT11
410. II The Old Coach House (/101086082-the-old-coach-house-ramsgate)
Ramsgate, Thanet, Kent, CT11
411. II* The Old House and Walled Forecourt (/101085392-the-old-house-and-walled-forecourt-ramsgate)
Ramsgate, Thanet, Kent, CT11
412. II The Perseverence Dining Room (/101281459-the-perseverence-dining-room-ramsgate)
Ramsgate, Thanet, Kent, CT11
413. II The Queen's Head (/101085381-the-queens-head-ramsgate)
Ramsgate, Thanet, Kent, CT11
414. II The Red Lion (/101085339-the-red-lion-ramsgate)
Ramsgate, Thanet, Kent, CT11
415. II The Regency Hotel (/101086093-the-regency-hotel-ramsgate)
Ramsgate, Thanet, Kent, CT11
416. II The Rising Sun (/101083595-the-rising-sun-ramsgate)
Ramsgate, Thanet, Kent, CT11
417. II The Sylvan Hotel (/101085393-the-sylvan-hotel-ramsgate)
Ramsgate, Thanet, Kent, CT11
418. II The West Pier, Bollards, Iron Crane and Fairleads (/101038294-the-west-pier-bollards-iron-crane-and-fairleads-ramsgate)
Ramsgate, Thanet, Kent, CT11
419. II Three Headstones About 10 Metres North of North Aisle of Church of St Laurence (/101085365-three-headstones-about-10-metres-north-of-north-aisle-of-church-of-st-laurence-ramsgate)
Ramsgate, Thanet, Kent, CT11
420. II Tomb Chest to Captain John Curling and Group of 6 Headstones About 15-20 Metres East of Mausoleum (/101336664-tomb-chest-to-captain-john-curling-and-group-of-6-headstones-about-15-20-metres-east-of-mausoleum-ramsgate)
Ramsgate, Thanet, Kent, CT11
421. II Tomb Chest to Caroline Gibson About 40 Metres North of Church of St George (/101100337-tomb-chest-to-caroline-gibson-about-40-metres-north-of-church-of-st-george-ramsgate)
Ramsgate, Thanet, Kent, CT11
422. II Tomb Chest to Elizabeth Biggs and Thomas Grundy About 30 Metres North of Church of St George (/101336617-tomb-chest-to-elizabeth-biggs-and-thomas-grundy-about-30-metres-north-of-church-of-st-george-ramsgate)
Ramsgate, Thanet, Kent, CT11
423. II Tomb Chest to Francis Lemm, About 5 Metres North West of Church of St George (/101348692-tomb-chest-to-francis-lemm-about-5-metres-north-west-of-church-of-st-george-ramsgate)
Ramsgate, Thanet, Kent, CT11
424. II Tomb Chest to Janet Mcleod About 42 Metres North of Church of St George (/101085431-tomb-chest-to-janet-mcleod-about-42-metres-north-of-church-of-st-george-ramsgate)
Ramsgate, Thanet, Kent, CT11
425. II Tomb Chest to Kent Family, About 25 Metres East of Church of St George (/101100343-tomb-chest-to-kent-family-about-25-metres-east-of-church-of-st-george-ramsgate)
Ramsgate, Thanet, Kent, CT11
426. II Tomb Chest to William Blackman About 20 Metres North West of Church of St George (/101336655-tomb-chest-to-william-blackman-about-20-metres-north-west-of-church-of-st-george-ramsgate)
Ramsgate, Thanet, Kent, CT11
427. II Torrington Villa (/101086049-torrington-villa-ramsgate)
Ramsgate, Thanet, Kent, CT11
428. II* Townley House Mansion (/101336642-townley-house-mansion-ramsgate)
Ramsgate, Thanet, Kent, CT11
429. II Triple Barrel Tomb and Headstone, About 1 Metre North of North Aisle of Church of St Laurence (/101051675-triple-barrel-tomb-and-headstone-about-1-metre-north-of-north-aisle-of-church-of-st-laurence-ramsgate)
Ramsgate, Thanet, Kent, CT11
430. II Two Chest Tombs About 10 and 25 Metres South of Church of St Laurence (/101052341-two-chest-tombs-about-10-and-25-metres-south-of-church-of-st-laurence-ramsgate)
Ramsgate, Thanet, Kent, CT11
431. II Two Free Standing Wall Monuments and Headstone with Barrel Tomb, About 45 Metres North West of Churc (/101051093-two-free-standing-wall-monuments-and-headstone-with-barrel-tomb-about-45-metres-north-west-of-church-of-st-laurence-ramsgate)

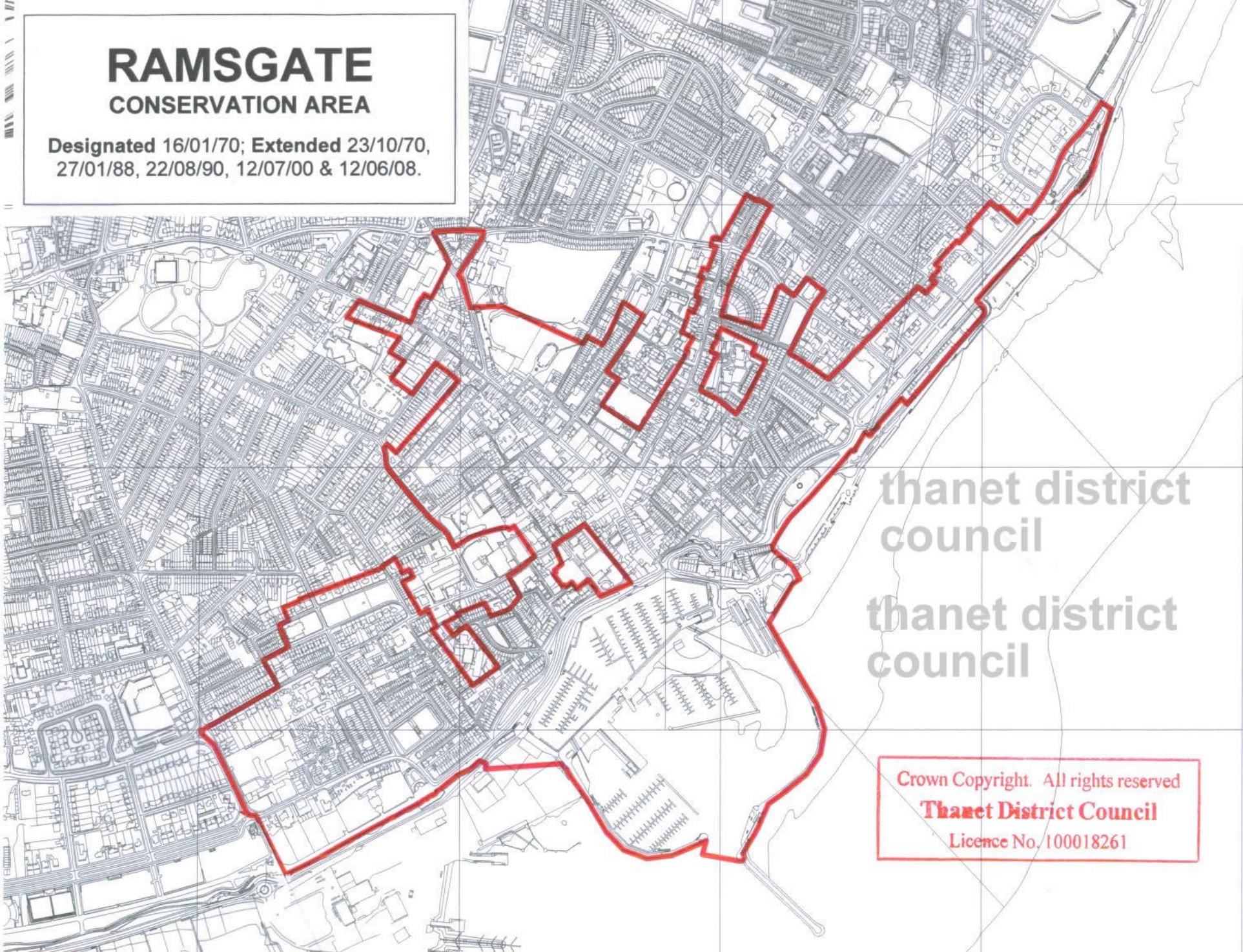
Ramsgate, Thanet, Kent, CT11

432. II Two Headstones About 10 Metres North East of Church of St Laurence (/101076958-two-headstones-about-10-metres-north-east-of-church-of-st-laurence-ramsgate)
Ramsgate, Thanet, Kent, CT11
433. II Upper Lodge (/101045840-upper-lodge-ramsgate)
Ramsgate, Thanet, Kent, CT11
434. II Vale House (/101203863-vale-house-ramsgate)
Ramsgate, Thanet, Kent, CT11
435. II Vale Place and Railed Areas (/101336344-vale-place-and-railed-areas-ramsgate)
Ramsgate, Thanet, Kent, CT11
436. II Wall and Gate Piers to North and East of West Cliff Terrace (/101336682-wall-and-gate-piers-to-north-and-east-of-west-cliff-terrace-ramsgate)
Ramsgate, Thanet, Kent, CT11
437. II Walls and Gateways Surrounding Nos 136a and B (/101085412-walls-and-gateways-surrounding-nos-136a-and-b-ramsgate)
Ramsgate, Thanet, Kent, CT11
438. II War memorial at St George's Church, Ramsgate (/101432603-war-memorial-at-st-georges-church-ramsgate-ramsgate)
Ramsgate, Thanet, Kent, CT11
439. II Water Tower and Adjacent Range to North West, About 50 Metres East of Cannon Brewery Buildings (/101336618-water-tower-and-adjacent-range-to-north-west-about-50-metres-east-of-cannon-brewery-buildings-ramsgate)
Ramsgate, Thanet, Kent, CT11
440. II Water Tower of Ramsgate Water Works Including Area Railings, Gate Piers to West (/101203415-water-tower-of-ramsgate-water-works-including-area-railings-gate-piers-to-west-ramsgate)
Ramsgate, Thanet, Kent, CT11
441. II West Cliff Lodge (/101203233-west-cliff-lodge-ramsgate)
Ramsgate, Thanet, Kent, CT11
442. II White Cliffs and Adjacent Walls and Outbuildings North of West Cliff Lodge (/101086094-white-cliffs-and-adjacent-walls-and-outbuildings-north-of-west-cliff-lodge-ramsgate)
Ramsgate, Thanet, Kent, CT11
443. II Wintons Cottage with Garden Wall (/101085446-wintons-cottage-with-garden-wall-ramsgate)
Ramsgate, Thanet, Kent, CT11



RAMSGATE
CONSERVATION AREA

Designated 16/01/70; **Extended** 23/10/70, 27/01/88, 22/08/90, 12/07/00 & 12/06/08.



Weekly Law Reports (ICLR)/2015/Volume 1 /*East Northamptonshire District Council and others v Secretary of State for Communities and Local Government and another - [2015] 1 WLR 45

[2015] 1 WLR 45

*East Northamptonshire District Council and others v Secretary of State for Communities and Local Government and another

Court of Appeal

[2014] EWCA Civ 137

2014 Jan 23; Feb 18

Maurice Kay, Sullivan, Rafferty LJJ

Planning -- Planning permission -- Development affecting listed building -- Application for planning permission for wind farm development close to Grade I listed buildings -- Requirement on decision-maker to "have special regard to the desirability of preserving" setting of listed buildings -- Inspector finding benefit of proposed development outweighing harm to buildings and granting permission -- Whether statutory duty requiring inspector to give considerable importance and weight to desirability of preserving setting of listed buildings when carrying out balancing exercise -- Whether applying with particular force where setting Grade I listed building affected -- Relevance of finding that harm to setting less than substantial -- Relevance of perception of any reasonable observer -- Whether inspector's decision flawed -- Whether rightly quashed -- Planning (Listed Buildings and Conservation Areas) Act 1990 (c 9), s 66(1)

The local planning authority refused the developer's application for planning permission to build a four-turbine wind farm on land in a conservation area which contained a number of listed buildings including a collection of Grade I listed buildings and gardens. The developer appealed to the Secretary of State for Communities and Local Government, who appointed a planning inspector to determine the appeal. By section 66(1) of the Planning (Listed Buildings and Conservation Areas) Act 1990[1] the inspector was under a duty when considering whether to grant planning permission to "have special regard to the desirability of preserving" a listed building or its setting. Listed buildings came within the definition of "designated heritage assets" in the Government's Planning Policy Statement 5[2] and practice guide. The inspector concluded that while the wind farm would fall within and affect the settings of a wide range of heritage assets, on balance the significant benefits of the proposed development in terms of the renewable energy which it would produce outweighed the less than substantial harm which it would cause to the setting of such designated heritage assets and the wider landscape, and accordingly granted planning permission. One of the reasons given for the inspector's conclusion that the harm would be less than substantial was that "any reasonable observer" would know that the development was a modern addition to the landscape, separate from the planned historic landscape or building he was within or considering or interpreting. The judge granted an application by, among others, the local planning authority under section 288 of the Town and County Planning Act 1990 to quash the inspector's decision on the ground that it was flawed because, among other things, he had failed to give effect to the duty under section 66(1) by not giving sufficient weight to the desirability of preserving the setting of the listed buildings.

On the developer's appeal--

Held , dismissing the appeal, (1) that section 66(1) of the Planning (Listed Buildings and Conservation Areas) Act 1990 required the decision-maker to give "the desirability of preserving the building or its setting" not merely careful consideration

for the purpose of deciding whether there would be some harm, but considerable importance and weight when balancing the advantages of the proposed development against any such harm; that that general duty applied with particular force if harm would be caused to the setting of a Grade I listed building, which was a designated heritage asset of the highest significance; that, if the harm to the setting of the Grade I listed building would be less than substantial, the strength of the presumption against the grant of planning permission would be lessened but it would not be entirely removed; that, since the planning inspector had not given considerable importance and weight to the desirability of preserving the setting of the listed buildings when carrying out the balancing exercise, he had not given proper effect to the section 66(1) duty; and that, accordingly, the judge had been right to conclude that the inspector's decision was flawed on that basis (post, paras *22*, *23*, *24*, *26*, *28*, *29*, *45*, *46*, *47*).

The Bath Society v Secretary of State for the Environment [1991] 1 WLR 1303, CA and *South Lakeland District Council v Secretary of State for the Environment* [1992] 2 AC 141, HL(E) applied.

(2) That, to the extent that the application of the "reasonable observer" test had been the decisive factor in the inspector's reasoning for his conclusion that harm to the setting of the listed buildings was less than substantial, he had not properly applied the relevant Government policy guidance; that if it had not been the decisive factor he had not given adequate reasons for that conclusion; and that, accordingly, the judge had been right to conclude that the inspector's decision was flawed on that basis also (post, paras *43-44*, *45*, *46*, *47*).

Decision of Lang J [2013] EWHC 473 (Admin); [2013] 2 P & CR 94 affirmed.

The following cases are referred to in the judgment of Sullivan LJ:

Bath Society, The v Secretary of State for the Environment [1991] 1 WLR 1303; [1992] 1 All ER 28; 89 LGR 834, CA

Heatherington (UK) Ltd v Secretary of State for the Environment (1994) 69 P & CR 374

R (Garner) v Elmbridge Borough Council [2011] EWHC 86 (Admin); [2011] PTSR D25; [2011] EWCA Civ 891; [2012] PTSR D7, CA

South Lakeland District Council v Secretary of State for the Environment [1992] 2 AC 141; [1992] 2 WLR 204; [1992] 1 All ER 573; 90 LGR 201, HL(E)

Tesco Stores Ltd v Secretary of State for the Environment [1995] 1 WLR 759; [1995] 2 All ER 636; 93 LGR 403, HL(E)

No additional cases were cited in argument.

APPEAL from Lang J

By an application under section 288 of the Town and Country Planning Act 1990 the applicants, East Northamptonshire District Council (the local planning authority), English Heritage and the Na-

tional Trust, applied for an order to quash the decision of a planning inspector appointed by the Secretary of State for Communities and Local Government, by a decision letter dated 12 March 2012, allowing an appeal by the developer, Barnwell Manor Wind Energy Ltd, against the decision of the local planning authority dated 24 January 2011 to refuse its application for planning permission for a four-turbine wind farm in a conservation area. The Secretary of State conceded that the inspector's decision should be quashed and took no further part in proceedings. By order dated 11 March 2013 following judgment on 8 March 2013 Lang J [2013] EWHC 473 (Admin); [2013] 2 P & CR 94 granted the application on the basis grounds that the inspector (1) had failed under the duty in section 66(1) of the Planning (Listed Buildings and Conservation Areas) Act 1990 to have special regard to and

give considerable weight to the desirability of preserving the settings of listed buildings, including Lyveden New Bield; (2) had failed correctly to interpret and apply the policies in Planning Policy Statement 5; and (3) had failed to give adequate reasons for his decision.

By an appellant's notice dated 28 March 2013, the developer appealed, with permission of the judge, on the grounds that the judge (1) had erred in concluding that section 66(1) of the 1990 Act required the inspector to give considerable weight to the desirability of preserving the settings of the many listed buildings in the area; (2) had taken an over-rigid approach to the policy statement and practice guide which were not intended to be prescriptive; and (3) had erred in finding that the inspector had failed to give adequate reasons for his conclusion that the harm would in all cases be less than substantial.

The facts are stated in the judgment of Sullivan LJ.

Gordon Nardell QC and *Justine Thornton* (instructed by *Eversheds LLP*) for the developer.

Morag Ellis QC and *Robin Green* (instructed by *Sharpe Pritchard*) for the applicants.

The Secretary of State did not appear and was not represented.

The court took time for consideration.

18 February 2014. The following judgments were handed down.

SULLIVAN LJ

Introduction

1 This is an appeal against the order dated 11 March 2013 of Lang J quashing the decision dated 12 March 2012 of a planning inspector appointed by the Secretary of State granting planning permission for a four-turbine wind farm on land north of Catshead Woods, Sudborough, Northamptonshire. The background to the appeal is set out in Lang J's judgment [2013] 2 P & CR 94 of 8 March 2013.

Section 66

2 Section 66 of the Planning (Listed Buildings and Conservation Areas) Act 1990 ("the Listed Buildings Act") imposes a "General duty as respects listed buildings in exercise of planning functions". Subsection (1) provides:

> "In considering whether to grant planning permission for development which affects a listed building or its setting, the local planning authority or, as the case may be, the Secretary of State shall have special regard to the desirability of preserving the building or its setting or any features of special architectural or historic interest which it possesses."

Planning policy

3 When the permission was granted the Government's planning policies on the conservation of the historic environment were contained in Planning Policy Statement 5 ("PPS5"). In PPS5 those parts of the historic environment that have significance because of their historic, archaeological, architectural

or artistic interest are called heritage assets. Listed buildings, scheduled ancient monuments and registered parks and gardens are called "designated heritage assets". Guidance to help practitioners implement the policies in PPS5 was contained in "PPS5: planning for the historic environment: historic environment planning practice guide". For present purposes, policies HE9 and HE10 in PPS5 are of particular relevance. Policy HE9.1 advised that:

> "There should be a presumption in favour of the conservation of designated heritage assets and the more significant the designated heritage asset, the greater the presumption in favour of its conservation should be ... Substantial harm to or loss of a Grade II listed building, park or garden should be exceptional. Substantial harm to or loss of designated heritage assets of the highest significance, including scheduled monuments ... Grade I and II* listed buildings and Grade I and II* registered parks and gardens ... should be wholly exceptional."

Policy HE9.4 advised that:

> "Where a proposal has a harmful impact on the significance of a designated heritage asset which is less than substantial harm, in all cases local planning authorities should: (i) weigh the public benefit of the proposal (for example, that it helps to secure the optimum viable use of the heritage asset in the interests of its long term conservation) against the harm; and (ii) recognise that the greater the harm to the significance of the heritage asset the greater the justification will be needed for any loss."

Policy HE10.1 advised decision-makers that when considering applications for development that do not preserve those elements of the setting of a heritage asset, they:

> "should weigh any such harm against the wider benefits of the application. The greater the negative impact on the significance of the heritage asset, the greater the benefits that will be needed to justify approval."

The inspector's decision

4 The inspector concluded, at para 22, that the wind farm would fall within and affect the setting of a wide range of heritage assets. For the purposes of this appeal the parties' submissions largely focused on one of the most significant of those assets: a site owned by the National Trust, Lyveden New Bield. Lyveden New Bield is covered by a range of heritage designations: Grade I listed building, inclusion in the register of parks and gardens of special historic interest at Grade I, and scheduled ancient monument.

5 It was common ground between the parties at the inquiry that the group of designated heritage assets at Lyveden New Bield was probably the finest surviving example of an Elizabethan garden, and that as a group the heritage asset at Lyveden New Bield had a cultural value of national, if not international significance. The inspector agreed, and found, at para 45: "this group of designated heritage assets has archaeological, architectural, artistic and historic significance of the highest magnitude."

6 The closest turbine in the wind farm site (following the deletion of one turbine) to Lyveden New Bield was around 1·3 km from the boundary of the registered park and 1·7 km from the New Bield itself. The inspector found, at para 46:

> "The wind turbines proposed would be visible from all around the site, to varying degrees, because of the presence of trees. Their visible presence would have a clear influence on the surroundings in which the heritage assets are experienced and as such they would fall within, and affect, the setting of the group."

This conclusion led the inspector to identify the central question, at para 46:

> "Bearing in mind PPS5 policy HE7, the central question is the extent to which that visible presence would affect the significance of the heritage assets concerned."

7 The inspector answered that question in relation to Lyveden New Bield in paras 47-51 of his decision letter.

> "47. While records of Sir Thomas Tresham's intentions for the site are relatively, and unusually, copious, it is not altogether clear to what extent the gardens and the garden lodge were completed and whether the designer considered views out of the garden to be of any particular significance. As a consequence, notwithstanding planting programmes that the National Trust have undertaken in recent times, the experience of Lyveden New Bield as a place, and as a planned landscape, with earthworks, moats and buildings within it, today, requires imagination and interpretation.

> "48. At the times of my visits, there were limited numbers of visitors and few vehicles entering and leaving the site. I can imagine that at busy times, the situation might be somewhat different but the relative absence of man-made features in views across and out of the gardens compartments, from the prospect mounds especially, and from within the garden lodge, give the place a sense of isolation that makes the use of one's imagination to interpret Sir Thomas Tresham's design intentions somewhat easier.

> "49. The visible, and sometimes moving, presence of the proposed wind turbine array would introduce a man-made feature, of significant scale, into the experience of the place. The array would act as a distraction that would make it more difficult to understand the place, and the intentions underpinning its design. That would cause harm to the setting of the group of designated heritage assets within it.

> "50. However, while the array would be readily visible as a backdrop to the garden lodge in some directional views, from the garden lodge itself in views towards it, and from the prospect mounds, from within the moated orchard, and various other places around the site, at a separation distance of between one and two kilometres, the turbines would not be so close, or fill the field of view to the extent, that they would dominate the outlook from the site. Moreover, the turbine array would not intrude on any obviously intended, planned view out of the garden, or from the garden lodge (which has windows all around its cruciform perimeter). Any reasonable observer would know that the turbine array was a

> modern addition to the landscape, separate from the planned historic landscape, or building they were within, or considering, or interpreting.

> "51. On that basis, the presence of the wind turbine array would not be so distracting that it would prevent or make unduly difficult, an understanding, appreciation or interpretation of the significance of the elements that make up Lyveden New Bield and Lyveden Old Bield, or their relationship to each other. As a consequence, the effect on the setting of these designated heritage assets, while clearly detrimental, would not reach the level of substantial harm."

8 The inspector carried out "the balancing exercise" in paras 85-86 of his decision letter.

> "85. The proposal would harm the setting of a number of designated heritage assets. However, the harm would in all cases be less than substantial and reduced by its temporary nature and reversibility. The proposal would also cause harm to the landscape but this would be ameliorated by a number of factors. Read in isolation though, all this means that the proposal would fail to accord with [conservation policies in the East Midlands regional plan ("EMRP")]. On the other hand, having regard to advice in PPS22, the benefits that would accrue from the wind farm in the 25-year period of its operation attract significant weight in favour of the proposal. The 10 MW that it could provide would contribute towards the 2020 regional target for renewable energy, as required by EMRP policy 40 and Appendix 5, and the wider UK national requirement.

> "86. PPS5 policies HE9.4 and HE10.1 require the identified harm to the setting of designated heritage assets to be balanced against the benefits that the proposal would provide. Application of the development plan as a whole would also require that harm, and the harm to the landscape, to be weighed against the benefits. Key principle (i) of PPS22 says that renewable energy developments should be capable of being accommodated throughout England in locations where the technology is viable and environmental, economic, and social impacts can be addressed satisfactorily. I take that as a clear expression that the threshold of acceptability for a proposal like the one at issue in this appeal is not such that all harm must be avoided. In my view, the significant benefits of the proposal in terms of the energy it would produce from a renewable source outweigh the less than substantial harm it would cause to the setting of designated heritage assets and the wider landscape."

Lang J's judgment

9 Before Lang J the first, second and third applicants challenged the inspector's decision on three grounds. In summary, they submitted that the inspector had failed (1) to have special regard to the desirability of preserving the settings of listed buildings, including Lyveden New Bield; (2) correctly to interpret and apply the policies in PPS5; and (3) to give adequate reasons for his decision. The Secretary of State had conceded prior to the hearing that the inspector's decision should be quashed on ground (3), and took no part in the proceedings before Lang J and in this court.

[2015] 1 WLR 45 at 51

10 Lang J concluded [2013] 2 P & CR 94, para 72 that all three grounds of challenge were made out. In respect of ground (1) she concluded, at para 39:

> "in order to give effect to the statutory duty under section 66(1), a decision-maker should accord considerable importance and weight to the 'desirability of preserving ... the setting' of listed buildings when weighing this factor in the balance with other 'material considerations' which have not been given this special statutory status. Thus, where the section 66(1) duty is in play, it is necessary to qualify Lord Hoffmann's statement in *Tesco Stores Ltd v Secretary of State for the Environment* [1995] 1 WLR 759, 780 F-H that the weight to be given to a material consideration was a question of planning judgment for the planning authority."

Applying that interpretation of section 66(1) she concluded, at para 46:

> "the inspector did not at any stage in the balancing exercise accord 'special weight', or considerable importance to 'the desirability of preserving the setting'. He treated the 'harm' to the setting and the wider benefit of the wind farm proposal as if those two factors were of equal importance. Indeed, he downplayed 'the desirability of preserving the setting' by adopting key principle (i) of PPS22, as a 'clear indication that the threshold of acceptability for a proposal like the one at issue in this appeal is not such that all harm must be avoided' (para 86). In so doing, he applied the policy without giving effect to the section 66(1) duty, which applies to all listed buildings, whether the 'harm' has been assessed as substantial or less than substantial."

11 In respect of ground (2) Lang J concluded that the policy guidance in PPS5 and the practice guide required the inspector to assess the contribution that the setting made to the significance of the heritage assets, including Lyveden New Bield, and the effect of the proposed wind turbines on both the significance of the heritage asset *and* the ability to appreciate that significance. Having analysed the inspector's decision, she found, at paras 55-65, that the inspector's assessment had been too narrow. He had failed to assess the contribution that the setting of Lyveden New Bield made to its significance as a heritage asset and the extent to which the wind turbines would enhance or detract from that significance, and had wrongly limited his assessment to one factor: the ability of the public to understand the asset based on the ability of "the reasonable observer" to distinguish between the "modern addition" to the landscape and the "historic landscape."

12 In respect of ground (3) Lang J found, at para 68, that the question whether Sir Thomas Tresham intended that the views from the garden and the garden lodge should be of significance was a controversial and important issue at the inquiry which the inspector should have resolved before proceeding to assess the level of harm. However, the inspector's reasoning on this issue was unclear. Having said in para 47 of his decision that it was "not altogether clear ... whether the designer considered views out of the garden to be of any significance", he had concluded, in para 50, that "the turbine array would not intrude on any obviously intended, planned view

out of the garden, or from the garden lodge (which has windows all around its cruciform perimeter)." It was not clear from paras 70-71 whether this was a conclusion that there were no planned views (as submitted by the second defendant) or a conclusion that there were such views but the turbine array would not intrude into them.

The grounds of appeal

13 On behalf of the second defendant, Mr Nardell QC challenged Lang J's conclusions in respect of all three grounds. At the forefront of his appeal was the submission that Lang J had erred in concluding that section 66(1) required the inspector, when carrying out the balancing exercise, to give "considerable weight" to the desirability of preserving the settings of the many listed buildings, including Lyveden New Bield. He submitted that section 66(1) did not require the decision-maker to give any particular weight to that factor. It required the decision-maker to ask the right question--would there be some harm to the setting of the listed building--and if the answer to that question was "yes"--to refuse planning permission unless that harm was outweighed by the advantages of the proposed development. When carrying out that balancing exercise the weight to be given to the harm to the setting of the listed building on the one hand and the advantages of the proposal on the other was entirely a matter of planning judgment for the decision-maker.

14 Turning to the policy ground, he submitted that Lang J had erred by taking an over-rigid approach to PPS5 and the practice guide which were not intended to be prescriptive. Given the way in which those objecting to the proposed wind farm had put their case at the inquiry, the inspector had been entitled to focus on the extent to which the presence of the turbines in views to and from the listed buildings, including Lyveden New Bield, would affect the ability of the public to appreciate the heritage assets.

15 In response to the reasons ground, he submitted that the question whether any significant view from the lodge or garden at Lyveden New Bield was planned or intended was a subsidiary, and not a "principal important controversial", issue. In any event, he submitted that on a natural reading of para 50 of the decision letter the inspector had simply found that the turbines would not intrude into such significant views, *if any* , as were obviously planned or intended, so it had been unnecessary for him to resolve the issue that he had left open in para 47 of the decision.

Discussion

Ground 1

16 What was Parliament's intention in imposing both the section 66 duty and the parallel duty under section 72(1) of the Listed Buildings Act to pay "special attention ... to the desirability of preserving or enhancing the character or appearance" of conservation areas? It is common ground that, despite the slight difference in wording, the nature of the duty is the same under both enactments. It is also common ground that "preserving" in both enactments means doing no harm: see *South Lakeland District Council v Secretary of State for the Environment* [1992] 2 AC 141,150, per Lord Bridge of Harwich.

[2015] 1 WLR 45 at 53

17 Was it Parliament's intention that the decision-maker should consider very carefully whether a proposed development would harm the setting of the listed building (or the character or appearance of the conservation area), and if the conclusion was that there would be some harm, then consider whether that harm was outweighed by the advantages of the proposal, giving that harm such weight as the decision-maker thought appropriate; or was it Parliament's intention that when deciding whether the harm to the setting of the listed building was outweighed by the advantages of the proposal, the decision-maker should give particular weight to the desirability of avoiding such harm?

18 Lang J analysed the authorities in paras 34-39 of her judgment. In chronological order they are: *The Bath Society v Secretary of State for the Environment* [1991] 1 WLR 1303; the *South Lakeland* case (see para 16 above); *Heatherington (UK) Ltd v Secretary of State for the Environment* (1994) 69 P & CR 374; and *Tesco Stores Ltd v Secretary of State for the Environment* [1995] 1 WLR 759. The *Bath Society* case and the *South Lakeland* case were concerned with (what is now) the duty under section 72. The *Heatherington* case is the only case in which the section 66 duty was considered. The *Tesco* case was not a section 66 or section 72 case, it was concerned with the duty to have regard to "other material considerations" under section 70(2) of the Town and Country Planning Act 1990 ("the Planning Act").

19 When summarising his conclusions in the *Bath Society* case [1991] 1 WLR 1303, 1318 F-H about the proper approach which should be adopted to an application for planning permission in a conservation area, Glidewell LJ distinguished between the general duty under (what is now) section 70(2) of the Planning Act, and the duty under (what is now) section 72(1) of the Listed Buildings Act. Within a conservation area the decision-maker has two statutory duties to perform, but the requirement in section 72(1) to pay "special attention" should be the first consideration for the decision-maker . Glidewell LJ continued, at p 1319:

> "Since, however, it is a consideration to which special attention is to be paid as a matter of statutory duty, it must be regarded as having considerable importance and weight ... As I have said, the conclusion that the development will neither enhance nor preserve will be a consideration of considerable importance and weight. This does not necessarily mean that the application for permission must be refused, but it does in my view mean that the development should only be permitted if the decision-maker concludes that it carries some advantage or benefit which outweighs the failure to satisfy the section [72(1)] test and such detriment as may inevitably follow from that."

20 In the *South Lakeland* case [1992] 2 AC 141 the issue was whether the concept of "preserving" in what is now section 72(1) meant "positively preserving" or merely doing no harm. The House of Lords concluded that the latter interpretation was correct, but in his speech (with which the other members of the House agreed) Lord Bridge described the statutory intention in these terms, at p 146 E-G:

> "There is no dispute that the intention of section [72(1)] is that planning decisions in respect of development proposed to be carried out
>
> *[2015] 1 WLR 45 at 54*
>
> in a conservation area must give a high priority to the objective of preserving or enhancing the character or appearance of the area. If any proposed development would conflict with that objective, there will be a strong presumption against the grant of planning permission, though, no doubt, in exceptional cases the presumption may be overridden in favour of development which is desirable on the ground of some other public interest. But if a development would not conflict with that objective, the special attention required to be paid to that objective will no longer stand in its way and the development will be permitted or refused in the application of ordinary planning criteria."

21 In the*Heatherington* case 69 P & CR 374, the principal issue was the interrelationship between the duty imposed by section 66(1) and the newly imposed duty under section 54A of the Planning Act (since repealed and replaced by the duty under section 38(6) of the Planning and Compulsory Purchase Act 2004). However, Mr David Keene QC, at p 383, when referring to the section 66(1) duty, applied Glidewell LJ's dicta in the *Bath Society* case (see para 19 above), and said that the statutory objective "remains one to which considerable weight should be attached".

22 Mr Nardell submitted, correctly, that the inspector's error in the *Bath Society* case [1991] 1 WLR 1303 was that he had failed to carry out the necessary balancing exercise. In the present case the inspector had expressly carried out the balancing exercise, and decided that the advantages of the proposed wind farm outweighed the less than substantial harm to the setting of the heritage assets. Mr Nardell submitted that there was nothing in Glidewell LJ's judgment which supported the proposition that the court could go behind the inspector's conclusion. I accept that (subject to grounds 2 and 3, see para 29 et seq below) the inspector's assessment of the degree of harm to the setting of the listed building was a matter for his planning judgment, but I do not accept that he was then free to give that harm such weight as he chose when carrying out the balancing exercise. In my view, Glidewell LJ's judgment is authority for the proposition that a finding of harm to the setting of a listed building is a consideration to which the decision-maker must give "considerable importance and weight."

23 That conclusion is reinforced by the passage in the speech of Lord Bridge in the*South Lakeland* case [1992] 2 AC 141 to which I have referred: see para 20 above. It is true, as Mr Nardell submits, that the ratio of that decision is that "preserve" means "do no harm". However, Lord Bridge's explanation of the statutory purpose is highly persuasive, and his observation that there will be a "strong presumption" against granting permission for development that would harm the character or appearance of a conservation area is consistent with Glidewell LJ's conclusion in the *Bath Society* case. There is a "strong presumption" against granting planning permission for development which would harm the character or appearance of a conservation area precisely because the desirability of preserving the character or appearance of the area is a consideration of "considerable importance and weight."

24 While I would accept Mr Nardell's submission that the *Heatherington* case 69 P & CR 374 does not take the matter any further, it does not cast any doubt on the proposition that emerges from the *Bath*

Society case [1991] 1 WLR 1303 and the *South Lakeland* case [1992] 2 AC 141: that Parliament in enacting section 66(1) did intend that the desirability of preserving the settings of listed buildings should not simply be given careful consideration by the decision-maker for the purpose of deciding whether there would be some harm, but should be given "considerable importance and weight" when the decision-maker carries out the balancing exercise.

25 In support of his submission that, provided he asked the right question--was the harm to the settings of the listed buildings outweighed by the advantages of the proposed development--the inspector was free to give what weight he chose to that harm, Mr Nardell relied on the statement in the speech of Lord Hoffmann in the *Tesco* case [1995] 1 WLR 759, 780 H that the weight to be given to a material consideration is entirely a matter for the local planning authority (or in this case, the inspector): "If there is one principle of planning law more firmly settled than any other, it is that matters of planning judgment are within the exclusive province of the local planning authority or the Secretary of State."

26 As a general proposition, the principle is not in doubt, but the case was concerned with the application of section 70(2) of the Planning Act. It was not a case under section 66(1) or 72(1) of the Listed Buildings Act. The proposition that decision-makers may be required by either statute or planning policy to give particular weight to certain material considerations was not disputed by Mr Nardell. There are many examples of

planning policies, both national and local, which require decision-makers when exercising their planning judgment to give particular weight to certain material considerations. No such policies were in issue in the *Tesco* case, but an example can be seen in this case. In para 16 of his decision letter the inspector referred to planning policy statement 22: Renewable Energy (PPS22) which says that the wider environmental and economic benefits of all proposals for renewable energy, whatever their scale, are material considerations which should be given "significant weight". In this case, the requirement to give "considerable importance and weight" to the policy objective of preserving the setting of listed buildings has been imposed by Parliament. Section 70(3) of the Planning Act provides that section 70(1), which confers the power to grant planning permission, has effect subject to, inter alia, sections 66 and 72 of the Listed Buildings Act. Section 70(2) of the Planning Act, as substituted by section 143(2) of the Localism Act 2011, requires the decision-maker to have regard to "material considerations" when granting planning permission, but Parliament has made the power to grant permission having regard to material considerations expressly subject to the section 66(1) duty.

27 Mr Nardell also referred us to the decisions of Ouseley J and this court in *R (Garner) v Elmbridge Borough Council* [2011] EWHC 86 (Admin); [2011] PTSR D25; [2011] EWCA Civ 891; [2012] PTSR D7, but the issue in that case was whether the local planning authority had been entitled to conclude that no harm would be caused to the setting of another heritage asset of the highest significance, Hampton Court Palace. Such was the weight given to the desirability of preserving the setting of the palace that it was common ground that it would not be acceptable to grant planning

permission for a redevelopment scheme which would have harmed the setting of the palace on the basis that such harm would be outweighed by some other planning advantage [2011] EWCA Civ 891 at [14]. Far from assisting Mr Nardell's case, the *Garner* case is an example of the practical application of the advice in policy HE9.1: that substantial harm to designated heritage assets of the highest significance should not merely be exceptional, but "wholly exceptional".

28 It does not follow that if the harm to such heritage assets is found to be less than substantial, the balancing exercise referred to in policies HE9.4 and HE10.1 should ignore the overarching statutory duty imposed by section 66(1), which properly understood (see the *Bath Society* case [1991] 1 WLR 1303, the *South Lakeland* case [1992] 2 AC 141 and the*Heatherington* case 69 P & CR 374) requires considerable weight to be given by decision-makers to the desirability of preserving the setting of all listed buildings, including Grade II listed buildings. That general duty applies with particular force if harm would be caused to the setting of a Grade I listed building, a designated heritage asset of the highest significance. If the harm to the setting of a Grade I listed building would be less than substantial that will plainly lessen the strength of the presumption against the grant of planning permission (so that a grant of permission would no longer have to be "wholly exceptional"), but it does not follow that the "strong presumption" against the grant of planning permission has been entirely removed.

29 For these reasons, I agree with Lang J's conclusion that Parliament's intention in enacting section 66(1) was that decision-makers should give "considerable importance and weight" to the desirability of preserving the setting of listed buildings when carrying out the balancing exercise. I also agree with her conclusion that the inspector did not give considerable importance and weight to this factor when carrying out the balancing exercise in this decision. He appears to have treated the less than substantial harm to the setting of the listed buildings, including Lyveden New Bield, as a less than substantial objection to the grant of planning permission. The second defendant's skeleton argument effectively conceded as much in contending that the weight to be given to this factor was, subject only to irrationality, entirely a matter for the inspector's planning judgment. In his oral submissions Mr Nardell contended that the inspector had given considerable weight to this factor, but he was unable to point to any particular passage in the decision letter which supported this contention, and there is a marked contrast between the "significant weight" which the inspector expressly gave in para 85 of the decision letter to the renewable energy considerations in favour of the proposal having regard to the policy advice in PPS22, and the manner in which he approached the section 66(1) duty. It is true that the inspector set out the duty in para 17 of the decision letter, but at no stage in the decision letter did he expressly acknowledge the need, if he found that there would be harm to the setting of the

many listed buildings, to give considerable weight to the desirability of preserving the setting of those buildings. This is a fatal flaw in the decision even if grounds 2 and 3 are not made out.

[2015] 1 WLR 45 at 57

Ground 2

30 Grounds 2 and 3 are interlinked. The applicants contend that the inspector either misapplied the relevant policy guidance, or if he correctly applied it, failed to give adequate reasons for his conclusion that the harm to the setting of the listed buildings, including Lyveden New Bield, would in all cases be less than substantial. I begin with the policy challenge in ground 2. Lang J set out the policy guidance relating to setting in PPS5 and the practice guide in [2013] 2 P & CR 94, paras 62-64. The contribution made by the setting of Lyveden New Bield to its significance as a heritage asset was undoubtedly a "principal controversial" issue at the inquiry. In his proof of evidence on behalf of the local planning authority Mr Mills, its senior conservation officer, said, at para 4.5.1:

> "To make an assessment of the indirect impact of development or change on an asset it is first necessary to make a judgment about the contribution made by its setting."

Having carried out a detailed assessment of that contribution he concluded, at para 4.5.17:

> "In summary, what Tresham created at the site was a designed experience that was intimately linked to the surrounding landscape. The presence of the four prospect mounts along with the raised terrace provide a clear indication of the relationship of the site with the surrounding landscape."

Only then did he assess the impact of the proposed development on the setting by way of "a discussion as to the impact of the proposal on how the site is accessed and experienced by visitors".

31 In its written representations to the inquiry English Heritage said of the significance and setting of Lyveden New Bield:

> "The aesthetic value of the Lyveden heritage assets partly derives from the extraordinary symbolism and quality of the New Bield and the theatrical design of the park and garden. However, it also derives from their visual association with each other and with their setting. The New Bield is a striking presence when viewed on the skyline from a distance. The New Bield and Lyveden park and garden are wonderfully complemented by their undeveloped setting of woodland, pasture and arable land."

In para 8.23, English Heritage said:

> "The New Bield and Lyveden park and garden were designed to be prominent and admired in their rural setting, isolated from competing structures. The character and setting of the Lyveden heritage assets makes a crucial contribution to their significance individually and as a group."

32 In its written representations to the inquiry the National Trust said, at para 11, that each arm of the cruciform New Bield "was intended to offer extensive views in *all directions* over the surrounding parks and the Tresham estate beyond". The National Trust's evidence, at para 12, was that "one if not *the principal designed view from* within the lodge was from the

[2015] 1 WLR 45 at 58

withdrawing rooms which linked to the important Great Chamber and Great Hall on the upper two levels of the west arm of the lodge". The Trust contended that this vista survived today, and was directly aligned with the proposed wind farm site. (Emphasis in both paragraphs as in the original.)

33 In his proof of evidence, the planning witness for the Stop Barnwell Manor Wind Farm Group said that:

> "the views of Lyveden New Bield from the east, south-east and south, both as an individual structure and as a group with its adjoining historic garden and listed cottage, are views of a very high order. The proposed turbines, by virtue of their monumental scale, modern mechanical appearance, and motion of the blades, would be wholly alien in this scene and would draw the eye away from the New Bield, destroying its dominating presence in the landscape."

34 This evidence was disputed by the second defendant's conservation witness, and the second defendant rightly contends that a section 288 appeal is not an opportunity to re-argue the planning merits. I have set out these extracts from the objectors' evidence at the inquiry because they demonstrate that the objectors were contending that the undeveloped setting of Lyveden New Bield made a crucial contribution to its significance as a heritage asset; that the New Bield (the lodge) had been designed to be a striking and dominant presence when viewed in its rural setting; and that the lodge had been designed so as to afford extensive views in all directions over that rural setting. Did the inspector resolve these issues in his decision, and if so, how?

35 I endorse Lang J's conclusion that the inspector did not assess the contribution made by the setting of Lyveden New Bield, by virtue of its being undeveloped, to the significance of Lyveden New Bield as a heritage asset. The inspector did not grapple with (or if he did consider it, gave no reasons for rejecting) the objectors' case that the setting of Lyveden New Bield was of crucial importance to its significance as a heritage asset because Lyveden New Bield was designed to have a dominating presence in the surrounding rural landscape, and to afford extensive views in all directions over that landscape; and that these qualities would be seriously harmed by the visual impact of a modern man-made feature of significant scale in that setting.

36 The inspector's reason for concluding in para 51 of the decision that the presence of the wind turbine array, while clearly having a detrimental effect on the setting of Lyveden New Bield, would not reach the level of substantial harm, was that it would not be so distracting that it would not prevent, or make unduly difficult, an understanding, appreciation or interpretation of the significance of the elements that make up Lyveden New Bield or Lyveden Old Bield or their relationship to each other.

37 That is, at best, only a partial answer to the objectors' case. As the practice guide makes clear, the ability of the public to appreciate a heritage asset is one, but by no means the only, factor to be considered when assessing the contribution that setting makes to the significance of a heritage asset. The contribution that setting makes does not depend on there being an ability to access or experience the setting: see in particular paras 117 and 122 of the practice guide, cited in Lang J's judgment [2013] 2 P & CR 94, para 64.

Ground 3

38 The inspector said that his conclusion in para 51 of the decision letter that the presence of the wind turbine array would not be so distracting that it would prevent or make unduly difficult, an understanding, appreciation or interpretation of the significance of the elements that make up Lyveden New Bield had been reached on the basis of his conclusions in para 50. In that paragraph, having said that the wind turbine array

> "would be readily visible as a backdrop to the garden lodge in some directional views, from the garden lodge itself in views towards it, and from the prospect mounds, from within the ... orchard, and various other places around the site, at a separation distance of between one and two kilometres",

the inspector gave three reasons which formed the basis of his conclusion in para 51.

39 Those three reasons were: (a) The turbines would not be so close, or fill the field of view to the extent, that they would dominate the outlook from the site. (b) The turbine array would not intrude on any obviously intended, planned view out of the garden or the garden lodge (which has windows all around its cruciform perimeter). (c) Any reasonable observer would know that the turbine array was a modern addition to the landscape, separate from the planned historic landscape, or building they were within, or considering, or interpreting.

40 Taking those reasons in turn, reason (a) does not engage with the objectors' contention that the setting of Lyveden New Bield made a crucial contribution to its significance as a heritage asset because Lyveden New Bield was designed to be the dominant feature in the surrounding rural landscape. A finding that the "readily visible" turbine array would not dominate the outlook from the site puts the boot on the wrong foot. If this aspect of the objectors' case was not rejected (and there is no reasoned conclusion to that effect) the question was not whether the turbine array would dominate the outlook from Lyveden New Bield, but whether Lyveden New Bield would continue to be dominant within its rural setting.

41 Mr Nardell's submission to this court was not that the inspector had found that there were no planned views (cf the submission recorded in para 70 of Lang J's judgment), but that the inspector had concluded that the turbine array would not intrude into obviously intended or planned views *if any* . That submission is difficult to understand given the inspector's conclusion that the turbine array would be "readily visible" from the garden lodge, from the prospect mounds, and from various other places around the site. Unless the inspector had concluded that there were *no* intended or planned views from the garden or the garden lodge, and he did not reach that conclusion (see para 47 of the decision letter), it is difficult to see how he could have reached the conclusion that the "readily visible" turbine array would not "intrude" on any obviously intended or planned views from the garden lodge. I am inclined to agree with Mr Nardell's alternative submission that the inspector's conclusion that while "readily visible" from the garden lodge, the turbine array would not "intrude" on any obviously intended or planned view from it, is best

understood by reference to his third conclusion in para 50. While visible in views from the garden lodge the turbine array would not intrude upon, in the sense of doing substantial harm to, those views, for the reasons given in the last sentence of para 50.

42 I confess that, notwithstanding Mr Nardell's assistance, I found some difficulty, not in understanding the final sentence of para 50--plainly any reasonable observer would know that the turbine array was a modern addition to the landscape and was separate from the planned historic landscape at Lyveden New Bield--but in understanding how it could rationally justify the conclusion that the detrimental effect of the turbine array on the setting of Lyveden New Bield would not reach the level of substantial harm. The inspector's application of the "reasonable observer" test was not confined to the effect of the turbine array on the setting of Lyveden New Bield. As Lang J pointed out in para 57 of her judgment, in other paragraphs of his decision letter the inspector emphasised one particular factor, namely the ability of members of the public to understand and distinguish between a modern wind turbine array and a heritage asset, as his reason for concluding either that the proposed wind turbines would have no impact on the settings of other heritage assets of national significance (paras 28-31); or a harmful impact that was "much less than substantial" on the setting of a Grade I listed church in a conservation area: para 36.

43 Matters of planning judgment are, of course, for the inspector. No one would quarrel with his conclusion that "any reasonable observer" would understand the differing functions of a wind turbine and a church and a country house or a settlement (para 30); would not be confused about the origins or purpose of a settlement and a church and a wind turbine array (para 36); and would know that a wind turbine array was a modern addition to the landscape (para 50); but no matter how non-prescriptive the approach to the policy guidance in PPS5 and the practice guide, that guidance nowhere suggests that the question whether the

harm to the setting of a designated heritage asset is substantial can be answered simply by applying the "reasonable observer" test adopted by the inspector in this decision.

44 If that test was to be the principal basis for deciding whether harm to the setting of a designated heritage asset was substantial, it is difficult to envisage any circumstances, other than those cases where the proposed turbine array would be in the immediate vicinity of the heritage asset, in which it could be said that any harm to the setting of a heritage asset would be substantial: the reasonable observer would always be able to understand the differing functions of the heritage asset and the turbine array, and would always know that the latter was a modern addition to the landscape. Indeed, applying the inspector's approach, the more obviously modern, large scale and functional the imposition on the landscape forming part of the setting of a heritage asset, the less harm there would be to that setting because the "reasonable observer" would be less likely to be confused about the origins and purpose of the new and the old. If the "reasonable observer" test was the decisive factor in the inspector's reasoning, as it appears to have been, he was not properly applying the policy approach set out in PPS5 and the practice guide. If it was not the decisive factor in the inspector's

reasoning, then he did not give adequate reasons for his conclusion that the harm to the setting of Lyveden New Bield would not be substantial. Since his conclusion that the harm to the setting of the designated heritage assets would in all cases be less than substantial was fed into the balancing exercise in paras 85 and 86, the decision letter would have been fatally flawed on grounds 2 and 3 even if the inspector had given proper effect to the section 66(1) duty.

Conclusion

45 For the reasons set out above, which largely echo those given by Lang J in her judgment, I would dismiss this appeal.

RAFFERTY LJ

46 I agree.

MAURICE KAY LJ

47 I also agree.

Appeal dismissed.

Alison Sylvester, Barrister

1 Planning (Listed Buildings and Conservation Areas) Act 1990, s 66(1): see post, para *2*.

2 Planning Policy Statement 5, policies HE9.1, HE9.4, HE10.1: see post, para *3*.

Thanet District Transport Strategy 2015-2031

Draft Version 2
July 2018

thanet
district council

Appendix C
Infrastructure Proposals

Type	Description	Reason	Potential Funding Source	Cost*
Road	Create New Road Link Between A28 Brooksend Hill and Minnis Road.	To manage congestion at Birchington Square and offer alternative routes to Birchington seafront areas improving Air Quality	(S38)(S106)	On Site
Road	Create New Road link between A28 Brooksend Hill and Acol Hill/B2050.	To manage traffic congestion at Birchington Square and A28 Corridor and form the start of major new road corridor to Westwood	On Site (S38)(S106)	On Site
Road	Widen B2050 Manston Road between junction with Acol Hill and Shottendane Road.	To manage traffic congestion at Birchington Square and A28 Corridor and form the start of major new road corridor to Westwood	On Site (S38)(S106)	£5,000,000
Road	Widen / provide necessary localised Improvements to Shottendane Road as far as the vicinity of Firbank Gardens	To manage traffic congestion at Birchington Square and A28 Corridor and form the start of major new road corridor to Westwood.	S106 / External	£15,000,000
Road	Create new road link between Shottendane Road / Manston Road. Close off Shottendane Road at junction with Manston Road.	To manage traffic congestion at Birchington Square and A28 Corridor and form the start of major new road corridor to Westwood Avoiding Coffin House Corner Junction	On Site (S38)(S106)	On Site
Road	Create new road link between Manston Road and Nash Road behind Salmestone Grange and close off Nash Road at its junction of Coffin House Corner.	To manage traffic congestion in locality and form the start of major new road corridor to Westwood Avoiding Coffin House Corner Junction	On Site (S38)(S106)	On Site
Road	Reconfigure Coffin House Corner Signal Junction. Close off Nash Road Arm and improve capacity and pedestrian facilities.	To reduce journey time / congestion whilst providing safer access for children walking to school	S106 / S278	£500,000
Road	To reconfigure roundabout at Queens Avenue/Tivoli Road/Grosvenor Gardens and introduce one-way flow on Queens Avenue	To improve safety at junction and facilitate re-routing of tourist traffic bound for Seafront and Margate Old Town	S106	Completed
Road	Marine Terrace Public Realm Improvements (only if funded externally)	Environmental / regeneration - Improve pedestrian environment	External Funding	£16,000,000
Road	To re-route tourist traffic away from Margate seafront, by providing junction improvements and potentially reintroducing two way flow to Tivoli Road.	To manage traffic congestion at Clock tower junction and reduce journey times	S106 / CIL	£3,000,000

Type	Description	Reason	Potential Funding Source	Cost*
Road	Reconfigure Victoria Traffic Signal junction	To manage journey times and relieve congestion	S106 / CIL	Nominal
Road	Widen Nash Road along its existing alignment to new LDR Standard	To manage traffic congestion on A254 Corridor by facilitating major new road corridor to Westwood Avoiding Coffin House Corner Junction	S278 / 38 On Site	On Site
Road	Connect Enterprise Road to Nash Road	To provide access to employment and retail destinations, and to manage traffic impact at Westwood and Victoria Traffic signals	S278 / 38 / S106	£1,000,000
Road	Upgrade Tesco internal link road to adoptable standard between Westwood Road and Margate Road. Extend Millennium Way to New Link Road	To relieve Westwood roundabout and A256 Westwood Road Corridor for journeys between Ramsgate and Broadstairs	External Funding	£8,000,000
Road	Create new road between Toby Carvery Roundabout (A256) and B2050 (Across Northern Grass within Manston Airport site) to provide relief to Haine Road Corridor. Improve approach and roundabout at Westwood Cross to increase capacity	To provide enhanced access to Westwood, manage congestion and relieve the A256 Haine Road Corridor.	S106 / Part on Site	£12,000,000 (Off site Section)
Road	Improvements Spitfire junction.	To manage safety at this junction	S278	£1,000,000
Road	To extend Columbus Avenue to Manston Road Birchington.	Improve road capacity to meet increased surface transport movements associated with future development.	S106 / External	£10,000,000
Road	Improvements to Dane Court Road / Westwood Road Junction to improve journey time reliability.	To manage traffic congestion on the A256 / A255 road corridors	CIL / S106	£1,000,000
Road	To investigate High Street, St. Lawrence/ Newington Road junction to improve air quality and address congestion.	To manage congestion improve Air Quality (Signage Scheme)	S106	£50,000
Road	New Link Road through Manston Green Site and Junction improvements at Manston Road / Haine Road Roundabout	To provide access to development site and manage congestion on the A256 Haine Road Corridor	S106 / External	£3,000,000

Type	Description	Reason	Potential Funding Source	Cost*
Cycle	Creation of a New Shared Cycleway on the A28 Between Birchington & Garlinge	To connect new communities and provide access to secondary schools.	S106 / CIL / LTP	TBC
Cycle	Improvements to Westwood main junction and adjacent roads to improve bus and cycle provision and improve accessibility and movement for pedestrians between different areas of Westwood Town Centre	To provide better bus access and a more walkable town centre.	S106 / CIL / LTP	TBC
Cycle	Construct shared facility on Sloe Lane, Margate.	Improve sustainable transport links between Dane Valley and Westwood to encourage cycle use.	S106 / CIL / LTP	TBC
Cycle	Create shared facility on existing path to the R/O Bromstone School, Broadstairs to connect to Millennium Way to offer alternative to cycling on Rumfields Road.	Improve sustainable transport links between Broadstairs and Westwood to encourage cycle use for retail, leisure and education trips.	S106 / CIL / LTP	TBC
Cycle	Create shared facility on existing footpath between Ramsgate Road, Broadstairs and Dumpton Park Drive, Broadstairs to the side of former Holy Cross School.	Improve cycle links to East Kent College	S106 / CIL / LTP	TBC
Cycle	From Ramsgate Railway Station create shared facility on existing footpath to Newington Road.	Improve cycle links to Ramsgate Station for surrounding residential catchments	S106 / CIL / LTP	TBC
Cycle	From east of Ramsgate Railway Station create shared facility on existing path to Margate Road, provide crossing facility to access Newlands Road and create link to Pysons Road using Newlands Lane.	Provide better linkage between local schools and Ramsgate Rail Station.	S106 / CIL / LTP	TBC
Cycle	Off road section between Convent Road, Broadstairs and the existing off road shared facility further along Joss Gap Road (on edge of golf course).	To complete missing section of Viking Coastal Trail - Improve attractiveness of this route and safety.	S106 / CIL / LTP	TBC
Cycle	Between Dent-de-Lion Road, Garlinge and Park Road, Birchington creating shared facility on existing public rights of ways.	Provide better cycle access / connectivity between new development site and wider PROW network.	S106 / CIL / LTP	TBC
Cycle	Creation of shared facility on south east side of Dane Park, Margate to link Dane Valley cycle route with Northdown Road, via St Dunstan's Avenue.	Improve cycle access to Dane Park and Retail and residential destinations in Cliftonville	S106 / CIL / LTP	TBC

Type	Description	Reason	Potential Funding Source	Cost*
Cycle	Creation of a shared facility between Canterbury Road West, Ramsgate and Canterbury Road East using existing bridge facility to the east of Haine Road and north of Canterbury Road East.	To link Cliffsend to wider highway network. Improve access to Mixed use development on Former Manston Airport Site	S106 / CIL / LTP	TBC
Cycle	Provide missing shared facility on SW side of St Peter's Road between Broadley Road and Lister Road, Margate.	Improve Cycle links between Broadstairs including QEQM Hospital	S106 / CIL / LTP	TBC
Cycle	Provide new shared facility between Durlock and Sevenscore as alternative to Grinsell Hill/ The Lanes/Foxborough Lane.	Provide enhanced connectivity between Minster and Cliffsend to future Thanet Parkway Station	S106 / CIL / LTP	TBC
Cycle	Upgrade footpath TM31 to bridleway to link to bridleway TE12A & link to Shottendane Road improvements to provide shared use pedestrian cycle route.	Provide better connectivity between development settlements	S106 / CIL / LTP	£165,000
Cycle	Improvement of Bridleway TM22 surface to width of 3m as part of Garlinge development.	Link Garlinge and Strategic Allocations to wider highway network	S106 / CIL / LTP	£79,000
Cycle	Upgrade Footpath TM14 on edge of development to Bridleway.	Link Garlinge and Strategic Allocations to wider highway network	S106 / CIL / LTP	£61,000
Cycle	Provide improved surface and widen Bridleway TM11	Link Garlinge and Strategic Allocations to wider highway network	S106 / CIL / LTP	£89,000
Cycle	Provide improved surface and widen Bridleway TM16	Link Garlinge and Strategic Allocations to wider highway network	S106 / CIL / LTP	£140,000
Cycle	Upgrade Footpath TR24 to Bridleway —Crossing point required on Manston to Haine Road Link.	To Provide linkage between allocation sites and Westwood	S106 / CIL / LTP	£208,000
Cycle	Upgrade Footpath TR9 to Bridleway	To Link Former Manston Airport allocation to Manston Green and wider Highway network	S106 / CIL / LTP	£46,000
Cycle	Improve surface of Bridleway TR8 and widen to 3m	To Link Former Manston Airport allocation to wider highway network including Manston to Haine Road	S106 / CIL / LTP	£132,000
Cycle	Creation of new Bridleway and Improve TR32 to link development to future Parkway Station	To provide linkage between development site and Parkway Station	S106 / CIL / LTP	£98,000
Cycle	Improve surface of Bridleway TR10 and widen to 3m	To Link Former Manston Airport allocation to Manston Green and wider Highway network	S106 / CIL / LTP	£143,000

Type	Description	Reason	Potential Funding Source	Cost*
Rail	Thanet Parkway – New station with 300 parking spaces to be located at Cliffsend	To relieve parking problems around existing stations and to serve future needs of Local Plan growth Discovery Park directly	External (LGF) Private Funding	£21,400,000

*It should be noted that all infrastructure costs are considered draft at this stage and will be subject to change as projects are refined/progressed.

Thanet Parkway Railway Station

Public Consultation Report

August 2017

Alternative formats:
For any alternative formats of the consultation material, please email **alternativeformats@kent.gov.uk** or call 03000 421553 (text relay service number 18001 03000 421553). This number goes to an answering machine, which is monitored during office hours.

general support for the station, especially if the airport was to reopen. Further information in regards to the letters received from Historic England and Dover District Council can be found in section *10. Stakeholder Responses*

In his letter, Sir Roger Gale M.P wrote in relation to the future of Manston Airport and how the consultation fails to make reference to the airport. He also provided comments on the road access arrangements and expressed preference for direct access from the existing roundabout, whilst also requesting the car park be enlarged. Furthermore, the MP requested that the overbridge be replaced with a well-lit and CCTV monitored underpass in order for the station to be less dominating on the landscape, which he mentions is also a concern of a number of his constituents.

9.2. Emails received

The vast majority of email responses received were from members of the public apart from one which was from Sandwich Town Council.

Themes from the email responses aligned to the questionnaire responses and included comments in relation to the rationale for delivering the station, concerns regarding the closure of existing stations, the future of Manston Airport, impact on journey times, and general support or objection for the proposal.

There were also a number of emails received which made comment on Thanet District Council's draft local plan, which whilst being consulted on at the same time, was entirely separate to the Thanet Parkway consultation. However, any comments made in relation to the proposed Thanet Parkway station were noted and analysed using the same methodology as the questionnaire responses.

10. Organisation responses

Consultation responses were received from a range of stakeholders, including Dover District Council, Historic England, CPRE Kent and Kent Association for the Blind. A summary of their responses is set out below.

Dover District Council

Dover District Council (DDC) responded to the consultation in the form of a letter. In their response, DDC expressed support for the project and that it views the provision of a new Parkway Station as supporting ongoing development at Discovery Park Enterprise Zone and the ongoing expansion and accessibility of the Dover area.

DDC also outlined a number of rail matters on which they wish to press Network Rail and the Train Operating Company. These included making the case for all services to stop at Thanet Parkway and ensuring that Thanet Parkway can fully accommodate 12 car trains.

Furthermore, DDC confirmed their support for working with KCC to deliver the Parkway station.

[redacted]

FOI
NEL CSU
Kent House - 4th Floor
81 Station Road
Ashford
TN23 1PP

Email: NELCSU.foi@nhs.net
www.thanetccg.nhs.uk

11th February 2019

Our Ref: FOI.18.THA199

Dear [redacted]

RE: FREEDOM OF INFORMATION REQUEST

Thank you for your request for information under the Freedom of Information Act 2000 received on 15th December 2018 by NHS Thanet Clinical Commissioning Group (CCG). The information you have requested is listed below together with the response:

Could you please provide information about all correspondence you have had and any members of the Thanet Clinical Commissioning Group have had with RiverOak Strategic Partners including but not limited to any of their associated companies and/or professional advisors and/or any third party.

Clarification Requested: Can we please have clarification of your meaning of 'the members of the Thanet Clinical Commissioning Group'. The NHS Thanet CCG's understanding of the word 'members', as stated in their Constitution (page 7; section 3 – Membership), would be the GP practices.

Clarification Received: I meant members as you have defined and the individuals that make up the CCG's governing body.

I can confirm NHS Thanet CCG does hold this information. I can confirm, as far as they are aware, no NHS Thanet CCGs Governing Body member has had any correspondence with RiverOak Strategic Partners or any of their associated companies and/or professional advisors and/or any third party.

With regard to the NHS Thanet CCG GP Practices, I can confirm NHS Thanet CCG does not to hold this information. Therefore you may wish to redirect this part of your request to the individual GP Practices, who should be able to answer it for you. Their contact details can be found on the following link:

https://www.thanetccg.nhs.uk/about-us/publications/?assetdet8f69bb2e-477d-4a1d-9070-609ed325f716=373306&categoryesctl8f69bb2e-477d-4a1d-9070-609ed325f716=16633

[redacted]

We hope that this has dealt with your request for information however, should you remain dissatisfied, you have the right to request that we conduct an internal review of the way we have handled your request. If you would like us to conduct such a review please contact us within two months of this letter:

Email NELCSU.foi@nhs.net or

FOI-Internal Review Request
NEL CSU
Kent House - 4th Floor
81 Station Road
Ashford
TN23 1PP

Your request for an internal review will then be processed in accordance with our Freedom of Information Policy.

If you are still dissatisfied following the internal review, you have the right under Section 50 of the Freedom of Information Act (2000) to appeal against the decision by contacting the Information Commissioner. The Information Commissioner provides full and detailed guidance on the Freedom of Information Act and on when and how to complain.

Please find below the link to their website page and their helpline number.

https://ico.org.uk/for-the-public/official-information/

Helpline number: 0303 123 1113 or 01625 545745

In line with the Information Commissioner's directive on the disclosure of information under the Freedom of Information Act 2000 your request will form part of our disclosure log. Therefore, a version of our response, which will protect your anonymity, will be posted on the NHS Thanet Clinical Commissioning Group website.

Yours sincerely

Freedom of Information Team
NEL CSU

This Freedom of Information request has been processed by NEL CSU on behalf of

NHS Thanet Clinical Commissioning Group
Thanet District Council
Cecil St
Margate
Kent
CT9 1XZ

NEL CSU is NEL Commissioning Support Unit and is hosted by NHS England. NEL CSU provides a number of administrative functions including managing Freedom of Information Requests.

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From: Andrew.Scott-Clark@kent.gov.uk [mailto:Andrew.Scott-Clark@kent.gov.uk]
Sent: 10 October 2017 17:39
To: Tara Barratt
Cc: Andrew Buroni; Catherine.Barrett@kent.gov.uk
Subject: [EXT] RE: Manston Airport Health Impact Assessment

Further to our telephone conversation last week, I'm now responding on the draft scope of the HIA you have sent me for comment.

As you are aware the population of Thanet is diverse with a range of health needs with some of the most deprived communities in Kent being resident in the district of Thanet. In fact of the 88 Lower Layer Super output areas which make up the population with the highest rates of all age all cause mortality or lowest life expectancy in Kent, some 24 of those are situated in Thanet. A number of these will directly affected by your proposals, particularly Newington and Central Harbour/Eastcliffe areas of Ramsgate. We know that these populations will be more adversely affected by issues such as noise and air pollution than the general population.

The local health economy is also struggling to deliver sustainable health care services and the organisations that are responsible for delivering these (both commissioning and providing) will need to be consulted. This includes Thanet Clinical Commissioning Group, East Kent Hospitals Foundation Trust, Kent Community Healthcare Foundation Trust, Kent and Medway Partnership Trust, Southeast Ambulance Trust, as clearly both the construction phase and the operation phase may have impact on local health services; services that are currently under significant financial and capacity pressure.

I hope this is useful at this stage. Please note that I'm on A/L from today until 20th October inclusive and am happy to discuss further on my return.

Your sincerely

Andrew Scott-Clark | Director of Public Health | Kent County Council | Room 1.61, Sessions House, County Hall, County Road, Maidstone, Kent, ME14 1XQ | Internal 7200 416659 | External: +443000416659 |
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Please note my new KCC phone number

From: Tara Barratt [mailto:Tara.Barratt@rpsgroup.com]
Sent: 28 September 2017 17:27
To: Scott-Clark, Andrew - AH PH (Public Health)
Cc: Andrew Buroni; Barrett, Catherine - AH PH (Public Health)
Subject: RE: Manston Airport Health Impact Assessment

Hi Andrew,

Thanks for the quick response. Would you be around for a phone call early next week? We are working to a very tight schedule on this one.

American Academy of Nursing on Policy

Reduce noise: Improve the nation's health

Sally Lechlitner Lusk, PhD, RN, FAAN, FAAOHN[a,*],
Marjorie McCullagh, PhD, RN, PHNA-BC, COHN-S, FAAOHN, FAAN[a],
Victoria Vaughan Dickson, PhD, RN, FAHA, FAAN[b], Jiayun Xu, PhD, RN[c]

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Executive Summary

Although noise as a cause of hearing loss and tinnitus among civilian (Hearing health care for adults: Priorities for improving access and affordability, 2016) and military populations (Noise and military service: Implications for hearing loss and tinnitus, 2006) is well known, studies conducted in the past 15 years document that noise exposures negatively affect health by contributing to many diseases, including cardiovascular diseases, obesity, developmental delays, mental illness, and reduced job and academic performance (Basner et al., 2015; Lusk, Gillespie, Hagerty, & Ziemba, 2004; Münzel, Gori, Babisch, & Basner, 2014; Pyko et al., 2015; Ristovska, Laszlo, & Hansell, 2014; Tzivian et al., 2015; Yoon, Hong, Roh, Kim, & Won, 2015). Reducing noise will decrease the incidence of diseases and also decrease health care costs. The American Academy of Nursing supports efforts to determine sources of harmful noise, establish programs (e.g., educational, surveillance, testing) to reduce noise, and promote policies and legislation to control noise exposures (Lusk, McCullagh, Dickson, & Xu, 2016).

Background

Environmental noise, defined as unwanted or disturbing sounds (Clean air act overview: Title IV noise pollution, n.d.), is more than an annoyance; it is a public health hazard. It modifies the function of multiple body organs and systems (Table 1) and has a significant impact on the health of our nation and its economic well-being (Zaharna & Guilleminault, 2010). Reducing noise and the health problems it causes will result in a reduction in disease and health care costs (Swinburn, Hammer, & Neitzel, 2015).

In the United States, noise exposure is linked to multiple diseases that are among the top causes of death, including heart disease, heart attacks, stroke, and high blood pressure (Babisch, 2014; Vienneau, Schindler, Perez, Probst-Hensch, & Röösli, 2015). Sleep disturbance is another severe nonauditory effect of noise, causing acute and chronic sleep disorders that lead to changes in insulin and appetite-regulating hormones (Hume, 2010; Münzel et al., 2014). Noise is associated with several negative emotions, including anger, disappointment, dissatisfaction, withdrawal, helplessness, depression, anxiety, distraction, agitation, exhaustion, and stomach discomfort (World Health Organization: European Commission, 2015). Noise affects the health of infants, with noise exposure during pregnancy linked to low birth weight (Ristovska et al., 2014). Children who are exposed to noise also suffer from decreased reading skills and memory, impacting their school performance (Clark et al., 2006) as well as increased distractibility, annoyance (Stansfeld, Haines, & Brown, 2000), aggression, decreased helpfulness, and learning difficulties (Dinno, Powell, & King, 2011; Haines, Stansfeld, Job, Berglund, & Head, 2001; Kawada, 2004; Klatte, Bergstrom, & Lachmann, 2013; Lercher, Evans, Meis, & Kofler, 2002; Stansfeld & Clark, 2015; Stansfeld, Haines, Brown, 2000). Although many people recognize the effects of noise on hearing, fewer are aware that noise is the leading cause of tinnitus (head noises or ringing in the ears), affecting 50 million U.S. adults (Shargorodsky, Curhan, & Farwell, 2010).

The health effects of noise place a high economic burden on our society, which is comparable to the economic impact of passive smoking (Basner et al., 2014). On a global level, the World Health Organization conservatively estimates that at least one million healthy years of life are lost every year in western Europe alone because of traffic-related noise (World Health Organization: European Commission, 2015). Approximately 61,000 healthy years of life are lost because of ischemic heart disease, 45,000 years

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Table 1 – Examples of Auditory and Nonauditory Effects of Noise on Human Health

Body System	Health Effect
Sensory	Hearing loss and tinnitus
Sleep/rest	Difficulty falling asleep, awakenings, decreased sleep quality, fatigue, and headache
Cardiovascular	Hypertension, heart disease, stroke, and heart attack
Mental and emotional	Declines in verbal and nonverbal learning, psychomotor function, response speed, attentiveness, memory, recall, and helpfulness. Increases in cognitive difficulties, distractibility, annoyance, aggression, and hyperactivity
Reproductive	Low birth weight and prematurity
Endocrine	Overweight and obesity

because of cognitive impairment of children, and 903,000 years because of sleep disturbance (World Health Organization: European Commission, 2015). A reduction in environmental noise levels (within the range of 45–75 dB) by a modest 5 decibels (dB) is expected to reduce the prevalence of hypertension by 1.4% and coronary heart disease by 1.8%, with an annual U.S. economic benefit of $3.9 billion (Swinburn et al., 2015).

These are just a few examples of the debilitating and potentially life-altering effects of environmental noise on health. Effects of environmental noise on health often go unnoticed, as they slowly build over time, and are often not recognized as associated with noise. The public, although generally aware that noise exposures cause hearing loss and tinnitus, is not well informed regarding the other negative effects of noise on health. Although the Environmental Protection Agency (EPA) is responsible at the federal level to control environmental noise, they are not funded to do this work. Therefore, responsibility for specific noise regulations has been left to the states with inadequate results and inconsistencies across the nation.

A 2016 National Academies of Sciences, Engineering, and Medicine report stated that hearing loss is a broad public health issue and that societies have a responsibility to improve the hearing environment for the public (Hearing health care for adults: Priorities for improving access and affordability, 2016). Thus, it is critical that the public be informed regarding the negative effects of noise on health and well-being and that policies and other strategies be developed and implemented to institute appropriate controls.

Noise Levels

Federal agencies, including the National Institute for Occupational Safety and Health (NIOSH) and the Occupational Safety and Health Administration (OSHA), have defined exposure limits for noise *among workers* by indicating length of exposure and decibel levels. The guide of NOISH for workers indicates that at 85 dB, the worker's exposure time is limited to 8 hr. For higher noise exposures, NIOSH reduces the allowable time by half for every 3-dB increase in noise level. Table 2 depicts noise levels from several sources to add meaning to the NIOSH-recommended exposure limits.

Studies documenting the negative effects of environmental noise have defined noise and measured noise exposures in a variety of ways. Although NIOSH and OSHA provide guidelines for length of exposure at different decibel levels for workers, no entity has determined the safe exposure levels for environmental noise for children and adults in the community. Thus, there is a need for the recommended surveillance of sources, further analysis of health effects, and reporting of these findings regarding environmental noise.

Table 2 – Examples of Noise Levels in Decibels (Criteria for a Recommended Standard: Occupational Noise Exposure [NIOSH Publication No. 98-126], 1998; Noise Thermometer, n.d.)

Decibel	Time to Risk of Hearing Damage	Example Sources
140	Immediate	Gunshot and jet engine on takeoff
125	<3 s	Pain threshold; air raid siren, and fire cracker
120	9 s	Rock concert and sandblasting
115	28 s	Baby's cry and stadium football game
110	1 min 29 s	Snowmobile from driver's seat
105	4 min 43 s	Jackhammer and helicopter
100	15 min	Chainsaw and stereo headphones
95	47 min 37 s	Motorcycle and power saw
90	2 hr 31 min	Lawnmower and truck traffic
30	None	Faint sound and whisper

Note. Occupational Safety and Health Administration Hearing Conservation program is mandated at 85 dB.

Responses and Policy Options

During the past 40 years, there have been numerous federal, international, and public health initiatives to address the health risks posed by inadequately controlled noise. These include the ones discussed here.

Federal and State Legislation

- The Noise Control Act of 1972 (Noise Control Act, 1972) established a national policy to promote an environment for all Americans free from noise that jeopardizes their health and welfare (Shapiro, 1992). Specifically, the act established a means for effective coordination of Federal research and activities in noise control and authorized establishment of Federal noise emission standards for products distributed in commerce. Importantly, the act provided information to the public about noise emission and noise reduction characteristics of these products.
- The Quiet Communities Act of 1978 (Carver, 1988) amended the Noise Control Act of 1972 and placed primary responsibility for noise control at the state and local government levels. The act also authorized the Office of Noise Abatement and Control (ONAC) to create a grants program and offer technical assistance to support state and local noise abatement efforts (Shapiro, 1992).
- The ONAC was created by the EPA following the enactment of the Noise Control Act of 1972. The purpose of ONAC was to regulate noise emission standards, implement product labeling, facilitate the development of low-emission products, coordinate Federal noise reduction programs, assist state and local noise abatement efforts, and promote noise education and research. Although ONAC was defunded in 1982 primarily because of federal budget cuts and the transfer of regulatory power back to state and local governments (Shapiro, 1992), the Noise Control Act of 1972 and Quiet Communities Act of 1978 are still law and remain in effect. The implications of ONAC defunding include lack of EPA resources to set new standards for either previous noise sources or new noise sources and to enforce existing standards. As a result, regulations promulgated by state and local governments to control noise vary widely; and there is a lack of centralized governmental clearing house for noise control and abatement.

Global Recommendations

- *1999 WHO Guidelines for Community Noise* (Berglund, Lindvall, & Schwela, 1999): Set guidelines for community noise and summarized sources of noise, health effects of noise, noise assessment, and noise management across global populations.
- *2002 European Union Directive on Environmental Noise* (European Union directive on environmental noise, 2002): Addressed the assessment and management of environmental noise in member states through strategic noise mapping, estimating population exposure, noise action planning, and dissemination of results to the general public.
- *2009 WHO Night Noise Guidelines for Europe* (Night noise guidelines for Europe, 2009): Updated evidence and recommendations to address targeted limits for night noise.
- *2010 WHO Assessment of Needs for Capacity Building for Health Risk Assessment of Environmental Noise* (Belojevic, Kim, & Kephalopoulos, 2012): Developed guidelines that included the need for consistent implementation of the Environmental Noise Directive 2002/49/European Commission, human resources development through education and training in health risk assessment, and provision of methodological guidelines for health risk assessment of environmental noise exposure.

Professional Organization Statements

- *American Academy of Pediatrics* (Noise: A hazard for the fetus and newborn, 1997): Provided information and recommendations to reduce the health effects of noise among fetuses and newborns.
- *American College of Occupational and Environmental Medicine* (Kirchner et al., 2012): Clarified best practices to diagnose noise-induced hearing loss.
- *American Academy of Audiology* (Position statement: Preventing noise-induced occupational hearing loss, 2003): Described the audiologists' role and responsibilities in the prevention of occupational hearing loss.

Recent U.S. Legislative Actions

Despite widespread agreement that noise exposure poses significant health concerns for children and adults, noise regulations vary widely by state and even within states at regional and local levels. Recognizing the growing health problems related to environmental noise, U.S. Representative Grace Meng (New York) introduced H.R. 3384 Quiet Communities Act 2015 in the 114th Congress to re-establish the ONAC under the EPA.

A related bill was introduced by U.S. Senator Chuck Schumer (New York) in the U.S. Senate (S. 3197: Quiet Communities Act of 2016). This legislation proposed that the responsibilities of the re-established ONAC will be to develop effective state and local noise control programs; implement a national noise control research program to assess the impacts of noise on mental and physical health; implement a national noise environmental assessment program to identify trends in noise exposure and response, ambient levels, and

compliance data and to determine the effectiveness of noise abatement actions; develop and disseminate information and educational materials to the public on the health effects of noise and the most effective means for noise control; develop national and regional educational and training materials and programs; establish regional technical assistance centers to assist state and local noise control programs; and undertake an assessment of the effectiveness of the Noise Control Act of 1972.

The Academy's Position

The American Academy of Nursing supports efforts to reduce noise at its source by requiring production and use of quieter equipment and appliances; implementing measures to reduce airport, railway, and road noise; and enacting legislative restrictions at state and local levels on reducing environmental noise levels, including those at public events (Lusk et al., 2016). The academy will collaborate with federal agencies, state and federal legislators, and nursing/non-nursing organizations to support the reduction of environmental noise.

Recommendations

1. Develop partnerships with federal agencies and organizations working on noise issues (e.g., Centers for Disease Control and Prevention, American Association of Occupational Health Nurses) and media outlets to facilitate the dissemination of noise education programs and noise health information to inform the public regarding noise exposure and its effects on human health.
2. Encourage nurses, physicians, and other health professionals and health organizations to work with their respective members of congress to enact federal legislation to re-establish the EPA ONAC; enact federal legislation to reduce environmental noise; appropriate dedicated funding to develop cost-effective strategies to mitigate the effects of noise on human health; appropriate funding for an EPA clearing house for noise-related policies as a resource for local governments; and urge the administration to create and maintain an environmental noise enforcement and surveillance system.
3. Advocate to the U.S. Department of Transportation to develop specific directives to establish clear industry and government roles in controlling exposure to noise from airports, roads, railways, heavy machinery, and other major noise sources.
4. Encourage the EPA to (a) develop partnerships with universities and/or private organizations to establish a centralized reporting system to measure noise in/around airports, industrial sites, highways, and others. National, state, and local level noise data could be generated from this system annually to provide a continuous assessment of noise health in the United States and inform future guidelines/policies for noise health; and (b) collaborate with aircraft and machinery manufacturers as well as highway developers to create a penalty and incentive system to make/design/purchase products that are within established noise guidelines.
5. Collaborate with other relevant organizations (e.g., The American Association of Retried Persons, Alliance of Nurses for Healthy Environments, American Medical Association) in the development of national programs to educate the public and health care providers about common noise sources, the ubiquitous nature of noise, groups at high risk for noise (e.g., children), and its effect on national health problems (e.g., obesity, hypertension, cardiovascular disease, prematurity). Programs could be embedded within established health programs such as health education programs in schools and community centers, or programs could be established solely for the dissemination of noise effects on health.

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Historic England
Urban Panel

Ramsgate Visit 28-29 September 2016

Final Report

Contents

5. Background to Planning for Ramsgate

Supported by Thanet District Council and Ramsgate Town Council, the Ramsgate Coastal Community Team published an Economic Plan for Ramsgate in April 2016, which provides a helpful background to issues facing the town:

> *"Ramsgate conforms to the common pattern of seaside towns in the UK with high unemployment, low skills base, poor educational attainment, poor health, an ageing population, and a higher proportion of lone parents on income support and claimants in receipt of disability benefit. It is made up of seven electoral wards: Cliffsend and Pegwell, Central Harbour, Eastcliff, Sir Moses Montefiore, Nethercourt, Newington, and Northwood.*
>
> *The population of around 40,500 is predominantly white British. The demographic profile is similar to Thanet overall with a relatively low BME population and an increasing number of Eastern Europeans as well as inward migration of both home-owners and benefit claimants from London.*
>
> *Ramsgate has always attracted retirees, but there is a trend for mature people and families to relocate to Ramsgate from London and its surrounding areas attracted by the relatively low house prices and the 'seaside life style'. These people often have the skills to work from home. However as in the past, the area does continue to attract those reliant on the state for support.*
>
> *Ramsgate was ranked fourth behind Blackpool, Clacton and Hastings in the ONS rankings for Coastal Community Deprivation (2014). The town has high levels of deprivation within four of its seven wards each containing LSOAs within the bottom decile. Severe income deprivation is found in five of the seven wards and it affects both children and older people. The town is struggling with low education and skills, affecting adults, children and young people. Educational development and attainment is poor, particularly in Newington, Northwood and Eastcliff where there are also a higher percentage of children with special educational needs.*
>
> *Residents of Ramsgate have a high incidence of poor health and an average life expectancy significantly lower than the figures for Kent as a whole. Adult obesity levels are high with obesity in children increasing between reception and year six. The prevalence of mental health issues is greater in Ramsgate than the Thanet area as a whole.*
>
> *Crime is exacerbated by drug and alcohol abuse, particularly assaults on the person and property theft. Death from chronic liver disease is almost double the regional average for both men and women. Thanet has more licensed premises than any other area of Kent and, within Thanet, Ramsgate has the highest number of public houses.*

Queen Mary
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Aircraft noise effects on health

Prepared for the Airports Commission

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Centre for Psychiatry
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May 2015

Table of Contents

1. Introduction

Recent years have seen an increase in the strength of the evidence linking environmental noise exposure (road, rail, airport and industrial noise) to health. The World Health Organization (WHO, 2011) recently estimated that between 1 and 1.6 million healthy life years (Disability-Adjusted Life Years) are lost annually because of environmental noise exposure[1], such as road traffic noise and aircraft noise, in high income western European Countries. The WHO estimated that each year 903,000 DALYS are lost due to sleep disturbance; 654,000 DALYS due to noise annoyance; 61,000 DALYS due to heart disease; and 45,000 DALYS due to cognitive impairment in children.

Aircraft noise negatively influences health if the exposure is long-term and exceeds certain levels (Basner et al., 2014). This review briefly summarizes the strength of the evidence for aircraft noise effects on cardiovascular health, sleep disturbance, annoyance, psychological well-being, and effects on children's cognition and learning, as well as briefly discussing guidelines for environment noise exposure. This evidence is related to the three shortlisted schemes for the new runway.

This is a selective review focusing on reviews assessing the strength of the evidence, as well as high quality, robust, large-scale epidemiological field studies of aircraft noise exposure, highlighting studies that have been conducted within the United Kingdom, where possible. It represents key studies within the field but should not be considered an exhaustive review. Studies of road traffic noise, as opposed to aircraft noise, have only been included where evidence for aircraft noise exposure is unavailable.

2. Aircraft noise effects on health: a review of recent evidence

2.1. Cardiovascular health

Over the past 10 years, evidence that aircraft noise exposure leads to increased risk for poorer cardiovascular health has increased considerably. A recent review, suggested that risk for cardiovascular outcomes such as high blood pressure (hypertension), heart attack, and stroke, increases by 7 to 17% for a 10dB increase in aircraft or road traffic noise exposure (Basner et al., 2014). A review of the evidence for children concluded that there were associations between aircraft noise and high blood pressure (Paunović et al., 2011), which may have implications for adult health (Stansfeld & Clark, 2015).

The HYENA study (HYpertension and Exposure to Noise near Airports) examined noise effects on the blood pressure (hypertension) of 4,861 people, aged 45-70 years, who had lived for over 5 years near 7 major European airports including London Heathrow; Amsterdam Schiphol; Stockholm Arlanda & Bromma; Berlin Tegel, Milan Malpensa; and Athens Eleftherios Venizelos (Jarup et al., 2008). High blood pressure was

[1] The range 1 to 1.6 million is given as it is not known if the effects for the different health outcomes are additive or if they might interact/co-occur.

assessed via measurements and medication use. The HYENA study found that a 10dB increase in aircraft noise at night (L_{night}) was associated with a 14% increase in odds for high blood pressure but day-time aircraft noise ($L_{Aeq\ 16\ hour}$) did not increase the odds for high blood pressure (Jarup et al., 2008). The HYENA study did not find an association between day-time aircraft noise and high blood pressure which might be because many residents work away from home during the day-time, leading to potential mis-classification of their day-time aircraft noise exposure. The HYENA study also found that a 10dB increase in night-time aircraft noise was associated with a 34% increase in the use of medication for high blood pressure in the UK (Floud et al., 2011). The HYENA study is a high quality large-scale study of aircraft noise exposure effects on blood pressure, which includes a population sample around London Heathrow airport. One short-coming of the study is that it assesses noise and health at the same point in time, meaning that we cannot be sure whether noise exposure occurred before the poorer health outcomes, or whether the poorer health outcomes may have preceded the noise exposure.

A recent study around London Heathrow airport examined risks for hospital admission and mortality for stroke, coronary heart disease and cardiovascular disease for around 3.6 million people living near London Heathrow airport (Hansell et al., 2013). Both day-time ($L_{Aeq\ 16\ hour}$) and night-time (L_{night}) aircraft noise exposure were related to increased risk for a cardiovascular hospital admission. Compared to those exposed to aircraft noise levels below 51dB in the day-time, those exposed to aircraft noise levels over 63dB in the day-time had a 24% higher chance of a hospital admission for stroke; a 21% higher chance of a hospital admission for coronary heart disease; and a 14% higher chance of a hospital admission for cardiovascular disease. These estimates took into account age, sex, ethnicity, deprivation and lung cancer mortality as a proxy for smoking. These results were also not accounted for by air pollution, which was adjusted for in the analyses. Similar effects were also found between aircraft noise exposure and mortality for stroke, coronary heart disease, and cardiovascular disease. The study concluded that high levels of aircraft noise were associated with increased risks of stroke, coronary heart disease, and cardiovascular disease for both hospital admissions and mortality in areas near Heathrow airport.

Further longitudinal evidence for an association between aircraft noise exposure and mortality from heart attacks comes from a large-scale Swiss study of 4.6 million residents over 30 years of age (Huss et al., 2010). This study found that mortality from heart attacks increased with increasing level and duration of aircraft noise exposure (over 15 years), but there were no associations between aircraft noise exposure and other cardiovascular outcomes including stroke or circulatory disease. The lack of association between aircraft noise and stroke differs from the findings of the similar study conducted around Heathrow airport, which did find an association of aircraft noise on stroke mortality (Hansell et al., 2013).

It is not uncommon for studies in this field to demonstrate some inconsistencies in the specific cardiovascular outcomes for which significant effects of aircraft noise associations are found. There are several explanations for this. Firstly, demonstrating environmental noise effects on cardiovascular disease requires very large samples.

Even in large samples effects may not be statistically significant, as the confidence intervals for the estimate of the effect can be wide, if the cardiovascular outcome does not have a high prevalence, e.g. incidence of stroke. Thus, studies vary in their sample size and in their ability to examine a range of cardiovascular outcomes. Secondly, with epidemiological studies, there is always the potential for residual confounding: the analyses may still not be taking into account all factors, which might be influencing the association between aircraft noise and cardiovascular disease. Thirdly, there is always the possibility of exposure mis-classification: the estimated aircraft noise exposure may be incorrect for some of the sample, which could influence the findings. For example, there is a limitation to using day-time aircraft noise exposure at home for adult samples, when they may work away from their home environment. Fourthly, there is variation in the level and range of aircraft noise exposures examined, which could explain differences between the studies. Despite these differences between the aircraft noise studies, the most recent meta-analysis of the field (Babisch, 2014) concluded that aircraft noise exposure was associated with increased risk for cardiovascular outcomes such as high blood pressure, heart attack and stroke.

It is biologically plausible that long-term exposure to environmental noise might influence cardiovascular health (Babisch, 2014). Figure 2.1. shows a model of proposed pathways between environmental noise exposure and cardiovascular diseases (Babisch, 2014). In brief, increased stress associated with noise exposure might cause physiological stress reactions in an individual, which in turn can lead to increases in established cardiovascular disease risk factors such as blood pressure, blood glucose concentrations, and blood lipids (blood fats). These risk factors lead to increased risk of high blood pressure (hypertension) and arteriosclerosis (e.g. narrowing of arteries due to fat deposits) and are related to serious events such as heart attacks and strokes (Babisch, 2014; Basner et al., 2014). The stress that triggers this pathway can operate directly via sleep disturbance or indirectly via interference with activities and annoyance.

To date, few studies have examined whether aircraft noise exposure influences metabolic risk factors for cardiovascular health, such as Type II diabetes, body mass index, and waist circumference. Such factors would lie on the proposed pathway between aircraft noise exposure and cardiovascular diseases. A recent study of long-term exposure to aircraft noise in Sweden found that exposure was associated with a larger waist circumference but less clearly with Type II diabetes and body mass index (Eriksson et al., 2014). This is an area of research where further evidence should be forthcoming in the next few years.

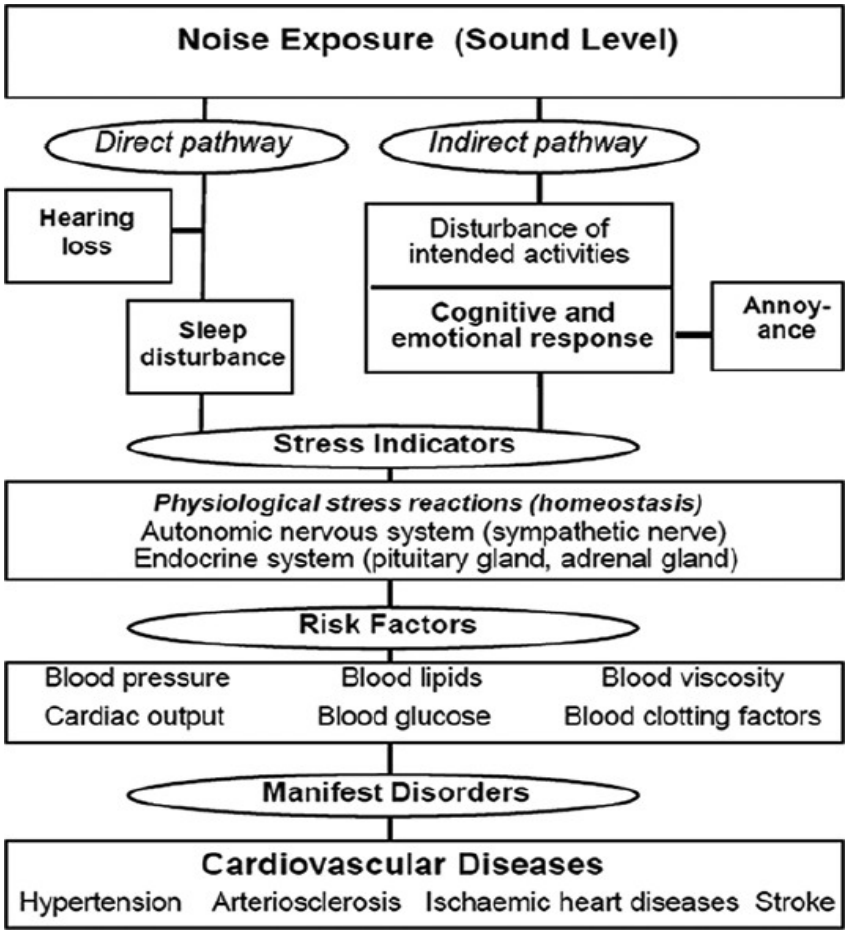

Figure 2.1. Pathways from environmental noise exposure to cardiovascular disease (Babisch, 2014).

2.2. Sleep disturbance

The WHO estimated sleep disturbance to be the most adverse non-auditory effect of environmental noise exposure (Basner et al., 2014; WHO, 2011). Undisturbed sleep of a sufficient number of hours is needed for alertness and performance during the day, for quality of life, and for health (Basner et al., 2014). Humans exposed to sound whilst asleep still have physiological reactions to the noise which do not adapt over time including changes in breathing, body movements, heart rate, as well as awakenings (Basner et al., 2014). The elderly, shift-workers, children and those with poor health are thought to be at risk for sleep disturbance by noise (Muzet, 2007).

The effect of night-time aircraft noise exposure has been explored for a range of sleep outcomes ranging from subjective self-reported sleep disturbance and perceived sleep quality, to more objective measures of interference with ability to fall asleep, shortened sleep duration, awakenings, and increased bodily movements as assessed

by polysomnography[2] (Michaud et al., 2007). Most evidence comes from studies of self-reported sleep disturbance. However, self-reported sleep disturbance outcomes are vulnerable to bias, as such measures are likely to be influenced by noise annoyance and other demographic factors (Clark & Stansfeld, 2011).

Reviews have concluded that there is evidence for an effect of night-time aircraft noise exposure on sleep disturbance from community based studies (Hume et al., 2012; Miedema & Vos, 2007). However, some reviews have concluded that the evidence is contradictory and inconclusive (Jones, 2009; Michaud et al., 2007), which might be explained by methodological differences between studies of noise effects on sleep disturbance. A meta-analysis of 24 studies, including nearly 23,000 individuals exposed to night-time noise levels ranging from 45-65dBA, found that aircraft noise was associated with greater self-reported sleep disturbance than road traffic noise (Miedema & Vos, 2007). However, another study, whilst confirming that aircraft noise was associated with greater self-reported sleep disturbance than road traffic noise, found that when polysomnography measures of sleep disturbance were analysed that road traffic noise was associated with greater disturbance than aircraft noise (Basner et al., 2011).

Polysomnography enables the assessment of noise effects on different stages of the sleep cycle. The average sleep cycle last between 90 to 110 minutes, and an individual experiences between four to six sleep cycles per night (Michaud et al., 2007). Figure 2.2. describes the duration and characteristics of each stage of the sleep cycle (Clark & Stansfeld, 2011) from wake, through non-rapid eye movement (NREM) stages 1 to 4, and rapid eye movement (REM) sleep. It is usual for people to move between NREM sleep stages several times before undergoing REM sleep. Slow-wave sleep (NREM stage 3 and 4) occurs more frequently in the first half of the night, and REM sleep propensity is greater in the second half of the night. Sleep disturbance is indicated by less stage 3, stage 4 and REM sleep, and by more wake and stage 1 sleep, as well as more frequent changes in sleep stage (Basner & Siebert, 2010).

There is evidence that aircraft noise influences the time spent in different sleep stages, with aircraft noise reducing slow-wave sleep (NREM Stage 4) and REM sleep and increasing NREM Stages 1, 2 & 3 (Basner et al., 2008; Swift, 2010). This evidence, taken with the increase in REM sleep in the later stages of the night might have implications for early morning (04.00-06.30 hours) flight operations at airports.

A laboratory study compared the potential effects of changes in the night-time curfew at Frankfurt airport on sleep disruption (Basner & Siebert, 2010), using polysomnography on 128 subjects over 13 nights. Three different operational scenarios were compared: scenario 1 was based on 2005 air traffic at Frankfurt airport which included night flights; scenario 2 was as scenario 1 but cancelled flights between 23.00-05.00 hours; scenario 3 was as scenario 1 but with flights between 23.00-05.00

[2] Polysomnography records biophysiological changes that occur during sleep, including brain waves using electroencephalography (EEG), eye movements using electroculography (EOG), muscle activity using electromyography (EMG), and heart rhythm using electrocardiography (ECG).

hours rescheduled to the day-time and evening periods. The study found that compared to the night without a curfew on night flights (scenario 1), small improvements were observed in sleep structure for the nights with curfew, even when the flights were rescheduled to periods before and after the curfew period. However, the change in the amount of time spent in the different sleep stages for the different scenarios was small, which might be explained by the small number of night-flights (on average 4 take-offs per hour) in the Frankfurt airport scenarios examined: larger effects may be observed for airports with a greater number of night-flights. The authors concluded that the benefits for sleep seen in the scenario involving rescheduling of flights rather than cancellation may be offset by the expected increase in air traffic during the late evening and early morning hours for those who go to bed before 22.30 or after 01.00 hours.

Wake	
Non-rapid eye movement (NREM)	
Stage 1	Light stage of sleep Lasts 5-10 minutes Bridge between wakefulness and sleep
Stage 2	Light stage of sleep Lasts around 20 minutes Brain waves of increased frequency Increased heart rate variability
Stage 3	Transition to deeper stages of sleep Increased amount of delta waves of lower frequency
Stage 4	Deepest stage of sleep Characterised by a greater number of delta waves
Rapid Eye Movement (REM) sleep	Typically starts 70-90 minutes after falling asleep Characterised by rapid eye movements Increases in brain activity Greater variability in respiration rate, blood pressure and heart rate

Figure 2.2. Stages of sleep, adapted from (Clark & Stansfeld, 2011).

The WHO Europe Night Noise Guidelines (WHO, 2009) were based on expert-consensus that there was sufficient evidence that nocturnal environmental noise exposure was related to self-reported sleep disturbance and medication use, and that there was some evidence for effects of nocturnal noise exposure on high blood pressure (hypertension) and heart attacks. The WHO Europe Night Noise Guidelines state that the target for nocturnal noise exposure should be 40 dB $L_{night,\ outside}$, which should protect the public as well as vulnerable groups such as the elderly, children, and the chronically ill from the effects of nocturnal noise exposure on health. The Night Noise Guidelines also recommend the level of 55 dB $L_{night,\ outside}$, as an interim target for countries wishing to adopt a step-wise approach to the guidelines. It is worth noting that the 40dB $L_{night\ outside}$ guideline represents a very low level of noise exposure, e.g. a refrigerator humming.

There have been fewer studies on aircraft noise exposure and sleep in children (Stansfeld & Clark, 2015), even though children are a group thought to be vulnerable to the effects of sleep disturbance (Pirrera et al., 2010). Drawing on studies of road traffic noise exposure in children, studies have suggested associations with sleeping problems (Tiesler et al., 2013), sleep quality (Ohrstrom et al., 2006) and sleepiness during the day (Ohrstrom et al., 2006) but not with difficulties falling asleep (Ohrstrom et al., 2006). However, these studies are limited by small samples and self-reports of sleep. Children sleep outside the typical hours used to denote night-time noise exposure around airports (e.g. L_{night} is typically 23.00 hours to 07.00 hours), so exposures during the hours of the evening and morning, which would fall within day-time exposure metrics may also be relevant when considering sleep disturbance effects for children.

2.3. Annoyance

Annoyance is the most prevalent community response in a population exposed to environmental noise. The term annoyance is used to describe negative reactions to noise such as disturbance, irritation, dissatisfaction and nuisance (Guski, 1999). Annoyance can also be accompanied by stress-related symptoms, leading to changes in heart rate and blood pressure, as described above. Acoustic factors, such as the noise source and sound level, account for only a small to moderate amount of annoyance responses: other factors such as the fear associated with the noise source, interference with activities, ability to cope, noise sensitivity, expectations, anger, attitudes to the source – both positive or negative, and beliefs about whether noise could be reduced by those responsible influence annoyance responses (WHO, 2000).

Annoyance scales are commonly used within European policy to measure the quality of life impact of environmental noise exposure on communities around airports. An International Standard is in place governing the measurement of annoyance in community surveys (Fields et al., 2001; ISO/TS, 2003), with questions typically taking the format “Thinking about the last year when you are at home, how much does the noise from aircraft bother, disturb or annoy you?” with responses ideally given on a 10 point scale with 0 being ‘not at all annoyed’ and 10 being “extremely annoyed”. This question is often reported as the % of the population “highly annoyed” or “annoyed”, where “highly annoyed” is 72% or more on the scale and “annoyed” is 50% or more on the scale.

Exposure to aircraft noise at 60dB L_{den} is estimated to be associated with 38% of the population reporting being “annoyed” and 17% being “highly annoyed” (EC, 2002). Exposure to aircraft noise at 65dB L_{den} is estimated to be associated with 48% of the population reporting being “annoyed” and 26% being “highly annoyed” (EC, 2002). However, in recent years, several studies have suggested that aircraft noise annoyance around major airports in Europe has increased (Babisch et al., 2009; Janssen et al., 2011; Schreckenberg et al., 2010), so the percentage of the population reporting being “annoyed” or “highly annoyed” at each noise exposure level may have

increased since these figures were put forward by the European Commission in 2002 (EC, 2002).

Annoyance responses can also increase in relation to a change in airport operations. A study around Zurich airport found that residents who experienced a significant increase in aircraft noise exposure due to an increase in early morning and late evening flight operations had a pronounced over-reaction of annoyance i.e. the annoyance reaction was greater than that which would be predicted by the level of noise exposure (Brink et al., 2008).

Children also report annoyance responses, although it is not known at what age children being to exhibit annoyance responses. The RANCH (Road traffic and Aircraft Noise exposure and children's Cognition and Health) study found that children aged 9-11 years of age living near London Heathrow, Amsterdam Schiphol, and Madrid Barajas airports, reported annoyance for aircraft noise exposure at school and at home (van Kempen et al., 2009). For school exposure the percentage of "highly annoyed" children increased from about 5.1% at 50dB $L_{Aeq\ 16\ hour}$, to 12.1% at 60dB $L_{Aeq\ 16\ hour}$.

2.4. Psychological health

Following on from annoyance, it has been suggested that long-term noise exposure might influence psychological health. However, overall the evidence for aircraft noise exposure being linked to poorer well-being, lower quality of life, and psychological ill-health is not as strong or consistent as for other health outcomes, such as cardiovascular disease. A recent study of 2300 residents near Frankfurt airport found that annoyance but not aircraft noise levels per se ($L_{Aeq16\ hour}$, L_{night}, L_{den}) was associated with self-reported lower quality of life (Schreckenberg et al., 2010).

Several studies of children around London Heathrow airport have shown no effect of aircraft noise at school on children's psychological health or cortisol levels (Haines et al., 2001a; Haines et al., 2001b; Stansfeld et al., 2009): we would expect cortisol levels to be raised in children with depression. However, there may be a small effect of aircraft noise on hyperactivity symptoms. The West London Schools Study of 451 children around Heathrow airport, aged 8-11 years found higher rates of hyperactivity symptoms for children attending schools exposed to aircraft noise exposure >63dB $L_{Aeq\ 16\ hour}$ compared with <57dB $L_{Aeq\ 16\ hour}$ (Haines et al., 2001a). A similar effect was observed in the RANCH study where 10dB $L_{Aeq\ 16\ hour}$ increase in aircraft noise exposure at school was associated with 0.13 increase in hyperactivity symptoms (Stansfeld et al., 2009). However, these increases in hyperactivity symptoms, whilst statistically significant, are extremely small and most likely not of clinical relevance. Aircraft noise exposure does not appear to be causing children to develop hyperactivity problems.

There have been fewer studies of aircraft noise effects on adult psychological health. The HYENA study, found that a 10dB increase in day-time ($L_{Aeq\ 16\ hour}$) was associated

with a 28% increase in anxiety medication use: similarly, a 10dB increase in night-time (L_{night}) aircraft noise was associated with a 27% increase in anxiety medication use. However, day-time and night-time aircraft noise exposure were not associated with sleep medication or anti-depressant medication use (Floud et al., 2011). Anxiety medication is prescribed for individuals experiencing levels of anxiety and worry that interfere with their ability to function effectively: they can also be prescribed for sleeping problems. A sub-study of the HYENA study found that salivary cortisol (a stress hormone which is higher in people with depression) was 34% higher for women exposed to aircraft noise > 60dB $L_{Aeq\ 24\ hour}$, compared to women exposed to less than 50dB $L_{Aeq\ 24\ hour}$ (Selander et al., 2009). However, no association between aircraft noise and salivary cortisol was found for men.

2.5. Implications of the evidence for aircraft noise effects on health for the shortlisted options for a new runway

2.5.1. Populations exposed for each shortlisted option

This section considers the implications of the current evidence for aircraft noise effects on cardiovascular health, sleep disturbance, annoyance, and psychological health for the three shortlisted options for a new runway:

- Gatwick 2-R promoted by Gatwick Airport Limited (GAL).
- Heathrow-NWR promoted by Heathrow Airport Limited (HAL).
- Heathrow-ENR promoted by Heathrow Hub (HH).

Information relating to each of these options is taken from the "Noise: Baseline", the "Noise: Local Assessment" and the "Noise: Local Assessment Addendum" reports prepared by Jacobs for the Airport Commission (all available on https://www.gov.uk/government/organisations/airports-commission).

The Commission has evaluated these shortlisted options in terms of populations exposed to several noise metrics including $L_{Aeq\ 16\ hour}$, $L_{Aeq\ 8\ hour}$, L_{den}, N70 & N60. Most of the evidence for aircraft noise effects on health has made use of average noise metrics such as $L_{Aeq\ 16\ hour}$ and $L_{Aeq\ 8\ hour}$. This section relates key messages from the evidence to the estimated populations exposed to $L_{Aeq\ 16\ hour}$ and $L_{Aeq\ 8\ hour}$ for each of the shortlisted options using the predefined exposure categories used by the Commission of >54, >57, >60, >63, >66, >69, and >72dB for $L_{Aeq\ 16\ hour}$ and >48, >51, >54, >57, >60, >63, >66, >69, and >72dB for $L_{Aeq\ 8\ hour}$.

The magnitude of the populations exposed to aircraft noise varies between the shortlisted options for each scheme and is nearly always greater in terms of the net population exposed in the Do-Something scenario compared with the Do-Minimum scenario.

2.5.1.1. Gatwick 2-R

For Gatwick-2-R, the estimated population exposed to day-time noise levels greater than 54dB $L_{Aeq\ 16\ hour}$ is 17,600 in 2030, 19,400 in 2040, and 24,600 in 2050. The estimated population exposed to night-time noise levels greater than 48dB $L_{Aeq\ 8\ hour}$ is 22,300 in 2030, 17,400 in 2040 and 18,600 in 2050.

Table 2.1. Estimated population exposed to levels greater than 54dB $L_{Aeq\ 16\ hour}$ and $L_{Aeq\ 8\ hour}$ in 2030, 2040, & 2050 for Gatwick 2-R.

	Gatwick 2-R		
	2030	**2040**	**2050**
Day-time			
54dB $L_{Aeq\ 16\ hour}$	17,600	19,400	24,600
57dB $L_{Aeq\ 16\ hour}$	4,900	5,300	7,200
60dB $L_{Aeq\ 16\ hour}$	1,700	1,900	2,800
63dB $L_{Aeq\ 16\ hour}$	400	500	800
66dB $L_{Aeq\ 16\ hour}$	<50	<50	200
69dB $L_{Aeq\ 16\ hour}$	<50	<50	<50
72dB $L_{Aeq\ 16\ hour}$	<50	<50	<50
Night-time			
48dB $L_{Aeq\ 8\ hour}$	22,300	17,400	18,600
51dB $L_{Aeq\ 8\ hour}$	6,500	5,200	5,400
54 dB $L_{Aeq\ 8\ hour}$	2,900	2,300	2,400
57dB $L_{Aeq\ 8\ hour}$	800	500	700
60dB $L_{Aeq\ 8\ hour}$	200	100	100
63dB $L_{Aeq\ 8\ hour}$	<50	<50	<50
66dB $L_{Aeq\ 8\ hour}$	<50	<50	<50
69dB $L_{Aeq\ 8\ hour}$	<50	<50	<50
72dB $L_{Aeq\ 8\ hour}$	<50	<50	<50

These estimates for the population exposed in the Do-Something scenario for Gatwick 2-R are higher than the estimates for the Do-Minimum scenario in 2030, 2040 and 2050. The differences in the 2030, 2040, and 2050 Do-Something scenario compared with the 2030, 2040, and 2050 Do-Minimum scenario are summarized below for day-time and night-time exposure:

2030 $L_{Aeq\ 16\ hour}$
- >54 dB: An increase of 9,600 (from 8,000 to 17,600)
- >57 dB: An increase of 2,700 (from 2,200 to 4,900)
- >60 dB: An increase of 600 (from 1,100 to 1,700)
- >63 dB: No discernible difference from (from 400 to 400)
- >66 dB: A reduction from 300 to <50
- >69 dB: A reduction from 200 to <50
- >72 dB: No discernible difference (from <50 to <50)

2040 $L_{Aeq\ 16\ hour}$
- >54 dB: An increase of 12,000 (from 7,400 to 19,400)
- >57 dB: An increase of 3,100 (from 2,200 to 5,300)
- >60 dB: An increase of 1,000 (from 900 to 1,900)
- >63 dB: No discernible difference (from 500 to 500)
- >66 dB: A reduction from 300 to <50
- >69 dB: A reduction from 200 to <50
- >72 dB: No discernible difference (<50 to <50)

2050 $L_{Aeq\ 16\ hour}$
- >54 dB: An increase of 17,000 (from 7,600 to 24,600)
- >57 dB: An increase of 4,400 (from 2,800 to 7,200)
- >60 dB: An increase of 1,600 (from 1,200 to 2,800)
- >63 dB: An increase of 300 (from 500 to 800)
- >66 dB: A reduction of 100 (from 300 to 200)
- >69 dB: A reduction from 200 to <50
- >72 dB: No discernible difference (from <50 to <50)

2030 $L_{Aeq\ 8\ hour}$
- >48 dB: An increase of 10,600 (from 11,700 to 22,300)
- >51 dB: An increase of 900 (from 5,600 to 6,500)
- >54 dB: An increase of 1,200 (from 1,700 to 2,900)
- >57 dB: An increase of 200 (from 600 to 800)
- >60 dB: A reduction of 200 (from 400 to 200)
- >63 dB: A reduction from 300 to <50
- >66 dB: No discernible difference (from <50 to <50)
- >69 dB: No discernible difference (from <50 to <50)
- >72 dB: No discernible difference (from <50 to <50)

2040 $L_{Aeq\ 8\ hour}$
- >48 dB: An increase of 6,300 (from 11,100 to 17,400)
- >51 dB: A reduction of 300 (from 5,500 to 5,200)
- >54 dB: An increase of 600 (from 1,700 to 2,300)
- >57 dB: A reduction of 100 (from 600 to 500)
- >60 dB: A reduction of 300 (from 400 to 100)
- >63 dB: A reduction from 300 to <50
- >66 dB: No discernible difference (from <50 to <50)
- >69 dB: No discernible difference (from <50 to <50)
- >72 dB: No discernible difference (from <50 to <50)

2050 $L_{Aeq\ 8\ hour}$
- >48 dB: An increase of 7,400 (from 11,200 to 18,600)
- >51 dB: A reduction of 200 (from 5,600 to 5,400)
- >54 dB: An increase of 700 (from 1,700 to 2,400)
- >57 dB: An increase of 100 (from 600 to 700)
- >60 dB: A reduction of 300 (from 400 to 100)

• >63 dB: A reduction from 300 to <50
• >66 dB: No discernible difference (from <50 to <50)
• >69 dB: No discernible difference (from <50 to <50)
• >72 dB: No discernible difference (from <50 to <50)

2.5.1.2. Heathrow-NWR

For Heathrow-NWR-T, the estimated population exposed to day-time noise levels greater than 54dB $L_{Aeq\ 16\ hour}$ is 456,200 in 2030, 488,600 in 2040, and 491,900 in 2050. The estimated population exposed to night-time noise levels greater than 48dB $L_{Aeq\ 8\ hour}$ is 266,800 in 2030, 308,500 in 2040 and 295,800 in 2050.

Table 2.2. Estimated population exposed to levels greater than 54dB $L_{Aeq\ 16\ hour}$ and $L_{Aeq\ 8\ hour}$ in 2030, 2040, & 2050 for Heathrow-NWR-T.

	Heathrow-NWR-T		
	2030	**2040**	**2050**
Day-time			
54dB $L_{Aeq\ 16\ hour}$	456,200	488,600	491,900
57dB $L_{Aeq\ 16\ hour}$	237,100	249,900	249,300
60dB $L_{Aeq\ 16\ hour}$	128,200	137,000	140,600
63dB $L_{Aeq\ 16\ hour}$	38,300	41,300	42,900
66dB $L_{Aeq\ 16\ hour}$	1,200	11,800	10,900
69dB $L_{Aeq\ 16\ hour}$	900	900	800
72dB $L_{Aeq\ 16\ hour}$	<50	<50	<50
Night-time			
48dB $L_{Aeq\ 8\ hour}$	266,800	308,500	295,800
51dB $L_{Aeq\ 8\ hour}$	167,200	188,800	185,600
54 dB $L_{Aeq\ 8\ hour}$	72,200	95,700	88,600
57dB $L_{Aeq\ 8\ hour}$	11,600	18,100	12,100
60dB $L_{Aeq\ 8\ hour}$	900	2,400	900
63dB $L_{Aeq\ 8\ hour}$	200	200	200
66dB $L_{Aeq\ 8\ hour}$	<50	<50	<50
69dB $L_{Aeq\ 8\ hour}$	<50	<50	<50
72dB $L_{Aeq\ 8\ hour}$	<50	<50	<50

The differences in the 2030, 2040, and 2050 Do-Something scenarios compared with the 2030, 2040, and 2050 Do-Minimum scenarios are summarized below for day-time and night-time exposure. Generally, the estimates for the population exposed in the Do-Something scenarios for Heathrow-NWR-T in the day-time are higher than the estimates for the Do-Minimum scenarios in 2030, 2040 and 2050: there is an increase in the population exposed at the lower contour levels for $L_{Aeq\ 16\ hour}$ along with a slight reduction in the population exposed at the higher contour levels. For night-noise the population exposed to >48dB $L_{Aeq\ 8\ hour}$ is reduced for the Do-Something scenarios compared with the Do-Minimum scenarios at 2030, 2040 and 2050. In 2030 and 2040,

there is an increase in the population exposed to >51dB and >54dB $L_{Aeq\ 8\ hour}$ but reductions are estimated for all the other $L_{Aeq\ 8\ hour}$ exposure contours. For the 2050 scenario the number of the population exposed at night-time is reduced across all the contours.

2030 $L_{Aeq\ 16\ hour}$

- >54 dB a decrease of 37,400 (from 493,600 to 456,200)
- >57 dB an increase of 15,900 (from 221,200 to 237,100)
- >60 dB an increase of 19,200 (from 109,000 to 128,200)
- >63 dB an increase of 3,100 (from 35,200 to 38,300)
- >66 dB an increase of 4,100 (from 7,900 to 12,000)
- >69dB a reduction of 1,200 (from 2,100 to 900)
- >72 dB no discernible difference (from <50 to <50)

2040 $L_{Aeq\ 16\ hour}$

- >54 dB an increase of 28,000 (from 460,600 to 488,600)
- >57 dB an increase of 30,500 (from 219,400 to 249,900)
- >60 dB an increase of 33,200 (from 103,800 to 137,000)
- >63 dB an increase of 7,400 (from 33,900 to 41,300)
- >66 dB an increase of 4,700 (from 7,100 to 11,800)
- >69 dB a reduction of 1,200 (from 2,100 to 900)
- >72 dB no discernible difference (from <50 to <50)

2050 $L_{Aeq\ 16\ hour}$

- >54 dB an increase of 56,100 (from 435,800 to 491,900)
- >57 dB an increase of 29,700 (from 219,600 to 249,300)
- >60 dB an increase of 36,800 (from 103,800 to 140,600)
- >63 dB an increase of 8,000 (from 34,900 to 42,900)
- >66 dB an increase of 3,200 (from 77,00 to 10,900)
- >69 dB a reduction of 1,300 (from 2,100 to 800)
- >72 dB no discernible difference (from <50 to <50)

2030 $L_{Aeq\ 8\ hour}$

- >48 dB a reduction of 4,400 (from 271,200 to 266,800)
- >51 dB an increase of 15,900 (from 151,300 to 167,200)
- >54 dB an increase of 11,100 (from 61,100 to 72,200)
- >57 dB a reduction of 10,300 (from 21,900 to 11,600)
- >60 dB a reduction 3,000 (from 3,900 to 900)
- >63 dB a reduction of 1,100 (from 1,300 to 200)
- >66 – 72 dB no discernible differences (all remain at <50 in both scenarios)

2040 $L_{Aeq\ 8\ hour}$

- >48 dB a reduction of 28,500 (from 337,000 to 308,500)
- >51 dB an increase of 4,200 (from 184,600 to 188,800)
- >54 dB an increase of 14,400 (from 813,00 to 95,700)
- >57 dB a reduction of 13,300 (from 31,400 to 18,100)
- >60 dB a reduction of 4,000 (from 6,400 to 2,400)

• >63 dB a reduction of 2,200 (from 2,400 to 200)
• >66 – 72 dB no discernible differences (all remain at <50 in both scenarios)

2050 $L_{Aeq\ 8\ hour}$
• >48 dB a reduction of 7,730 (from 373,100 to 295,800)
• >51 dB a reduction of 11,800 (from 197,400 to 185,600)
• >54 dB a reduction of 600 (from 89,200 to 88,600)
• >57 dB a reduction of 21,800 (from 33,900 to 12,100)
• >60 dB a reduction of 6,200 (from 7,100 to 900)
• >63 dB a reduction of 2,400 (from 2,600 to 200)
• >66 – 72 dB no discernible differences (all remain at <50 in both scenarios)

2.5.1.3. Heathrow-ENR

For Heathrow-ENR-O (using the offset flight path results), the estimated population exposed to day-time noise levels greater than 54dB $L_{Aeq\ 16\ hour}$ is 480,300 in 2030, 488,900 in 2040 and 462,900 in 2050. The estimated population exposed to night-time noise levels greater than 48dB $L_{Aeq\ 8\ hour}$ is 263,800 in 2030, 298,900 in 2040 and 306,700 in 2050.

Table 2.3. Estimated population exposed to levels greater than 54dB $L_{Aeq\ 16\ hour}$ and $L_{Aeq\ 8\ hour}$ in 2030, 2040, & 2050 for Heathrow-ENR-O.

	Heathrow-ENR-O		
	2030	**2040**	**2050**
Day-time			
54dB $L_{Aeq\ 16\ hour}$	480,300	488,900	462,900
57dB $L_{Aeq\ 16\ hour}$	257,900	264,700	261,200
60dB $L_{Aeq\ 16\ hour}$	157,500	164,400	165,500
63dB $L_{Aeq\ 16\ hour}$	63,700	67,500	67,100
66dB $L_{Aeq\ 16\ hour}$	17,100	17,700	17,800
69dB $L_{Aeq\ 16\ hour}$	3,900	4,000	3,900
72dB $L_{Aeq\ 16\ hour}$	600	700	600
Night-time			
48dB $L_{Aeq\ 8\ hour}$	263,800	298,900	306,700
51dB $L_{Aeq\ 8\ hour}$	177,400	193,800	197,200
54 dB $L_{Aeq\ 8\ hour}$	87,800	107,300	110,300
57dB $L_{Aeq\ 8\ hour}$	31,000	36,900	36,400
60dB $L_{Aeq\ 8\ hour}$	4,900	6,800	6,200
63dB $L_{Aeq\ 8\ hour}$	800	1,600	1,600
66dB $L_{Aeq\ 8\ hour}$	200	300	200
69dB $L_{Aeq\ 8\ hour}$	<50	100	<50
72dB $L_{Aeq\ 8\ hour}$	<50	<50	<50

The number of people within the day-time $L_{Aeq\ 16\ hour}$ noise contours are greater in the Heathrow-ENR-O Do-Something scenarios, when compared to the Do-Minimum scenarios, for all of the assessment years considered. For night-noise the population exposed to >48dB $L_{Aeq\ 8\ hour}$ and >63 $L_{Aeq\ 8\ hour}$ is reduced for the Do-Something scenario compared with the Do-Minimum scenario at 2030, 2040 and 2050, however, within the other exposure contours there are increases in the population exposed to night-noise.

2030 $L_{Aeq\ 16\ hour}$

- >54 dB: A reduction of 13,300 (from 493,600 to 480,300)
- >57 dB: An increase of 36,700 (from 221,200 to 257,900)
- >60 dB: An increase of 48,500 (from 109,000 to 157,500)
- >63 dB: An increase of 28,500 (from 35,200 to 63,700)
- >66 dB: An increase of 9,200 (from 7,900 to 17,100)
- >69 dB: An increase of 1,800 (from 2,100 to 3,900)
- >72 dB: An increase from <50 to 600

2040 $L_{Aeq\ 16\ hour}$

- >54 dB: An increase of 28,300 (from 460,600 to 488,900)
- >57 dB: An increase of 45,300 (from 219,400 to 264,700)
- >60 dB: An increase of 60,600 (from 103,800 to 164,400)
- >63 dB: An increase of 33,600 (from 33,900 to 67,500)
- >66 dB: An increase of 10,600 (from 7,100 to 17,700)
- >69 dB: An increase of 1,900 (from 2,100 to 4,000)
- >72 dB: A change from <50 to 700

2050 $L_{Aeq\ 16\ hour}$

- >54 dB: An increase of 27,100 (from 435,800 to 462,900)
- >57 dB: An increase of 41,600 (from 219,600 to 261,200)
- >60 dB: An increase of 61,700 (from 103,800 to 165,500)
- >63 dB: An increase of 32,200 (from 34,900 to 67,100)
- >66 dB: An increase of 10,100 (from 7,700 to 17,800)
- >69 dB: An increase of 1,800 (from 2,100 to 3,900)
- >72 dB: A change from <50 to 600

2030 $L_{Aeq\ 8\ hour}$

- >48 dB: A reduction of 7,400 (from 271,200 to 263,800)
- >51 dB: An increase of 26,100 (from 151,300 to 177,400)
- >54 dB: An increase of 26,700 (from 61,100 to 87,800)
- >57 dB: An increase of 9,100 (from 21,900 to 31,000)
- >60 dB: An increase of 1,000 (from 3,900 to 4,900)
- >63 dB: A reduction of 500 (from 1,300 to 800)
- >66 dB: An increase from <50 to 200
- >69 dB: No discernible change (from <50 to <50)
- >72 dB: No discernible change (from <50 to <50)

2040 $L_{Aeq\ 8\ hour}$

- >48 dB: A reduction of 38,100 (from 337,000 to 298,900)
- >51 dB: An increase of 9,200 (from 184,600 to 193,800)
- >54 dB: An increase of 26,000 (from 81,300 to 107,300)
- >57 dB: An increase of 5,500 (from 31,400 to 36,900)
- >60 dB: An increase of 400 (from 6,400 to 6,800)
- >63 dB: A reduction of 800 (from 2,400 to 1,600)
- >66 dB: An increase from <50 to 300
- >69 dB: An increase from <50 to 100
- >72 dB: No discernible change (from <50 to <50)

2050 $L_{Aeq\ 8\ hour}$

- >48 dB: A reduction of 66,400 (from 373,100 to 306,700)
- >51 dB: A reduction of 200 (from 197,400 to 197,200)
- >54 dB: An increase of 21,100 (from 89,200 to 110,300)
- >57 dB: An increase of 2,500 (from 33,900 to 36,400)
- >60 dB: A reduction of 900 (from 7,100 to 6,200)
- >63 dB: A reduction of 1,000 (from 2,600 to 1,600)
- >66 dB: An increase from <50 to 200
- >69 dB: An increase from <50 to <50
- >72 dB: No discernible change (from <50 to <50)

2.5.2. Mitigation

All the schemes suggest mitigation activities for their schemes. Aspects to note are as follows:

- Gatwick 2-R: houses within the 60 $L_{Aeq\ 16\ hour}$ contour will be offered £3,000 towards double glazing and loft insulation for newly affected homes. Residents with a home within the 57dB $L_{Aeq\ 16\ hour}$ contour will be offered £1000 per annum – to qualify residents must have been living in the house before 1st January 2015.
- Heathrow-NWR: runway operations allow respite for local populations. Residents in the 60dB $L_{Aeq\ 16\ hour}$ contour will be offered full-costs for insulation; residents exposed to 55dB L_{den} will be offered a £3,000 contribution towards insulation.
- Heathrow ENR: the promoter is not advocating night-time operation of the extended runway and is also planning to reduce day-time exposure by use of noise preferential routing. This scheme will also offer full-costs for home insulation for residents in the 60dB $L_{Aeq\ 16\ hour}$ contour, with residents in the 55dB L_{den} contour offered a £3,000 contribution towards insulation.

In terms of mitigation, very little is understood in terms of how monetary payments or respite from exposure might influence the associations between aircraft noise and health. The health-benefits associated with many of these activities should not be assumed and need to be empirically tested. The impact of any mitigation scheme would ideally be evaluated to assess efficacy and cost-effectiveness.

2.5.3. Implications of the noise effects on health evidence for the proposed schemes

A brief consideration of the evidence for noise effects on health in relation to the three schemes is provided below:

- Aircraft noise exposure is associated with small increases in risk for poor cardiovascular health outcomes such as high blood pressure, heart attacks, and stroke, as well as with cardiovascular hospital admission and cardiovascular mortality, with effects observed for day-time ($L_{Aeq\ 16\ hour}$) and night-time ($L_{Aeq\ 8\ hour}$) exposure.

- Whilst the increase in risk observed between aircraft noise exposure and cardiovascular health is considered moderate, such increases in risk become important if a large population is exposed to aircraft noise.

- Night-noise is associated with self-reported sleep disturbance and with changes in sleep structure. Night-noise might also be particularly important for cardiovascular effects. Populations exposed to night-time noise could benefit from insulation of their home. It may also be beneficial to consider the use of curfews for night-noise flights: respite may also be effective but needs empirically evaluating.

- Aircraft noise exposure during the evening and early morning (outside the typical 23.00 to 07.00 8 hour night exposure metric) also has relevance for the health and sleep quality of the local population, and may be particularly relevant for children, the physically ill, and shift-workers. Therefore the impact of aircraft noise on the sleep of the local population may not be restricted only to the night-time period and insulation to the homes of populations exposed to day-time noise levels might also be beneficial.

- Consideration should be given to health monitoring of cardiovascular risk factors in the exposed population: for example, high blood pressure and cholesterol can be treated with medication to avoid more serious cardiovascular disease progression. This can probably be achieved through existing NHS Health Checks offered to individuals aged 40-74 by their GPs, which checks vascular and circulatory health.

- Aircraft noise annoyance responses are to be expected for children and adults and it should be borne in mind that annoyance responses in relation to exposure may be higher than predicted by the traditional annoyance curves. In particular, annoyance can increase in relation to operational changes; where populations become newly exposed to noise; where populations experience a step-change in exposure; and in response to early morning and evening flights. Monitoring of annoyance responses over the long-term using survey methods in the exposed population would be advisable. In particular, annoyance responses at different times of the day should be examined. Surveys assessing baseline annoyance, in terms of annoyance responses prior to the development of the new runway would

be useful for comparative purposes. Such monitoring would help the airport to identify any increases in annoyance related to operational decisions.

- Based on current evidence aircraft noise might be associated with decreased quality of life but is unlikely to be causing psychological ill-health. The increases in hyperactivity symptoms observed for children are small and unlikely to be of clinical significance in the population exposed. The evidence relating to aircraft noise effects on psychological health should be re-reviewed throughout the planning process, as further evidence becomes available.

3. Aircraft noise effects on children's cognition and learning

3.1. Reading and memory

Many studies have found effects of aircraft noise exposure at school or at home on children's reading comprehension or memory skills (Evans & Hygge, 2007). The RANCH study (Road traffic and Aircraft Noise and children's Cognition & Health) of 2844 9-10 year old children from 89 schools around London Heathrow, Amsterdam Schiphol, and Madrid Barajas airports found that aircraft noise was associated with poorer reading comprehension and poorer recognition memory, after taking social position and road traffic noise, into account (Stansfeld et al., 2005).

Figure 3.1 shows the exposure-effect relationship between aircraft noise at school and reading comprehension from the RANCH study (Clark et al., 2006), indicating that as aircraft noise exposure increased, performance on the reading test decreased. Reading began to fall below average at around 55dB $L_{Aeq\ 16\ hour}$ at school but as the association is linear, (thus there is no specific threshold above which noise effects begin) any reduction in aircraft noise exposure at schools should lead to an improvement in reading comprehension, supporting a policy to not only insulate schools exposed to the highest levels of aircraft noise. The development of cognitive skills such as reading and memory is important not only in terms of educational achievement but also for subsequent life chances and adult health (Kuh & Ben-Shlomo, 2004). In the UK, reading age was delayed by up to 2 months for a 5dB increase in aircraft noise exposure (Clark et al., 2006). The UK primary schools in the RANCH study ranged in aircraft noise exposure from 34dB $L_{Aeq\ 16\ hour}$ to 68 dB $L_{Aeq\ 16\ hour}$. If we take a 20dB difference in aircraft noise exposure between schools, the study would estimate an 8-month difference in reading age.

For primary school children, aircraft noise exposure at school and at home are very highly correlated: in the RANCH UK sample, this correlation was r=0.91 (Clark et al., 2006). Such a high correlation can make estimating the impact of aircraft noise exposure in both environments difficult. The RANCH study found that night-time aircraft noise at the child's home was also associated with impaired reading comprehension and recognition memory, but night-noise was not having an additional effect to that of day-time noise exposure on reading comprehension or recognition memory (Clark et al., 2006; Stansfeld et al., 2010). These findings suggest that indices

of aircraft noise exposure in the day-time in the school environment should be sufficient to capture effects. Further analyses of the UK RANCH sample found that these associations for aircraft noise exposure remained after taking co-occurring air pollution levels into account (Clark et al., 2012).

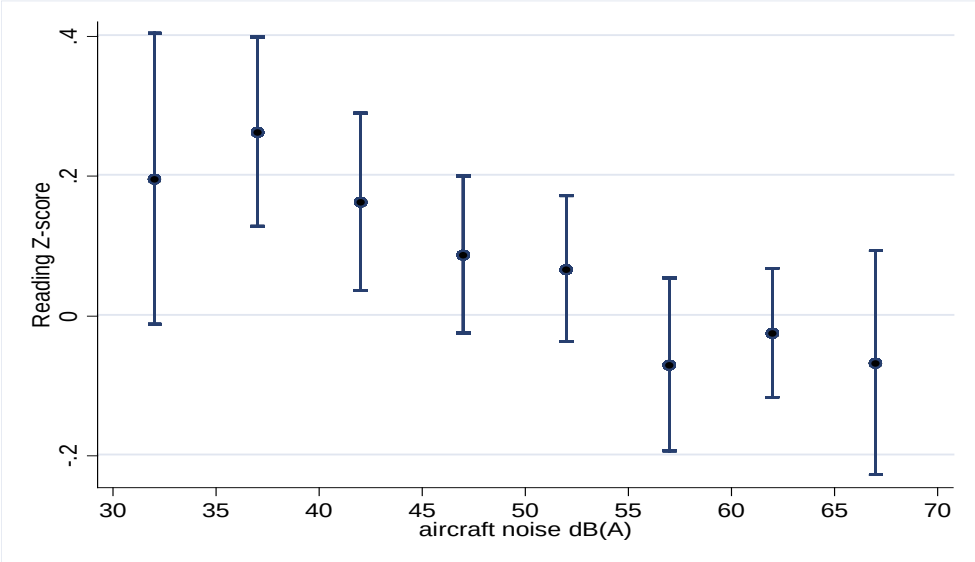

Figure 3.1. Exposure-effect relationship between aircraft noise exposure at school and reading comprehension in the RANCH study (Clark et al., 2006).

There are several ways in which aircraft noise could influence children's cognition: lost teaching time - as a teacher may have to stop teaching whilst noise events occur; teacher and pupil frustration; annoyance and stress responses; reduced morale; impaired attention; children might tune out the aircraft noise and over-generalise this response to other sounds in their environment missing out on information; and sleep disturbance from home exposure which might cause performance effects the next day (Stansfeld & Clark, 2015).

Children spend a considerable amount of time at school in the playground. Play is thought to be important for children's social, cognitive, emotional and physical development, as well as enabling relaxation between more formal teaching activities. Unfortunately, at this time, there is no empirical evidence upon which to draw conclusions about how aircraft noise exposure might impact upon children's use of playground settings.

3.2. School intervention studies

Two studies of interventions to reduce or remove aircraft noise exposure at school are worth noting. The longitudinal Munich Airport study (Hygge et al., 2002) found that prior to the relocation of the airport in Munich, high noise exposure was associated with poorer long-term memory and reading comprehension in children aged 10 years. Two years after the airport closed these cognitive impairments were no longer

present, suggesting that the effects of aircraft noise on cognitive performance may be reversible if the noise stops. In the cohort of children living near the newly opened Munich airport impairments in memory and reading developed over the following two years.

A recent study of 6,000 schools exposed between the years 2000-2009 at the top 46 United States airports, (exposed to Day-Night-Average Sound Level of 55dB or higher) found significant associations between aircraft noise and standardised tests of mathematics and reading, after taking demographic and school factors into account (Sharp et al., 2014). In a sub-sample of 119 schools, they found that the effect of aircraft noise on children's learning disappeared once the school had sound insulation installed. This study supports a policy for insulating schools that may be exposed to high levels of aircraft noise associated with a new runway.

3.3. Implications of the evidence for aircraft noise effects on children's cognition and learning for the proposed schemes

It is clear from the research studies that aircraft noise exposure at school is associated with children' having poorer reading and memory skills. Further, evidence is emerging that confirms the use of insulation to mitigate against these effects, and which ever scheme is undertaken, there should be a commitment to insulate schools exposed to high levels of aircraft noise in the day-time.

Schools located near airports often also experience high levels of road traffic noise but it is important to appreciate that aircraft noise exposure still influences children's learning, even if road traffic noise exposure is high. The results presented for the RANCH study are the association for aircraft noise exposure, after taking road traffic noise into account (Clark et al., 2006).

For each of the shortlisted options an estimate of the change in the number of sensitive buildings, including schools, within each contour between the Do-Minimum and the Do-Something scenarios has been made. Below a summary is given of the difference in the number of schools in the Do-Minimum scenario and the Do-Something scenario for each scheme, focusing on day-time noise exposure which best represents exposure during the school day. It should be noted that these figures do not represent the total number of schools impacted by the schemes: the figures are restricted to schools whose exposure is changed by the scheme.

3.3.1. Gatwick 2-R

Gatwick Airport Limited (GAL) states that it hopes that no new noise sensitive buildings would be given planning consent in the areas with the highest noise contours. It is estimated that in 2030, compared with the Do-Minimum scenario, that there will be 5 additional schools exposed to >54dB $L_{Aeq\ 16\ hour}$; in 2040 there will be 7 additional schools exposed to >54dB $L_{Aeq\ 16\ hour}$; and in 2050 14 additional schools exposed to >54dB $L_{Aeq\ 16\ hour}$. There will also be a small reduction in the number of

schools exposed to >60dB and 63dB $L_{Aeq\ 16\ hour}$ in 2030, 2040, and 2050: in 2030 there will also be a small reduction in the number of schools exposed to 57dB $L_{Aeq\ 16\ hour}$.

The N70 metrics for the schools are at the lower end for all years, with schools mostly exposed to N70>20. These school exposed to aircraft noise associated with Gatwick 2-R would be at the lower-end of the N70 contours, but should be insulated to protect again effects on children's learning. There is a small reduction in the number of schools exposed to N70>200 in 2030, 2040, and 2050: small reductions are also seen for the number of schools exposed to N70>100 in 2030 and 2040, and for N70>50 in 2030.

Table 3.1. Number of schools in the Do-Something Scenarios for Gatwick 2-R compared with the Do-Minimum scenarios.

	Gatwick 2-R		
	2030	**2040**	**2050**
Day-time			
54dB $L_{Aeq\ 16\ hour}$	5	7	14
57dB $L_{Aeq\ 16\ hour}$	(1)	(1)	2
60dB $L_{Aeq\ 16\ hour}$	(1)	(1)	(1)
63dB $L_{Aeq\ 16\ hour}$	(2)	(2)	(1)
66dB $L_{Aeq\ 16\ hour}$	0	0	0
69dB $L_{Aeq\ 16\ hour}$	0	0	0
72dB $L_{Aeq\ 16\ hour}$	0	0	0
N70			
N70>20	7	6	8
N70>50	(1)	2	2
N70>100	(1)	(1)	0
N70>200	(1)	(1)	(1)
N70>500	0	0	0

Numbers in parentheses indicate a reduction in the number of schools within that noise contour.

3.3.2. Heathrow-NWR

It is estimated that in 2030, compared with the Do-Minimum scenario, that there will be 49 fewer schools exposed to 54dB $L_{Aeq\ 16\ hour}$. In 2040 it is estimated that there will be 12 additional schools exposed to >54dB $L_{Aeq\ 16\ hour}$ and in 2050 24 additional schools exposed to >54dB $L_{Aeq\ 16\ hour}$.

In 2030 there is a reduction of 2 in the number of schools exposed to N70>20. However, there are increases in the number of schools exposed to N70>20 in 2040 and 2050, and for N70>50, N70>100 and N70>200 in 2030, 2040 and 2050. There is also a small increase (n=2) in the number of schools exposed to N70>500 in 2040 and 2050. Schools experiencing a high number of events over 70dB would benefit from being included in insulation schemes.

Table 3.2. Number of schools in the Do-Something Scenarios for Heathrow-NWR-T compared with the Do-Minimum scenarios.

	Heathrow-NWR-T		
	2030	**2040**	**2050**
Day-time			
54dB $L_{Aeq\ 16\ hour}$	(49)	12	24
57dB $L_{Aeq\ 16\ hour}$	15	22	15
60dB $L_{Aeq\ 16\ hour}$	17	22	23
63dB $L_{Aeq\ 16\ hour}$	1	1	1
66dB $L_{Aeq\ 16\ hour}$	2	3	4
69dB $L_{Aeq\ 16\ hour}$	1	1	1
72dB $L_{Aeq\ 16\ hour}$	0	0	0
N70			
N70>20	(2)	11	12
N70>50	6	11	9
N70>100	8	16	13
N70>200	4	10	14
N70>500	0	2	2

Numbers in parentheses indicate a reduction in the number of schools within that noise contour.

3.3.3. Heathrow-ENR

Using the offset flight path results, it is estimated that in 2030, compared with the Do-Minimum scenario, that there would be a reduction of 22 schools exposed to >54dB $L_{Aeq\ 16\ hour}$ in 2030. In 2040 it is estimated that there will be 25 additional schools exposed to >54dB $L_{Aeq\ 16\ hour}$ and in 2050 13 additional schools exposed to >54dB $L_{Aeq\ 16\ hour}$.

Compared with the Do-Minimum scenario, there would be increase in the number of schools exposed to N70>20, with 16 additional schools exposed in 2030, 29 additional schools in 2040, and 19 additional schools in 2050. For the Heathrow-ENR-O scheme there is also an increase in the number of additional schools exposed to N70>50, N70>100, and N70>200 in 2030, 2040 and 2050. Schools experiencing a high number of events over 70dB would benefit from being included in insulation schemes.

Table 3.3. Number of schools in the Do-Something Scenarios for Heathrow-ENR-O compared with the Do-Minimum scenarios.

	Heathrow-ENR-O		
	2030	**2040**	**2050**
Day-time			
54dB $L_{Aeq\ 16\ hour}$	(22)	25	13
57dB $L_{Aeq\ 16\ hour}$	22	34	32

60dB $L_{Aeq\ 16\ hour}$	36	40	39
63dB $L_{Aeq\ 16\ hour}$	11	12	12
66dB $L_{Aeq\ 16\ hour}$	3	2	3
69dB $L_{Aeq\ 16\ hour}$	2	2	2
72dB $L_{Aeq\ 16\ hour}$	0	0	0
N70			
N70>20	16	29	19
N70>50	19	25	24
N70>100	12	17	19
N70>200	23	27	27
N70>500	0	0	0

Numbers in parentheses indicate a reduction in the number of schools within that noise contour.

3.4. Discussion

The Gatwick 2-R scheme results in a small number of additional schools being exposed to >54dB $L_{Aeq\ 16\ hour}$ in each year. Both of the Heathrow schemes are initially associated with a reduction in the number of schools exposed to 54dB $L_{Aeq\ 16\ hour}$ (49 fewer schools for Heathrow-NWR and 22 fewer schools for Heathrow-ENR), but in subsequent years (2040 & 2050) both schemes would result in additional schools being exposed to 54dB $L_{Aeq\ 16\ hour}$. The number of schools additionally exposed to 54dB $L_{Aeq\ 16\ hour}$ in 2040 is 12 for Heathrow-NWR and 29 for Heathrow-ENR. The number of schools additionally exposed to 54dB $L_{Aeq\ 16\ hour}$ in 2050 is 24 for Heathrow-NWR and 13 for Heathrow-ENR. Over-time both of the Heathrow schemes would result in a considerable increase in the number of schools in the surrounding area being exposed to aircraft noise. Both schemes also result in a small number of additional schools being exposed at the higher ends of the contours.

Whilst Gatwick impacts on fewer additional schools, funding for the insulation of schools additionally exposed to aircraft noise over the process of extending the airport operation (whether it be Gatwick 2R, Heathrow-NWR, or Heathrow-ENR) would need to be found. For example, at present the Heathrow-NWR scheme has £19 million included to insulate schools. Schools exposed would be insulated as they fell into the noise contours. Currently, schools around Heathrow airport are insulated if they are exposed to 63dB $L_{Aeq\ 16\ hour}$. Consideration should be given, particularly for schools experiencing an increase in their average noise exposure and therefore subject to a step-change in exposure, to insulating schools exposed to a high level of aircraft noise. Consideration should also be given to including schools experiencing a high number of events over 70dB in the insulation programme. It is important that any insulation programme for schools is fully-funded and managed over the decades, as the number of schools affected by aircraft noise increases with the operation of some of the schemes, despite initially decreasing the number of schools exposed. Such a large-scale insulation plan of schools should also be evaluated empirically to ensure its effectiveness.

It is important to note that the figures in relation to the number of schools exposed to aircraft noise discussed in this section, do not include schools that may already be exposed to levels above 54dB $L_{Aeq\ 16\ hour}$ or N70>20 prior to the additional runway being commissioned, and/or which may already have been insulated via existing mitigation schemes. It is advisable that all schools within the contours identified as eligible for mitigation, whether newly exposed or already exposed to aircraft noise be offered access to the same insulation programme.

4. Guidelines for Environmental Noise Exposure

4.1. The WHO Community Noise Guidelines

There are recommended guidelines for environmental noise exposure levels. The most influential set of guidelines are those proposed by the World Health Organisation Europe back in 2000 (WHO, 2000), which were determined by expert panels evaluating the strength of the evidence and suggesting guideline values for thresholds for exposure in specific dwellings and for specific health effects. Below is a summary of the guideline levels suggested for dwellings, schools & pre-schools, hospitals, and parkland:

DWELLINGS

Day-time

- Indoors the dwelling during the day/evening – 35 dB $L_{Aeq\ 16\ hour}$
- Outdoor living areas - 55 dB $L_{Aeq\ 16\ hour}$ to protect the majority of people from being 'seriously annoyed' during the day-time.
- Outdoor living areas – 50 dB $L_{Aeq\ 16\ hour}$ to protect the majority of people from being 'moderately annoyed' during the day-time

Night-time

- Outside façades of the living spaces should not exceed 45 dB $L_{Aeq\ 8\ hour}$ and 60 dB L_{Amax} to protect from sleep disturbance.
- Inside bedrooms - 30 dB $L_{Aeq\ 8\ hour}$ and 45 dB L_{Amax} for single sound events to protect from sleep disturbance.

SCHOOLS & PRE-SCHOOL

- School playgrounds outdoors should not exceed 55 dB L_{Aeq} during play to protect from annoyance.
- School classrooms should not exceed 35 dB L_{Aeq} during class to protect from speech intelligibility and, disturbance of information extraction.
- The reverberation time in the classroom should be about 0.6 s.
- Pre-school bedrooms – 30 dB during sleeping time & 45 dB L_{Amax} for single sound events to protect from sleep disturbance.

HOSPITALS

Day-time

- Hospital ward rooms indoor values during the day-time/evening - 30 dB $L_{Aeq\ 16\ hour}$ to protect from sleep disturbance and interference with rest and recovery.

Night-time

- Hospital ward rooms indoor values at night - 30 dB $L_{Aeq\ 8\ hour}$, together with 40 dB L_{Amax} to protect from sleep disturbance and interference with rest and recovery.

PARKLAND AND CONSERVATION AREAS

- Existing large quiet outdoor areas should be preserved and the signal-to-noise ratio kept low.

Below these noise levels, it is thought there are no detrimental effects on health.

The WHO Community Guidelines represent a 'precautionary principle' approach to environmental noise effects on health and the WHO Community Guidelines are often thought by policy makers and acousticians to be very difficult to achieve in practice. It is also worth noting that when these guidelines were established in the late 1990s the evidence-base for noise effects on cardiovascular health and children's cognition was much weaker and that these effects per se, did not inform the guidelines. The WHO plans to publish a revision of these guidelines in 2015, so it is worth stipulating that the revised guidelines should be considered in relation to school, home, hospital and any other settings affected by the new runway.

The number of hospitals identified as being impacted by aircraft noise is low for Gatwick-2R, Heathrow-NWR, and Heathrow-ENR, falling at the lower ends of the noise exposure contours. However, efforts to insulate these hospitals should be included in the planning consent for the successful scheme.

4.2. WHO Night Noise Guidelines

The WHO Europe Night Noise Guidelines (WHO, 2009) state that the target for nocturnal noise exposure should be 40 dB $L_{night, outside}$, which should protect the public as well as vulnerable groups such as the elderly, children, and the chronically ill from the effects of nocturnal noise exposure on health. The Night Noise Guidelines also recommend the level of 55 dB $L_{night, outside}$, as an interim target for countries wishing to adopt a step-wise approach to the guidelines.

4.3. Building Bulletin 93: Acoustic Design of Schools in the UK

For schools, it is also worth noting the requirements of recently updated Building Bulletin 93: Acoustic Design of Schools in the UK (DfE, 2015), which recommends external noise levels for new school buildings or refurbished school buildings should not exceed <60 dB $LA_{, 30\ minutes}$.

5. Conclusion

The health effects of environmental noise are diverse, serious, and because of widespread exposure, very prevalent (Basner et al, 2014). For populations around airports, aircraft noise exposure can be chronic. Evidence is increasing to support preventive measures such as insulation, policy, guidelines, & limit values. Efforts to reduce exposure should primarily reduce annoyance, improve learning environments for children, and lower the prevalence of cardiovascular risk factors and cardiovascular disease (Basner et al, 2014).

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Article

Aircraft Noise and Psychological Ill-Health: The Results of a Cross-Sectional Study in France

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Abstract: *Background:* The effects of aircraft noise on psychological ill-health have not been largely investigated and remain to be discussed. No study has been performed in France on the health effects of aircraft noise. *Objectives:* The present study aimed to investigate the relationship between aircraft noise in dB and in terms of annoyance and psychological ill-health in populations living near airports in France. *Methods:* A total of 1244 individuals older than 18 and living near three French airports (Paris–Charles de Gaulle, Lyon–Saint-Exupéry and Toulouse–Blagnac) were randomly selected to participate in the study. Information about their personal medical history and socioeconomic and lifestyle factors was collected by means of a face-to-face questionnaire performed at their place of residence by an interviewer. Psychological ill-health was evaluated with the 12-item version of the General Heath Questionnaire (GHQ-12). For each participant, outdoor aircraft noise exposure in dB was estimated by linking their home address to noise maps. Objective noise exposure in dB was considered to be the primary exposure of interest. Four noise indicators referring to three different periods of the day were derived and used for the statistical analyses: L_{den}, $L_{Aeq,24hr}$, $L_{Aeq,6hr–22hr}$, and L_{night}. Noise annoyance and noise sensitivity were the secondary risk factors of interest. Logistic regression models were used with adjustment for potential confounders. *Results:* The participation rate in the study was 30%. Approximately 22% of the participants were considered to have psychological ill-health according to the GHQ-12. No direct association was found between exposure to aircraft noise in dB and psychological ill-health. However, annoyance due to aircraft noise and noise sensitivity were both significantly associated with psychological ill-health. Moreover, a gradient was evidenced between annoyance and psychological ill-health, with increasing ORs from 1.79 (95% CI 1.06–3.03) for people who were not all annoyed to 4.00 (95% CI 1.67–9.55) for extremely annoyed people. *Conclusions:* These findings confirm the results of previous studies, suggesting there is no direct association between aircraft noise exposure in dB and psychological ill-health, but there is a significant relationship between noise sensitivity or annoyance due to aircraft noise and psychological ill-health. This supports the hypothesis that psychological aspects, such as noise annoyance and noise sensitivity, play important roles in the association between environmental noise and adverse effects on health. However, further studies are necessary in order to better understand the links between these variables.

Keywords: epidemiology; aircraft noise exposure; psychological ill-health

1. Introduction

Transportation noise continues to be a major source of environmental noise pollution and represents a major issue for public health [1]. According to the World Health Organization (WHO), at least one million healthy life years are lost every year due to traffic-related noise in Western Europe [2]. Sleep disturbance and annoyance due to noise are the most serious consequences of environmental noise, mostly related to road traffic [2]. Aircraft noise is the third most important source, after road traffic and railway noise, affecting human exposure above the levels considered to be annoying or to have adverse effects on health [3]. Aircraft noise is perceived as a major environmental stressor near airports. The impact of long-term exposure to aircraft noise on health is of growing concern [4] due to the steady rise in flights as well as the increasing dissatisfaction by nearby inhabitants with this noise [5].

Many studies have demonstrated the adverse effects of exposure to aircraft noise on health, such as annoyance [5,6], sleep disturbance [7,8], cardiovascular diseases including hypertension [9–13], and alteration of cognitive performances among children [14,15]. The association between noise exposure and noise annoyance has been extensively investigated, and aircraft noise has been found to be the most annoying noise source among all transportation noise sources when standardized for noise exposure level [6]. Recently, it has been suggested that annoyance due to aircraft noise has increased in previous years [5,16,17].

In addition, some studies support the hypothesis that psychological aspects such as noise annoyance and noise sensitivity play important roles in the association between environmental noise and adverse effects on health [18–20]. Noise is a psychosocial stressor that activates the sympathetic and endocrine systems [21]. As some studies have shown that endocrine distress can lead to psychological symptoms such as depression or anxiety [22,23], the question has been raised as to whether aircraft noise exposure, in dB or in terms of noise sensitivity or noise annoyance, is related to psychological ill-health [24]; however, this has not been largely investigated, and remains to be discussed.

The General Health Questionnaire (GHQ) has been extensively used in large-scale studies for the evaluation of psychological ill-health in the community setting [25]. The four studies investigating the effects of aircraft noise exposure in dB on mental health showed consistent results—they did not find any significant association between aircraft noise exposure and psychological ill-health based on the GHQ-30 [26], the GHQ-28 [27], or the GHQ-12 [28]. Only Miyakawa et al. in Japan showed a significant correlation between aircraft noise exposure and moderate/severe somatic symptoms identified by the GHQ-28 in people sensitive to noise [27]. However, all of these authors observed significant associations between psychiatric illness and noise annoyance [26,28] or noise sensitivity [26,29]. Furthermore, consistent results have been shown regarding the effects of aircraft noise on psychological symptoms, such as depression and anxiety [30], but not for clinically defined psychiatric disorders. Therefore, the effects of aircraft noise on psychological ill-health remain unclear and are still under discussion. Moreover, these effects have never been studied in France and have been investigated by only very few studies in Europe. The study by Tarnopolsky et al. was published in 1980 [26], but aircraft noise levels have changed since the 1980s.

The objective of the DEBATS research program (Discussion on the health effects of aircraft noise) is to investigate the effects of long-term aircraft noise exposure on health among populations living near airports in France. A previous result from the DEBATS study provided support that psychological stress is induced by aircraft noise exposure, resulting in hypothalamus-pituitary-adrenal axis dysregulation and a flattened cortisol rhythm, and notably, a lower ability to decrease cortisol levels at night [31]. The present paper addresses, more specifically, the issue of psychological ill-health among populations living near airports in France, and its association with aircraft noise exposure, annoyance due to aircraft noise and noise sensitivity. The question of whether exposure to high levels of aircraft noise is associated with a higher risk of psychological ill-health is raised.

2. Methods

2.1. Study Population

The present study included people older than 18 years of age at the time of the interview, living in the study area near one of the following three French international airports: Paris–Charles de Gaulle, Lyon Saint–Exupéry, or Toulouse–Blagnac [11]. The study area was defined based on noise contours produced for France's largest airports, representing four categories of aircraft noise exposure in terms of L_{den}: <50, 50–54, 55–59, and ≥60 dB. The L_{den} is an annual noise indicator which describes the average equivalent sound pressure levels over a complete year for day (6 a.m. to 6 p.m.), evening (6 p.m. to 10 p.m.), and night (10 p.m. to 6 a.m.) where evening and night sound pressure levels receive a 5 dB and a 10 dB penalty, respectively. The L_{den} is the "general purpose" indicator defined in the EU directive 2002/49 relating to the assessment and management of environmental noise.

Households were randomly selected from a phone directory, based on their address in the study area. Once a household was contacted by phone, a respondent was then randomly selected from within the household. The participant signed and returned an informed consent form by mail. Almost 40% of those contacted who refused to participate responded to a short questionnaire about their demographic and socioeconomic characteristics. It was also possible to compare the characteristics of the participants to those of people who refused to participate (non-participants), as well as to those of the study population, using data from the French national census.

In total, 1244 participants (549 men and 695 women) were included in the study and responded to a questionnaire during a face-to-face interview at their place of residence in 2013. This questionnaire collected demographic and socioeconomic information; lifestyle factors including smoking, alcohol consumption, and physical activity; personal medical history in terms of sleep disturbances, cardiovascular diseases, anxiety, depressive disorders, medication use; and annoyance due to noise exposure. Blood pressure and anthropometric measurements (weight, height, and waist circumference) were also recorded, and saliva samples were taken to determine cortisol levels. The analyses presented in the present paper were carried out on the 1222 participants (688 women and 534 men) who had complete information for all the covariates included in the models.

2.2. Exposure Assessment

Noise contours are routinely produced by Paris Airports, and the French Civil Aviation Authority for Toulouse–Blagnac and Lyon Saint–Exupéry airports, with the "Integrated Noise Model" (INM) using a height of 4 m for noise simulations [32]. The INM is an internationally well-established computer model that evaluates aircraft noise impacts near airports and outputs noise contours for an area. Outdoor aircraft noise exposure was assessed in 1 dB intervals for each participant with a linkage between the noise contours and their home address using a geographic information system (GIS) technique. Four noise indicators referring to three different periods of the day were derived and used for the statistical analyses: L_{den}, $L_{Aeq,24hr}$, $L_{Aeq,6hr–22hr}$, and L_{night}. The L_{den} was used to select the participants (Table 1). The $L_{Aeq,24hr}$, $L_{Aeq,6hr–22hr}$, and L_{night} correspond to the average of sound levels during the corresponding periods of time.

Table 1. Comparison of the demographic and socioeconomic characteristics of participants, non-participants, and the study population.

	Participants		Non-Participants [1]		Study Population [2]
	n	**%**	***n***	**%**	**%**
Noise level (L_{den} in dB)					
Paris-Charles de Gaulle					
<50	108	17%	324	22%	-
50–54	102	16%	215	14%	-
55–59	208	34%	464	31%	-
≥60	202	33%	497	33%	-

Table 1. *Cont.*

	Participants		Non-Participants [1]		Study Population [2]
	n	%	*n*	%	%
Toulouse-Blagnac					
<50	104	25%	198	29%	-
50–54	103	25%	159	23%	-
55–59	101	25%	160	23%	-
≥60	103	25%	169	25%	-
Lyon Saint-Exupery					
<50	105	49%	166	57%	-
50–54	102	48%	124	43%	-
55–59	5	2%	1	0%	-
≥60	1	1%	0	0%	-
Gender					
Men	549	44%	1028	41%	48%
Women	695	56%	1449	59%	52%
Age					
18–34	226	18%	497	20%	26%
35–44	236	19%	435	18%	17%
45–54	266	21%	416	17%	19%
55–64	260	21%	448	18%	15%
65–74	185	15%	332	13%	13%
≥75	71	6%	331	13%	10%
Marital status					
Single	253	20%	555	22%	-
Married	782	63%	1326	54%	-
Widowed	76	6%	281	11%	-
Divorced	133	11%	194	8%	-
Other	0	0%	10	0%	-
Unknown/refusal	0	0%	111	5%	-
Socio-occupational category					
Farming, trade	32	2%	81	3%	5%
Executive, superior Intellectual occupation	227	18%	322	13%	9%
Intermediate	220	18%	103	4%	14%
Office worker	268	22%	749	30%	17%
Manual worker	79	6%	145	6%	13%
Retiree	337	27%	929	38%	25%
Never worked or long-term unemployed (students, housewives, other)	81	7%	134	5%	17%
Unknown/refusal	0	0%	14	1%	-

[1] People randomly selected and contacted by phone, but who refused to participate. These people responded to a short questionnaire about their demographic and socioeconomic characteristics. [2] The distribution of the study population is based on data from the 1999 INSEE census, adjusted in 2007, for individuals aged 18 and over and living in one of the 161 municipalities of the study area.

2.3. Psychological Illness

The presence of psychological illness was determined with the 12-item version of the GHQ [33]. The GHQ-12 is a self-reporting instrument for the detection of mental disorders within a community, such as temporary alterations of normal psychological functioning, stable disorders, and stress-related alterations of adaptive behavior. Each of the 12 questions has a four-point response scale, usually scored in a bimodal fashion (respectively 0, 0, 1, 1): 'not at all', 'no more than usual', 'rather more than usual', and 'much more than usual'. A total score between 0 and 12 was then calculated by summing up the scores of the individual items—the higher the GHQ-12 score, the more psychological distress reported. This total score was then dichotomized in order to determine the presence of psychological ill-health. According to prior studies [34–36] and to Goldberg's recommendations [33,37,38], participants with a total score ≥3 were considered to have psychological ill-health.

2.4. Confounding Factors

The following potential confounders were obtained from the questionnaire with valid and reliable questions used in previous other studies [28,39,40], and introduced into multivariate regression models: gender (dichotomous), age (six categories: 18–34; 35–44; 45–54; 55–64; 65–75; >75 years old), country of birth (two categories: France-born/foreign-born), occupational activity (dichotomous: no/yes), education (three categories: <French high school certificate/French high school certificate/>French high school certificate), marital status (four categories: single/married/widowed/divorced), smoking habits (four categories: non/ex/occasional/daily smoker), alcohol consumption (four categories: no/light/moderate/heavy drinker), number of work-related stress and major stressful life events (three categories: 0/1/more than 2), household monthly income (three categories: <2300; 2300–4000; ≥4000 euros), sleep duration (five categories: ≤5 h; 6 h; 7 h; 8 h; ≥9 h), antidepressant use (two categories: no/yes), and self-reported anxiety (two categories: extremely/a lot versus moderately/slightly/not at all).

Other a priori confounders, such as house characteristics (window opening, insulation of roof and/or windows) or personal medical history (cardiovascular or other physical diseases) were also initially considered. However, as they were not associated with psychological ill-health in the univariate analysis ($p > 0.20$), they were not included in the multivariate analysis.

Noise sensitivity and annoyance due to aircraft noise were the secondary risk factors of interest. Noise sensitivity was assessed using the following question: "Regarding noise in general, compared to people around you, do you think that you are: less sensitive than, or as sensitive as, or more sensitive than people around you?" Aircraft noise annoyance was assessed by a standardized question with a verbal five-point answer scale as recommended by the International Commission on the Biological Effects of Noise (Icben): "Thinking about the last 12 months when you are at home, how much does aircraft noise bother, disturb or annoy you?" There were five possible answers: extremely, very, moderately, slightly or not at all.

2.5. Statistical Analysis

Associations between psychological ill-health and aircraft noise in terms of dB, noise sensitivity or noise annoyance were assessed with logistic regression models. The M0 model included only aircraft noise exposure in dB as an explanatory variable. The M1 model included aircraft noise exposure in dB as the primary exposure of interest, together with major potential confounders as covariates. The M2 model included aircraft noise exposure in dB as the primary exposure of interest, as well as noise sensitivity and noise annoyance as the secondary risk factors of interest, together with confounders. Interactions between noise sensitivity and aircraft noise exposure, annoyance and aircraft noise exposure, and annoyance and noise sensitivity were analyzed in the M2 model.

The linearity of the relationship between the dependent variable and aircraft noise exposure was tested using generalized additive models, including a smooth cubic function with linear and quadratic terms for aircraft noise exposure [41]. As the quadratic term was not significant in these models, associations with the continuous exposure variable were finally estimated per 10 dB increase and are presented in this paper.

All the statistical analyses were performed with SAS 9.3 (SAS Software [program] 9.3 version. USA: Cary, NC, USA, 2011).

2.6. Ethics Approval

Two national authorities in France, the French Advisory Committee for Data Processing in Health Research and the French National Commission for Data Protection and the Liberties approved the present study.

3. Results

Overall, the participation rate was 30% (1244 participants/4202 eligible people). Participation rates differed among populations situated near the three airports: 25% for Paris–Charles de Gaulle airport, 34% for Toulouse–Blagnac airport, and 39% for Lyon–Saint-Exupéry airport. In contrast, similar numbers of participants from the four 5 dB-categories of aircraft noise exposure were included. The demographic and socioeconomic characteristics were quite similar among participants, people who refused to participate but responded to the short questionnaire (non-participants), and the study population (Table 1); the participants were a little older and were more likely to have executive or superior intellectual occupations.

The prevalence of psychological ill-health based on the GHQ-12 was 22% (17% in men and 25% in women). Table 2 shows the odds ratios (ORs) and their 95% CIs for psychological ill-health in relation to levels of aircraft noise in dB and the confounders used in the univariate analysis. The percentage of participants with psychological ill-health did not differ across the four categories of aircraft noise exposure. Women (compared to men), 45 to 54-year-old participants (compared to 18–34-year-old participants), foreign-born participants (compared to France-born participants), daily smokers (compared to non-smokers), people who reported two stressful life events or more (compared to people with no event), people with a household monthly income lower than 2300 euros (compared to people with a household monthly income higher than 4000 euros), and participants who reported anxiety had a higher risk of psychological ill-health according to the GHQ-12. Noise sensitivity and annoyance due to aircraft noise were also significantly associated with psychological ill-health—people who described themselves as more sensitive to noise than others and people who were moderately, very, or extremely annoyed by aircraft noise had a higher risk of psychological distress, as evaluated with the GHQ-12.

Table 2. Odds ratios (ORs) for psychological ill-health in relation to major confounders in univariate logistic models.

	N	Number of Participants with GHQ-12 $\geq$ 3	Number of Participants with GHQ-12 < 3	OR	(95% CI)
Noise levels (L_{den} in dB)					
<45	82	25 (30%)	57 (70%)	1	-
45–49	235	49 (21%)	186 (79%)	0.60	(0.34–1.06)
50–54	307	62 (20%)	245 (80%)	0.58	(0.33–1.00)
55–59	314	66 (21%)	248 (79%)	0.61	(0.35–1.04)
≥60	306	66 (22%)	240 (78%)	0.63	(0.36–1.08)
Noise sensitivity					
As sensitive or less sensitive than people around you	866	154 (18%)	712 (82%)	1	-
More sensitive than people around you	369	111 (30%)	258 (70%)	**1.99**	**(1.50–2.64)**
Annoyance due to aircraft noise					
Not at all annoyed	246	37 (15%)	209 (85%)	1	-
Slightly	312	65 (21%)	247 (79%)	1.49	(0.95–2.32)
Moderately	460	99 (22%)	361 (78%)	**1.55**	**(1.02–2.34)**
Very	186	50 (27%)	136 (73%)	**2.08**	**(1.29–3.35)**
Extremely	40	17 (43%)	23 (57%)	**4.18**	**(2.04–8.56)**
Gender					
Men	549	92 (17%)	457 (83%)	1	-
Women	695	176 (25%)	519 (75%)	**1.68**	**(1.27–2.23)**
Age					
18–34	226	43 (19%)	183 (81%)	1	-
35–44	236	58 (25%)	178 (75%)	1.39	(0.89–2.16)
45–54	266	71 (27%)	195 (73%)	**1.55**	**(1.01–2.38)**
55–64	260	56 (22%)	204 (78%)	1.17	(0.75–1.82)
65–74	185	26 (14%)	159 (86%)	0.70	(0.41–1.18)
≥75	71	14 (20%)	57 (80%)	1.05	(0.53–2.05)

Table 2. *Cont.*

	N	Number of Participants with GHQ-12 ≥ 3	Number of Participants with GHQ-12 < 3	OR	(95% CI)
Country of birth					
France-born	1054	215 (20%)	839 (80%)	1	-
Foreign-born	190	53 (28%)	137 (72%)	**1.51**	**(1.06–2.14)**
Occupational activity					
No	499	100 (20%)	399 (80%)	1	-
Yes	745	168 (23%)	577 (77%)	1.16	(0.88–1.53)
Education					
<French high-school certificate	452	97 (21%)	355 (79%)	1	-
French high-school certificate	215	52 (24%)	163 (76%)	1.17	(0.79–1.72)
>French high-school certificate	577	119 (21%)	458 (79%)	0.95	(0.70–1.29)
Marital status					
Single	253	56 (22%)	197 (78%)	1	-
Married	782	162 (21%)	620 (79%)	0.92	(0.65–1.3)
Divorced	133	34 (26%)	99 (74%)	1.21	(0.74–1.97)
Widowed	76	16 (21%)	60 (79%)	0.94	(0.50–1.75)
Smoking habits					
Non-smoker	625	120 (19%)	505 (81%)	1	-
Ex-smoker	330	74 (22%)	256 (78%)	1.22	(0.88–1.69)
Occasional smoker	19	1 (5%)	18 (95%)	0.23	(0.03–1.77)
Daily smoker	269	72 (27%)	197 (73%)	**1.54**	**(1.10–2.15)**
Alcohol consumption					
No	348	89 (26%)	259 (74%)	1	-
Light	637	134 (21%)	503 (79%)	0.78	(0.57–1.05)
Moderate	193	31 (16%)	162 (84%)	**0.56**	**(0.35–0.88)**
Heavy	54	10 (19%)	44 (81%)	0.66	(0.32–1.37)
Number of work-related stress and major stressful life events					
0	287	46 (16%)	241 (84%)	1	-
1	330	57 (17%)	273 (83%)	1.09	(0.71–1.67)
≥2	627	165 (26%)	462 (74%)	**1.87**	**(1.30–2.69)**
Household monthly income					
≥4000 euros (4500 US$)	319	56 (18%)	263 (82%)	1	-
2300–4000 euros (2600–4500 US$)	474	93 (20%)	381 (80%)	1.15	(0.79–1.65)
<2300 euros (2600 US$)	451	119 (26%)	332 (74%)	**1.68**	**(1.18–2.40)**
Sleep duration					
≤5 h	52	9 (17%)	43 (83%)	0.65	(0.31–1.40)
6 h	256	30 (19%)	126 (81%)	0.74	(0.47–1.18)
7 h	363	88 (24%)	275 (76%)	1	-
8 h	424	94 (22%)	330 (78%)	0.89	(0.64–1.24)
≥9 h	249	47 (19%)	202 (81%)	0.73	(0.49–1.08)
Antidepressant use					
No	1203	255 (21%)	948 (79%)	1	-
Yes	41	13 (32%)	28 (68%)	1.73	(0.88–3.38)
Self-reported anxiety					
Moderately/slightly/not at all	978	122 (12%)	856 (88%)	1	-
Extremely/a lot	266	146 (55%)	120 (45%)	**8.54**	**(6.28–11.61)**

The ORs and their 95% CIs evaluated with the GHQ-12 for psychological ill-health in relation to aircraft noise exposure in three different models (M0, M1 and M2) are presented in Table 3. These analyses involved 1222 participants (688 women and 534 men). They were performed separately for the four

noise indicators (L_{den}, $L_{Aeq,24hr}$, $L_{Aeq,6hr\text{-}22hr}$ and L_{night}), but as the results were similar between all noise indicators, they are shown for L_{den} only. No relationship was observed between aircraft noise exposure in dB and psychological distress, regardless of the noise indicator and the inclusion of confounding factors in the models (M0 and M1 models). When noise sensitivity and annoyance due to aircraft noise were both included in the model (M2 model), there was still no association between psychological ill-health and aircraft noise exposure in dB, regardless of the noise indicator. In contrast, relationships were shown between annoyance due to aircraft noise and psychological ill-health, and between noise sensitivity, and psychological ill-health. Moreover, a gradient was observed between annoyance due to aircraft noise and psychological ill-health; ORs ranged from 1.79 (95% CI 1.06–3.03) for people who were not all annoyed to 4.00 (95% CI 1.67–9.55) for extremely annoyed people.

Table 3. Odds ratios (ORs) for the relationship between aircraft noise exposure and psychological ill-health.

	OR	(95%CI)
M0 Model		
L_{den} [1]	0.91	(0.72–1.14)
M1 Model		
L_{den} [1]	1.02	(0.78–1.34)
M2 Model		
L_{den} [1]	0.93	(0.69–1.24)
Noise sensitivity		
Less or as sensitive as people around you	1.00	
More sensitive th. people around you	**1.52**	**(1.09–2.14)**
Annoyance due to aircraft noise		
Not at all annoyed	1.00	
Slightly	**1.79**	**(1.06–3.03)**
Moderately	1.63	(0.98–2.71)
Very	**2.00**	**(1.10–3.64)**
Extremely	**4.00**	**(1.67–9.55)**

[1] Per 10 dB increase. M0 = Univariate regression model including only aircraft noise exposure in terms of L_{den}. M1 = Multivariate regression model including aircraft noise exposure in terms of L_{den} together with the major potential confounders listed in Table 2 (without noise sensitivity and annoyance due to aircraft noise). M2 = Multivariate regression model including aircraft noise exposure in terms of L_{den} together with noise sensitivity, annoyance due to aircraft noise and the major potential confounders listed in Table 2. Bold values are statistically significant ($p < 0.05$).

Finally, no significant interactions were observed between the noise indicators, noise sensitivity or annoyance due to aircraft noise.

4. Discussion

The DEBATS study is the first in France and one of only very few in Europe to investigate the relationship between long-term aircraft noise exposure and psychological ill-health in populations living near airports. The participation rate (30%) was similar to aircraft noise studies completed in Germany, Italy, and in the UK [12]. The prevalence of psychological ill-health evaluated by the GHQ-12 was 22% (17% among men and 25% among women). In contrast, in a Spanish study by Rocha et al., the prevalence of common mental disorders assessed with the GHQ-12 was 30% in women and 17% in men [34]. Further, in a study around Schiphol airport in Amsterdam, carried out in 2005 by van Kamp et al., the prevalence of self-reported mental health complaints evaluated with the GHQ-12 was 26% [28].

The results of the present study confirm those found in the literature, namely that there was no significant association between aircraft noise exposure in dB and psychological ill-health identified with the GHQ-12. However, our findings suggested a gradient between annoyance due to aircraft noise and psychological ill-health, with increasing ORs from 1.79 (95% CI 1.06–3.03) for people who were not all annoyed to 4.00 (95% CI 1.67–9.55) for extremely annoyed people. Miedema and

Oudshoorn [6] showed evidence for a dose–response relationship between aircraft noise exposure and the percentage of highly annoyed people. These exposure–response relationships are used as the standard curves for the assessment and management of environmental noise in the European Union [42]. Therefore, it could be assumed that an increase in aircraft noise exposure leads to an increase in annoyance due to aircraft noise, thus leading to an increase in psychological ill-health. However, further research is necessary to validate this hypothesis.

One of the first studies to assess the effects of aircraft noise on mental health was performed by Tarnopolsky et al. in 1980 [26]. Although the authors did not observe any excess psychiatric morbidity identified by the GHQ-30 in populations exposed to aircraft noise, they showed an association between psychiatric illness and noise annoyance or sensitivity to noise. In the longitudinal study around Schiphol airport in Amsterdam [28], which is the most similar to the DEBATS in terms of methodology, the authors did not observe any association between noise exposure levels or changes in exposure levels after the opening of the fifth runway and mental health complaints as measured by the GHQ-12 (OR = 0.94 for a 3 dB-increase in noise levels in terms of L_{den}, 95% CI = 0.84–1.05). However, people who were severely annoyed by aircraft noise reported more mental health complaints, as assessed by the GHQ-12 (OR = 1.84, 95% CI = 1.38–2.45). In Japan, Miyakawa et al. [27] did not observe any relationship between aircraft noise exposure and psychiatric disorders evaluated with the GHQ-28 but showed a significant correlation between aircraft noise exposure and moderate/severe somatic symptoms in people sensitive to noise. In Spain, outside noise reported as a perceived environmental problem was significantly associated with the prevalence of common mental disorders using the GHQ-12 [34]. Finally, in the United Kingdom, high noise sensitivity was identified by Stansfeld et al. [29] as a predictor of psychological distress using the GHQ-30.

In the present study, a relationship was observed between noise sensitivity and psychological ill-health, and between annoyance due to aircraft noise and psychological ill-health, irrespective of noise exposure. Both relationships were significant, underlining the independent effects of both factors and supporting the hypothesis that psychological aspects such as noise annoyance and noise sensitivity seem to play important roles in the association between environmental noise and adverse effects on health.

On one hand, it has been postulated that, if a (direct) relationship does not exist between noise exposure in dB and psychological ill-health, annoyance may be regarded as an intermediate step in the causal chain between aircraft noise exposure and health, in particular, psychological ill-health. However, the relationship between noise annoyance and psychological ill-health is still under discussion. Because of the cross-sectional design of major studies, the direction of the association has been questioned. Extremely annoyed people might be more at risk of having psychological ill-health, but it is also possible that people with psychological ill-health might be more at risk of being annoyed and then be more willing to attribute their symptoms to noise [19,20,43]. However, it was not possible to answer this question in the present study.

On the other hand, noise sensitivity is considered as a moderating factor of the effects of aircraft noise exposure on noise annoyance [18,44]. It has been suggested that noise sensitivity could also influence the effects of noise on physical and psychological ill-health [45]. Noise sensitivity has been suggested to be a potential indicator of vulnerability to environmental stressors, not only to environmental noise [46,47], it has also been postulated to be a proxy measure of anxiety [29]. However, further research is necessary to better understand how noise sensitivity and psychological ill-health are linked.

A specific strength of the present study relates to the evaluation of noise exposure. Outdoor aircraft noise exposure was estimated for each participant with modeled noise levels produced by the French Civil Aviation Authority using INM software. Most of the differences between these modeled noise levels and measurements from permanent stations [48] or from specific campaigns [49] were between 0.5 and 1.5 dB in terms of L_{den}, showing the close correspondence between modeled and measured noise levels.

In terms of limitations, aircraft noise exposure was estimated in front of each participant's residence. Nevertheless, this estimation did not take into account the building outdoor insulation and the

opening/closing practice of the windows, thus leading to a potential misclassification of the participants according to their noise levels. Moreover, many of the participants, at least those who were at work, were more likely to be away from their homes during the day. No information was available about the daytime aircraft noise exposure of the participants when they were away from their homes, for example, at their workplace. Thus, misclassification of exposure could have occurred, especially regarding daytime exposure. However, it is unlikely that the exposure classification would depend on the psychological distress of the participants. Therefore, such non-differential misclassification would have induced an appreciable downward bias if there is a true association between aircraft noise exposure and psychological ill-health, thus explaining the absence of an association observed in the present study.

Furthermore, a selection bias cannot be excluded in the present study. Participants were slightly different from people who refused to participate but responded to the short questionnaire, particularly in regards to their age and their socio-occupational category. In addition, these non-participants were not representative of all people who refused to participate. The representativeness of a sample randomly selected from a phone directory (certainly with a better socioeconomic situation than that of the study population) could be raised but could not be quantified in the present study. The same applies for the representativeness of the study population as compared with all people living near an airport in France. However, due to insufficient information, it was not possible to characterize this latter population.

Another form of selection bias may have occurred during the estimation of the prevalence of psychological ill-health. This prevalence may have been underestimated in the higher noise zones if unsusceptible individuals were selected in these zones. The possible adverse effects of aircraft noise on psychological ill-health could have led to a lower proportion of sensitive people among those living near airports, particularly in the higher noise zones. People prone to illness, especially to psychological ill-health, may be reluctant to live in noisy conditions. Little information is available in the DEBATS study to judge whether people with psychological problems have chosen not to live close to airports. However, if this had occurred, it would have resulted in an underestimation of the association between aircraft noise exposure and psychological ill-health in this study. It is therefore possible that a background of better mental health in the higher noise zones could hide noise effects on psychological ill-health in this study.

It is unlikely that a lack of statistical power caused the failure of the present analysis to find a significant association between aircraft noise exposure in dB and psychological ill-health. Indeed, the number of participants included in the DEBATS study (n = 1244) was very significant. Other studies did not observe any association in this regard, despite a higher number of participants and thus greater statistical power: 2671 people were included in the study by van Kamp et al. [28], and 2861 in the one by Miyakawa et al. [27]. Moreover, a significant association was previously shown between aircraft noise exposure and a smaller variation in cortisol levels among the participants in the DEBATS study [31]. This finding provides some support for a link between psychological stress and aircraft noise exposure, and, as endocrine distress could lead to psychological symptoms such as depression or anxiety [22,23], it suggests a method by which aircraft noise exposure could cause psychological ill-health. Nevertheless, such an association was not observed in the present analysis.

A more appropriate indicator of psychological distress than the GHQ might show a relationship with aircraft noise exposure in dB. The fact that psychological ill-health was estimated using a questionnaire could be a limitation in the present study although it has been used by most previous studies on psychological illness [26–29,34,50]. The GHQ-12 is a reliable screening questionnaire that is particularly recommended for identifying minor psychological disorders within community settings. Since the GHQ-12 is brief, simple, easy to complete, and its application in research settings as a screening tool is well documented, the GHQ-12 has been widely used in large-scale studies in the way that it can serve as a general indicator of distress. Nevertheless, it is not a tool for indicating a clinical diagnosis. Moreover, the double dichotomization (of the response scale by using the bimodal scoring method and of the total score by considering participants with a total score $\geq$3 as having

psychological ill-health) raised the question of the sensitivity of the scale measuring psychological disorders. However, the results remained similar when the four-point response scale of the 12 questions was scored using the Likert scoring method (0, 1, 2, 3, respectively) or when linear regression models with the total score as a continuous outcome variable were used. Prescribed and non-prescribed medication could also be used as proxies to characterize mental health. For example, the largest study to date, which included around six major European airports—the HYpertension and Exposure to Noise near Airports (HYENA) study—found that a 10 dB increase in day-time ($L_{\text{Aeq, 6hr–22hr}}$) or night-time (L_{night}) aircraft noise was associated with a 28% increase in anxiety medication use, but not with anti-depressant medication use [51]. Information about prescribed and non-prescribed medication taken by the participants was also collected in the present study. The results presented here considered anti-depressant medication to be a confounding factor but they remained unchanged when this variable was not introduced in the models. Further research is necessary to better understand the relationships between aircraft noise exposure and medication use (including anti-depressant use).

Only a standardized clinical interview including questions about the number and the severity of symptoms can measure psychiatric disorders, but this can be expensive and time consuming for large-scale epidemiological studies and the response rate may be low. In the last few years, some epidemiological studies have tried to investigate mental health based on clinical diagnosis and average noise exposure—both from road traffic and airport noise. In Germany, Orban et al. suggest that exposure to residential road traffic noise increases the risk of depressive symptoms [52]. A large case-control study in the region of Frankfurt international airport by Seidler et al. indicates that traffic noise exposure—from aircraft, road traffic, and railway—might lead to depression [53]. However, further prospective research is needed to confirm the results of these studies and to deepen knowledge of the causal pathway between noise exposure and depression.

5. Conclusions

The DEBATS study is the first in France and one of only very few in Europe to investigate the relationship between long-term aircraft noise exposure and psychological ill-health in populations living near airports. The results of this study are consistent with those found in the literature, suggesting no association between aircraft noise exposure in dB and psychological ill-health evaluated with the GHQ, but showing an association between noise sensitivity or annoyance due to aircraft noise and psychological ill-health. In addition, a gradient was shown between annoyance due to aircraft noise and psychological ill-health. These findings support the hypothesis that psychological aspects such as noise annoyance and noise sensitivity play important roles in the association between environmental noise and adverse effects on health. Nevertheless, further research is needed to disentangle the possible effects of noise, sensitivity to noise, and annoyance due to noise on psychological ill-health, as well as how these factors are linked.

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access funding or gain permissions to undertake works. In some cases this might require sharing expertise such as conservation architecture or preparing a robust business model. However, the approach of protecting heritage assets until the right funding and perception of the value is in place should also be supported in Ramsgate to avoid the pursuit of quick wins resulting in unnecessary harm.

7. Analysis

7.1 Key Resources (Strengths)

Ramsgate is known within Thanet for having a particular entrepreneurial spirit of independence with business people who are willing to push the boundaries (including planning and other controls). Whilst this is challenging for the Council and in some cases needs concerted effort to demonstrate leadership for the benefit of the wider community, the Panel also recognised this could lead to innovative grass roots solutions for the area's regeneration, which the Council can encourage and build on.

The compact town centre and harbour provide an initial focus for visitors to explore, including a 'living' town centre with much charm (although also with room for improvement to undo the harm of lax planning control in recent decades). This central area can act as a springboard to the heritage assets of the east and west cliffs.

The activity of fishing and a working historic harbour is Ramsgate's key selling point as an attraction for visitors.

Unique heritage – The town is particularly notable for both its Roman Catholic and Jewish heritage, which is particularly unusual in South East England. These, along with many other aspects of the town's history and landscape, such as the Ramsgate tunnels, history of the fishing industry, history of the British Navy and wrecks, as well as marine rescue and the embarkation of troops for foreign conflicts just across the English Channel, provide opportunities for story collecting and celebration, which could be a positive means for engaging with the community and building a positive image.

Incomers – Ramsgate has always been a focus for new settlers who bring skills and ideas that create new opportunities (including the Montefiores and Pugins); this might be a story worth telling.

Natural Assets – the coastline and the sea are clearly important natural assets that have shaped the area's development and have their own heritage that can be explored from and within Ramsgate.

Educational institutions, including East Kent College – The Panel considered the opportunity to develop links between community organisations and educational institutions an important means to start providing alternative learning opportunities. These could focus on the history and modern story of innovation, represented in the harbour and use of marine resources and renewable energy, as well as the high tech businesses occupying the developing Discovery Park.

Thanet District Council

Draft Local Plan to 2031

Sustainability Appraisal - Environmental Report

REP/228764/003

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Table 13: Key Sustainability Issues for Thanet.

Key Sustainability Issue	Sub Issue	Description	Validation	Source
ECONOMY	Economic Development	Support for industrial and employment development at key sites within the District.	Existing evidence suggests that Thanet is a net exporter of labour with a workplace ratio of 1.19. Bearing in mind the limitations of the data, further analysis suggests that the workplace ratio could be closer to 1.10. Currently Thanet has significant out migration of the 16-39 age groups. Our forecasts promisingly suggest that more roles are likely to be created which align with the occupation profile of this younger age group which help to reduce the level of out-migration. Economic development at business Parks such as Manston Park, Eurokent and Thanet Reach along with economic development at employment sites adjacent to the Sandwich corridor expected to be available as services employment land within the Local Plan. The main demand and growth is coming out of the local market, and therefore should be supported. There is insufficient supply of property to meet this demand. Relatively little interest from companies wishing to relocate to Thanet, or large inward investors. Priority should be given to allocating land for delivering economic development, protecting sites for industrial and commercial uses where there is a good prospect of employment use, consider upgrading or improving existing sites and working to overcome barriers to delivering sites, including identifying infrastructure planned and necessary to support economic growth. In particular relation to employment land provision, sufficient employment land must be provided through the redevelopment of brownfield land and refurbishment of existing stock, to provide new and flexible employment space.	Thanet DC Corporate Themes, Plans, Policies and Programmes Thanet Local Plan Employment Land Review Experian Economic and Employment Assessment – Thanet District Council, 2012
		Create and maintain local employment opportunities centred on fairly paid jobs.	Thanet has relatively high levels of unemployment, and social and economic deprivation. Thanet's history of economic problems is reflected in a persistently high unemployment rate. Total, unemployment rates increased since 2009, and peaked at 6.4% in February 2012. Figures for 2012 show unemployment to have slightly decreased to 5.6%. There is a significant and increasing gap between the rates of unemployment in Thanet compared to Kent (3.2%), the South East (2.4%) and National (3.75%)[55] averages remains. There are fewer people with professional jobs in Thanet than in Kent and England. Skilled trades, caring, leisure and customer service, and other service occupations are more dominant in Thanet than in Kent and South east.	Thanet DC Corporate Themes, Plans, Policies and Programmes Thanet Local Plan Local Futures 2004 Draft Employment Topic Paper
		Development of grant funding packages for firms investing in Thanet.	Thanet is part of the Grow East Kent initiative which includes funding for existing and new start businesses as well as businesses looking to move to area. Thanet is also part of the East Kent Priority Area for Regeneration	Thanet DC Corporate Themes, Plans, Policies and Programmes Thanet Local Plan
		Ensuring that the strategic future of retail centres supports commercial diversification and capital investment as well as providing a strong revenue stream for Thanet District Council.	Thanet retail centres are considered unattractive investment areas for major retailers due to relative isolation, limited catchment and the current high dependence ion larger retail centres outside the Thanet region. However, major changes have occurred since 2000 to the provision of retail floor space in Kent and this has had an impact on expenditure spent outside the Thanet region. Of the traditional centres. Ramsgate has the largest turnover at £67million	Thanet DC Corporate Themes, Plans, Policies and Programmes Thanet Local Plan
		Supporting regeneration of key areas within the District.	South East Local Economic Partnership (SE LEP) implemented in April 2011 to promote strategic economic priorities and make investments activities to drive growth and local jobs. Investment from the Governments Growing Places Fund includes first round projects across Kent and in Thanet such as 'Live Margate, Kent	Thanet DC Corporate Themes, Plans, Policies and Programmes Thanet Local Plan
	Economic Structure	Ensuring that improving economic prosperity provides benefits to the whole of Thanet focussing regeneration on key wards.	Kent County Council's 'Grow for it East Kent' scheme which is aiming to attract new businesses to locate within the sub-region as well as supporting the start up and growth of indigenous and pre-existing businesses. It is doing this by promoting the area to businesses and also providing support to new businesses and funding to support businesses looking to locate in East Kent. The Thanet Local Plan identifies four key areas in need of special attention: Margate Old Town Area, King Street in Ramsgate, Upper High Street in Ramsgate and Cliftonville West. Thanet has poor housing stock with a high proportion of semi-derelict, vacant or homes in a state of poor repair. In addition, there are a high proportion of multiple occupation premises which leads to pressure on parking, nuisance, noise and visual deterioration of houses and gardens.	Thanet DC Corporate Themes, Plans, Policies and Programmes Thanet Local Plan Experian Economic and Employment Assessment – Thanet District Council, 2012

55 Thanet District Council Local Plan 2006

Key Sustainability Issue	Sub Issue	Description	Validation	Source
		Ensuring that existing building stock (particularly redundant buildings) is brought into use for employment where appropriate.	Create and maintain local employment opportunities centred on fairly paid jobs. There is also a dominance of employment in the public sector and whilst this has an important role to play in any economy, it is not a strong driver of growth and wealth creation. With over a third of employees working in the public sector there is a need to balance this to ensure that there is scope for the economy to grow. At 1st April 2011 there were 3,456 empty homes in Thanet. (Source Research & Evaluation Statistical Bulletin "Vacant and empty dwellings - Annual 2010/11" Kent County Council)	Thanet DC Corporate Themes, Plans, Policies and Programmes Thanet Local Plan
		The protection and enhancement of natural assets including Blue Flag status of beaches in support of tourist economy.	Tourism provides a significant contribution to the Thanet local economy and so efforts to maintain natural assets and improve its desirability as a coastal destination are required to strengthen and support future economic growth. Visit Kent data for 2009 indicates that there were 57 million visitors to Kent, with an economic impact of £3.2 billion as well as supporting an estimated 63,000 jobs.	Thanet DC Corporate Themes, Plans, Policies and Programmes Thanet Local Plan Town Centre Retail, Leisure, Tourism and Culture Assessment, 2012
		The protection and enhancement of historic assets.	Scheduled monuments in Thanet include Anglo Saxon Cemeteries and remains at Monkton and Dane Valley, Salinestone Grange, Quex Park Settlements, and various ring ditches and enclosures. There are also significant amounts of listed buildings and conservation areas throughout the district.	Thanet DC Corporate Themes, Plans, Policies and Programmes Thanet Local Plan
		Mobility and access to employment opportunities through provision of sustainable public modes of transport.	Compared to a national average of 25.8% the proportion of Thanet households not in possession of a car or van is 29.8%, the 5th highest in the region. In some of the more deprived wards this is almost double this such as Margate Central (52.4%). Of the working age population 40% travel by private, car, van or motorbike to work. 6% travel by public transport, 9% walk or cycle and 3% work from home. These percentages are all lower than the regional and national (England) averages.	Census 2011.
SOCIAL	Safety	Initiatives leading to greater public safety including appropriate strategies for intervention (Community Wardens, Police Community Support and Secured by Design).	Approximately 91% of the Thanet population feel safe in their homes – the main focus of interest is in Margate Central Ward and Cliftonville West Ward. Local analysis has shown that the streets of Thanet are extremely safe – large areas of Thanet have had no reported crime in two years with only nine of 446 output areas reporting one crime per month. All three town centres are awarded the National 'Safer Shopping Award' with shoplifting and commercial burglary falling year on year.	Thanet DC Corporate Themes, Plans, Policies and Programmes Thanet Local Plan Thanet Crime and Disorder Police Audit 2005-2008
	Housing	Responding the needs and requirements of the current and future housing market. Support the viability of existing residential developments now and in the future.	Over the last decade the housing market and mix of tenure has changed due to the recession and the impacts this has had on house prices. The proportion of households that are rented instead of owned or mortgaged has increased. Likewise, the annual number of housing sales has fallen to a level lower than 1996. This means that because there is currently less demand for housing the potential future requirements may be less than previously anticipated. However, given the long timeframe over which the Local Plan will operate (to 2031) it is quite likely that the housing market will have changed again. Therefore, the Local Plan needs to consider how it can allow flexibility to address potential changes in the future and this flexibility is something that the SA will also consider during the assessment of options and alternatives. The Thanet Private Sector Housing Strategy indicates that the standard of the existing stock is an issue, with the private rented sector being poor in some areas, particularly in Cliftonville.	Thanet DC Corporate Themes, Plans, Policies and Programmes Thanet Local Plan Urban Housing Capacity Study (Kent District council) 2002 Local Housing Needs Study Strategic Housing Land Availability Assessment Strategic Housing Market Assessment
	Mobility	Access to key services and employment opportunities through public transport provision.	The Channel Tunnel Rail Link has benefited the UK as a whole but has led to substantial job losses in the in the cross channel ferry industry. Transport links in Thanet have been historically poor however in recent years a number of transport connections have improved significantly. The recently completed East Kent Access Road (A256) provides a fast connection to the A20/M20 at Dover and to the Port of Dover and Channel Tunnel. The Access Road also links Thanet with other major economic assets such as the Port of Ramsgate and Discovery Park to the UK's main arterial road network in less than 60 minutes. Additionally, the introduction of High Speed 1 rail services in 2009 has reduced commuting from central London to Ramsgate to 76 minutes and Margate to 88 minutes. The local population is well served with public transport connections. Access throughout the district is possible via the Thanet Loop bus service. This covers Margate - Broadstairs - Ramsgate – Margate i.e. all towns/centres of commercial activity	Thanet DC Corporate Themes, Plans, Policies and Programmes Thanet Local Plan

Key Sustainability Issue	Sub Issue	Description	Validation	Source
	Deprivation	Levels of economic disparity within the region and need to maximise opportunities for all sectors of society. Access to employment opportunities identified as an issue in limiting the realisation of Thanet's potential.	The 2010 Office of National Statistics Indices of Deprivation indicates that Thanet is ranked the most deprived District in Kent and 65th in England (out of 354), moving it within England's top 20% deprived Districts in England in all 6 deprivation categories (employment, health deprivation, disability, educational skills and training, housing, geographical access to services and income). Per ward Margate is ranked the most deprived Ward Thanet is within the top 20% most deprived areas of Kent. 15.2% of the District's population are separated or divorced in comparison to the England and Wales average being 11.7% - this is the highest rate in Kent.	Thanet DC Corporate Themes, Plans, Policies and Programmes Thanet Local Plan
	Health	Maintenance of high levels of healthcare provision including dependent sectors of the community. Population demand on healthcare and support services (PCT initiatives).	The poor health of Thanet cannot just be attributed to the number of older residents of people suffering a limiting long term illness. This ranks highest in the region (of 67) and is 37th of the 376 Districts in England and Wales.	Census 2011.
	Education and Skills	Access to skills development for all sectors of society. Particular demand associated with transient and dependent sectors of society.	39% of East Kent's children's homes providing care for socially excluded children are located in Thanet. A large proportion of children remain in the area through to adulthood compounding a dependency culture. Within Thanet 15.9% of 16-60 year olds have low or very low literacy (15% nationally) and 35.1% have low or very low numeracy (33% nationally) It is well evidenced that the district has a number of skills gaps. Thanet's qualification profile is skewed towards NVQ1, 2 and 3, with all three above the county, region and UK. Promisingly it has proportionally fewer individuals with no qualifications (8.6%) this is compared to Kent at 11.4 per cent and the UK as a whole 12.2 per cent. However, in terms of NVQ level 4, which is equivalent to degree level qualification, the district has proportionally far fewer residents that hold this qualification than the county, region and UK. In the South East over a third (39.7 per cent) are NVQ level 4 or above compared to 31.4 per cent in Thanet.	Thanet DC Corporate Themes, Plans, Policies and Programmes review and baseline, South East Regional Integrated Regional Framework, Thanet Statement of Community Involvement Experian Economic and Employment Assessment – Thanet District Council, 2012
ENVIRONMENT	Perceptions and Image	Need to maintain the appearance, vitality and safety of the street scene within Thanet particularly associated with town centres and coastal areas.	With their competing catchment areas Thanet's towns have struggled to retain a vital commercial core and have lost many visitor attractions resulting in the stock of guest house and hotels being reduced and converted to private residential multiple user accommodation. However, this is starting to change particularly within Old Town in Margate and Marina in Ramsgate, but in some areas of public realm the main high streets are of a poor standard.	Thanet DC Corporate Themes, Plans, Policies and Programmes review and baseline, South East Regional Integrated Regional Framework, Thanet Statement of Community Involvement NLP Report
	Biodiversity	Protection of designated sites including; SSSIs, SPA and Ramsar site.	The Thanet coast is protected by a number of international and national conservation and biodiversity designations. These include Special Protected Areas, a Ramsar Site and Sites of Special Scientific Interest. A full list of designations made on biodiversity grounds are given in Appendix C. Threats to rare species of birds and the Chalk Reefs are a particular concern.	Thanet DC Corporate Themes, Plans, Policies and Programmes review and baseline, South East Regional Integrated Regional Framework, Thanet Statement of Community Involvement, Kent Biodiversity Action Plan.
	Development Pressure	Threat to areas of high wildlife, conservation and biodiversity importance from economic and social development	Development within the Thanet District presents areas of conservation and wildlife importance at threat. This is particularly evident in areas of 'coastal squeeze' where space for development is at a premium. Also the need for open space for recreational needs places additional pressures on designated areas. The impact of changes to air quality resulting from this development should also be considered. Where possible opportunities to link and extend wildlife habitats to reduce the impact of inappropriate development should be supported. In doing so it is important to make provisions for general green space and green infrastructure in association with development needs	Thanet DC Corporate Themes, Plans, Policies and Programmes review and baseline, South East Regional Integrated Regional Framework, Thanet Statement of Community Involvement, Kent Biodiversity Action Plan.
	Coastal Management	The coastal areas of Thanet have a high conservation and landscape value and should be afforded appropriate protection.	The chalk reefs in themselves justify the need to afford significant management in the protection of the coastal area. In particular threats include; increasing pressure on coastal resources from recreational use, the potential impact of coastal flood defence construction, the impact of coastal erosion, impact from urbanisation and the threat to species of regional, national and international importance, such as the turnstone. Groundwater Source Protection Zones exist across the district.	Thanet DC Corporate Themes, Plans, Policies and Programmes review and baseline, South East Regional Integrated Regional Framework, Thanet Statement of Community Involvement, Kent Biodiversity Action Plan.

Key Sustainability Issue	Sub Issue	Description	Validation	Source
	Water Quality	Risk to water quality	The whole of the Thanet area is classified as a Nitrate Vulnerable Zone. Furthermore nutrient runoffs may impact on inter tidal chalk reefs.	Thanet DC Corporate Themes, Plans, Policies and Programmes review and baseline, South East Regional Integrated Regional Framework, Thanet Statement of Community Involvement, Kent Biodiversity Action Plan. Environment Agency mapping
	Climate Change and Flood Risk	Nation need to consider impacts associated with climate change and particular imperative within coastal locale. Risk of flooding must be considered in Local Plan development.	Thanet has a key advantage as flood risk does not pose a constraint to identifying sufficient housing site, commercial or industrial site opportunities.	Thanet DC Corporate Themes, Plans, Policies and Programmes review and baseline, South East Regional Integrated Regional Framework, Thanet Statement of Community Involvement, Kent Biodiversity Action Plan, Environment Agency

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Community Services to understand and reflect on issues rather than chasing 'quick win solutions'.

There was support from the Panel for making better provision for the fishing community within the harbour as a priority. The fishermen provide activity that can attract tourists with opportunities to upsell – nearly all of Ramsgate's catch currently goes to markets outside the local area. The harbour includes potential areas for storage and training space, as well as other opportunities related to the fishing trade. These need to be considered and, if appropriate, allocated for this purpose as soon as possible to build confidence.

Ramsgate Town Centre

The Panel was impressed with the quality of much of the town centre but could see that there is clear potential for improvement, some of which might be achieved through redevelopment but in some cases would need careful management of public space and quality through more minor changes. Ramsgate Town Centre also continues to serve its local community very much as a traditional market town centre with a traditional mixture of independent grocery and comparison goods retail alongside cafés, public houses and services, which provided a contrast with the specialist retro-shopping and restaurants offer that has developed in Margate. Protecting this traditional town centre mix of uses will be important in ensuring it continues to contribute to the sustainability of Ramsgate as a residential community, which is part of its attraction for visitors.

The Panel also identified the compact character of the town centre as a key element that contributes to this strength.

Contrast with Margate

Margate's change in fortune has required considerable investment by the District Council as well as a number of major external funders focused on a small number of substantial regeneration projects. The Panel observed that it had also required considerable persistence by the Council's conservation staff to protect buildings that were not seen as going concerns prior to the uplift in the area's economy. Given present economic circumstances, investment of the scale seen in Margate cannot be expected in Ramsgate. The considerable involvement of local community groups in Ramsgate also requires a different approach. The Panel also saw a contrast in the historic offer of each town, where Margate catered for mass 'working class' tourism, providing spectacle and noise and excitement, Ramsgate historically provided for a more genteel and exclusive experience that is better suited to the smaller and more intimate scale of its townscape.

For all of these reasons the Panel concluded that the imposition of big 'magic bullet' solutions designed to attract large numbers of visitors would risk alienating local stakeholders and fail to achieve the best value from Ramsgate's assets, which require a more subtle approach. This approach should include a clear strategy and supporting appropriate community initiatives through guidance and joint working, although the Council needs to manage expectations and avoid abortive work on clearly unviable projects. The Council could play an important supportive role by identifying common stepping stones that community groups will need to take to

Manston Airport
Local Plan Representations - FINAL REPORT

Report for Thanet District Council

By AviaSolutions

August 2017

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Executive Summary

AviaSolutions has reviewed the Local Plan Representations that referred specifically to AviaSolutions' earlier report prepared for Thanet District Council "Commercial Viability of Manston Airport" (September 2016) that Thanet District Council is using as evidence in the Local Plan process.

AviaSolutions' opinion, based on updated market information since the publication of our previous study, is consistent with our earlier view that Manston Airport does not represent a financially viable investment opportunity under normal market conditions.

The objections raised through the Representations are similar across the eight documents under review and variously suggest that AviaSolutions' report did not fully consider the excess demand for air freight and passenger movements in the congested London airport system nor the full range of commercial opportunities available to the operator of Manston Airport. This argument is put forward alongside a range of counter-proposals for Manston Airport. However, it is evident that these counter proposals do not stand up against scrutiny on a variety of regulatory, commercial and financial aspects.

The Local Plan Representations do not make a credible case, nor provide the evidence for AviaSolutions' to change its views on the financial viability of Manston Airport. We remain of the view that whilst Heathrow Airport continues to offer substantial freight capacity to a truly global network, and Stansted Airport utilises only around half of the statutory provision of air freighter movements, the London air freight market has capacity to grow without the re-introduction of capacity at Manston Airport. Freight Forwarders have invested heavily in infrastructure around these core airports, carriers have developed their networks as such, and without clear value drivers that support relocating services to Manston Airport, the case remains to be made that demand exists for a freight facility at Manston Airport. This view is reinforced by the empirical evidence of multiple failed attempts to develop profitable operations at the airport.

1. Introduction

1.1. Introduction

Thanet District Council (TDC) commissioned AviaSolutions on 26th June 2017 to provide support pertaining to TDC's treatment of Manston Airport within the Local Plan, and more specifically, to provide commentary as required with regards to Local Plan Representations ("Representations") it received through the public consultation period.

This work scope follows the previous engagement of AviaSolutions by TDC to report on the financial viability of Manston Airport (AviaSolutions: Commercial Viability of Manston Airport[1]) and a subsequent Frequently Asked Questions report[2].

1.2. Documents Reviewed

AviaSolutions has reviewed the following Representations, copies of which may be found in the Appendix of this report.

Colin Bandick	Comment ID 136
Beau Webber	Comment ID 527
David Stevens	Comment ID 826
Phillip Kruger	Comment ID 950
Dover District Council	Comment ID 1221
Bob Parsons	Comment ID 1316
John Jeapes	Comment ID 1425
Supporters of Manston Airport	Comment ID 734

[1] *https://www.thanet.gov.uk/media/3500741/Final-Report-for-TDC-Manston-Airport-Viability-Oct2017_2.pdf*

[2] *https://www.thanet.gov.uk/media/3553836/AviaSolutions-FAQ-for-TDC.pdf*

2. Local Plan Representations

2.1. Colin Bandick – Comment ID 136

Representation Details

Comment ID: 136 Respondent: Colin Bandick

Response Date: 30 Jan 2017 Response Type: Object

Summary of Representation

Mr. Bandick surmises that the former Manston Airport site should be reinstated as an airport dedicated to the carriage of airfreight, but also with a parallel development of a rail-head, permitting intermodal freight. It is further suggested that this rail-head would permit the carriage of the Road Feeder Service ("RFS") vehicles on board the freight trains and disperse them via strategic locations throughout the UK. The support for this type of service, would, in Mr. Bandick's opinion, be forthcoming from the rail freight industry.

AviaSolutions Response

In the UK, there are currently no intermodal airfreight to rail freight exchanges[3], and the major freight hubs of Heathrow, East Midlands and Stansted are no exception. The reasons are multifaceted and revolve around key areas. Firstly, current legislation permits the carriage of bonded 'Known' freight by Road Feeder Services (trucks) but this does not extend to rolling stock. Secondly, the structure of the industry is highly concentrated amongst the large Freight Forwarders; they have invested heavily (strategically, presenting barriers to entry of new competitors) in their current infrastructure which is centred around hub airports and the distribution channels they can already access.

[3] 3. *Page 41- Department for Transport (2009), The Air Freight End-to-End Journey: An analysis of the end-to-end journey of air freight through UK international gateways. Available from http://webarchive.nationalarchives.gov.uk/+/http:/www.dft.gov.uk/about/strategy/transportstrategy/tasts/userexperience/endtoendjourney.pdf*

2.2. Beau Webber – Comment ID 572

Representation Details

Comment ID: 572 Respondent: Beau Webber – Save Manston Airport Association

Response Date: 13 March 2017 Response Type: Object

Summary of Representation

The Representation by Mr. Webber is strongly pro-Manston airport and raises several areas of objection. These include:

- Stating that "There is … 'currently unmet demand for freight in the South East, which for the South East of the UK is calculated to be around 80,000 movements ….' – this is nearly 10 times the movement requirement for the Development Consent Order, which is 10,000 movements per year. So, to say that there is no need for aviation at Manston Airport requires wilful blindness"

- In the RiverOak non-statutory consultation document, they say, additional facilities proposed include:
  - a base for at least one passenger carrier;
  - an aircraft recycling and engineering facility;
  - a flight training school;
  - a fixed base operation for executive travel; and
  - business facilities for aviation related organisations.

AviaSolutions Response

Several of the URL's provided by Mr. Webber link to a secure site that has restricted access permissions, so it has not been possible to ascertain the source of these quotes. Notwithstanding this, AviaSolutions believes that the points raised regarding demand / capacity is invalid.

As one of the premier UK freight hubs, Stansted Airport currently handles c. 10,000 ATM annually for dedicated air freighters. This less than half of the statutory 20,500 ATM allocated under its licensing agreement for dedicated freighter operations. Whilst some of these slots are arguably less favourable, or less cost attractive, if demand for these slots were as much as 80,000 ATM, it is difficult to understand why they remain at less than half of their allocation. Furthermore, the industry fully expects a new runway to be built in the South East (the Government currently opting for Heathrow) which will bring additional belly-hold capacity into the market. The strong, mature, long haul market from Heathrow is one of the prime reasons that freight flourishes in the UK; it offers a far wider, more frequent set of destinations than dedicated freighters could ever achieve. Finally, whilst not definitive, it is believed the '80,000' freighters quoted may be a reference to a

York Aviation[4] report in which (p19), it presents various scenarios and the residual unmet demand. 80,000 ATM in this case correlates to a 'No Expansion' scenario, which is clearly at odds with industry expectations. Furthermore, the report purely considers the effect on the London Area Airports; the residual demand could be met by regional airports such as the national freight centre at East Midlands, or Manchester Airport (same ownership as Stansted under MAG).

In addition, Manston Airport whilst operational, offered the air freight industry additional cargo capacity, though annual cargo throughput remained relatively constant from 2000 to 2013 at around 30,000 tonnes.

With regards to the facilities it is stated RSP wish to provide at Manston Airport:

- A base for at least one passenger carrier - a plausible option - this was explored in the AviaSolutions viability study. This would most likely be a Low-Cost Carrier, seeking to pay the minimal landing and passenger charges. The AviaSolutions Viability Study used a proxy yield of £3.5 per passenger which is above the rates paid by Low Cost Carriers at many regional airports.
- An aircraft recycling and engineering facility - these facilities are courted by many airports around the world, and in the UK. Whilst it is acknowledged that at least one party has expressed an interest in Manston Airport due to a personal tie, this does not substantiate a sustainable economic industry interest.
- A flight training school - many airports offer flight training schools, it is difficult to justify what Manston Airport's unique proposition would be given the relatively thin catchment for such activities.
- A fixed base operation for executive travel - Executive travel in private jets is likely to be undertaken by wealthy individuals and business people. The offer at Manston Airport, located so far from central London, is highly questionable. It is challenging to understand why users would opt to travel to Manston over Farnborough, Biggin Hill, London City Airport or similar mature and more convenient airports.
- Business facilities for aviation related organisations - whilst aviation related organisations would undoubtedly support the airport, the revenue generated by the airport from these activities is relatively small. Typically, this comes in the form of property rent, the market rates for which are not likely to be sufficient to turn the airport into a financially viable entity.

[4] *http://www.fta.co.uk/export/sites/fta/_galleries/downloads/air_freight/air-freight-implications-from-new-capacity.pdf*

2.3. David Stevens – Comment ID 826

Representation Details

Comment ID: 826 Respondent: David Stevens

Response Date: 17 March 2017 Response Type: Object

Summary of Representation:

The Representation by Mr. Stevens objects to the SP05 proposal along the following lines:

- It is the view of Mr Stevens that the information put forward by RSP and its associates, in conjunction with the forthcoming proposed DCO process, demonstrates that there is a reasonable prospect of the Manston Airport site being utilised as a fully operational airport.

- Furthermore, it is Mr Stevens view that the AviaSolutions Viability Study, which is being used as evidence from by Council, is not evidence based and is opinion, which has been shown to be unreliable by Mr. Chris Cain, a consultant for RSP for the following reasons:
  - Excluded the RiverOak business plan because Avia would not or could not sign a non-disclosure agreement.
  - When the RiverOak plans are run through the Avia model it shows that the airport is viable.
  - Was based on an out of date growth rate of 1% when it should be nearer to 3.7%.
  - Worked on a modest investment of £77m when RSP are looking to invest up to £300m.
  - Assumed that cargo tonnage would remain static at 30,000 tons when two experts working independently using different models project figures of between 220,000 to 230,000 tons.
  - Uses the assumption that belly hold capacity will be able to take up all the demand, which is simply not the case.
  - Ignored the income and jobs generated from general aviation activities, which is worth between 20%-25% of a smaller airport's total revenue.
  - Ignored the plans for maintenance, repair and tear down which will generate substantial income as well as providing skilled jobs.
  - Focused primarily on passenger not freight which is the basis of the RSP plan.
  - Stated that Manston was in the wrong place, but the key to freight operations is trucking time and Manston is within three to three and a half hours of most of the South East.

AviaSolutions Response

AviaSolutions' Viability Study examined the financial viability of Manston Airport under various demand scenarios. The majority of these scenarios resulted in the airport being financially unviable, predominantly due

to the competitive landscape reducing Manston Airport's ability to attract sufficient cargo and / or passenger traffic.

With regards to the proposal put forward by RiverOak Strategic Partners and its associates, and the forthcoming DCO, it is unclear which material this refers to specifically. In any case, given the DCO is yet to be submitted, AviaSolutions has not had access to this material and cannot provide comment on the probability of its success, or whether it would then result in a financially viable entity as its substance and detail is not known.

With regards to Mr. Stevens comments pertaining to Mr. Chris Cain's evidence and the effect this has on the AviaSolutions viability study.

- AviaSolutions client throughout has been Thanet District Council, therefore all and any work AviaSolutions conducts must be done in a manner that can be shared with Thanet District Council. RiverOak, at the initial meeting between AviaSolutions and RiverOak, made it clear that it did not intend to share its Business Plan, in the same way it had not been shared with Thanet District Council. It is thought that an NDA would not have altered this course of action.
- It is suggested that RiverOak's Business Plan, against the AviaSolutions Viability Study indicates a profitable business, however no information has been provided to this effect. AviaSolutions has not shared publicly its financial model so it is difficult to understand how such a claim could be substantiated.
- Mr. Stevens indicates that the AviaSolutions report is based on '1% growth', however it is unclear what this refers to. A search on the document reveals the only growth rate of '1%' is the 'Tonnes per ATM' at Heathrow when considering the average freight carried on-board passenger aircraft. The actual growth rate in the AviaSolutions model for total freight in the London System is 1.9%.
- The investments used in the AviaSolutions model were based on the demand forecast. In infrastructure investment, normal practice is to stagger facilities investment in line with demand to ensure maximum return on capital investment. The investment is a function of the growth in demand, thus increasing the investment to £300m would simply reduce the free cashflow requirement to service the debt and / or shareholder returns.
- AviaSolutions' model assumed cargo throughput could be between 30,000 tonnes and 140,000 tonnes by 2050 depending on the development of additional capacity at alternative London airports. This is based on a cascade model that AviaSolutions has developed to mimic the most likely business behaviour in a capacity constrained environment. The suggestion that Manston might achieve 220,000 tonnes does not specify which experts have predicted this, although for the purposes of this report it is assumed to be Sally Dixon[5]. This level of freight activity would place

[5] *Sally Dixon – Manston Airport: A National and Regional Aviation Asset: Volume III pg. I*

Manston Airport as the 3rd busiest freight airport in the country within 10 years, a case that is simply unachievable under normal market conditions given the level of maturity of the cargo operation at Heathrow, Stansted and East Midlands.

- AviaSolutions has not assumed belly-hold capacity will absorb all freight demand. However, given the extremely mature aviation networks operating from the UK, that belly-hold will continue to represent the largest share of capacity. Bellyhold capacity tends to be cheaper (except on the busiest of freight routes), more frequent, and offers more destinations than freighters.
- General aviation income is usually derived from an FBO license fee and landing fees. By way of a comparator, a highly successful regional UK airport might expect to generate revenues of £1million annually from GA, and after operating costs and overheads are deducted the impact on EBITDA at an airport the size of Manston is limited.
- MRO and Tear-down facilities are large, complex investments that often require operating partners to be involved in the infrastructure proposal and development thus ensuring the facility has a means of revenue generation form the outset. Whilst RiverOak state they will develop these facilities, it has yet to be demonstrated that such facilities are in demand in Manston. Notwithstanding such demand issues, the revenue the airport actually generates from such operations usually only constitutes rent and licenses, which are generally low value operations for the airport.
- Manston Airport is located in the south east of Kent. Viewed on a map, 3/5ths of the circle around it is the sea. It is not realistic that it could be considered as an excellent location for RFSs. Freight transported to Heathrow, Stansted and East Midlands has instant access to the UK motorway network, is much more closely located to large conurbations, and therefore reduces RFS time and cost.

2.4. Phillip Kruger – Comment ID 950

Representation Details

Comment ID: 950 Respondent: Phillip Kruger

Response Date: 17 March 2017 Response Type: Object

Summary of Representation

The Representation by Mr. Kruger objects to the SP05 proposal through an objection to the AviaSolutions Viability Report:

- The AviaSolutions report ignores the impact of BREXIT.
- The AviaSolutions report ignores the impact of the Paramount Theme Park or Ebbsfleet Garden City.
- New runway capacity at Heathrow or Gatwick will not be ready until 2036 so the need for freight capacity at Manston is more pressing.
- The AviaSolutions viability report does not consider the diversified income streams available, as indicated by Mr. Chris Cain in his evidence.
- Lessons to be learnt from other benchmark airports.

AviaSolutions Response

The objections put forward have been considered by AviaSolutions:

- Brexit was not considered directly in the report which was written a few months after the referendum, at which point little was known on the impact Brexit may have. Now, more than a year on from the vote, the impact of Brexit is still unclear, as is the potential positive or negative impact on the freight industry. At present, huge volumes of freight move in both directions across the Channel seeking the most advantageous prices, however, due to the networks available from the UK, generally this is to the UK's advantage and it is believed to be a net-beneficiary. A Brexit agreement that increases the friction in this operation may result in less freight moved across the Channel, and therefore more residual capacity from the UK. However, the UK Government has stressed that it will seek an arrangement with the EU that has the least possible impact on the free movement of goods between the UK and EU states, therefore we would expect the impact to moderately supress air freight demand in any case.
- In June 2017, it was announced that Paramount has pulled out of the proposed an entertainment park development in Swanscombe, Kent. Despite this, the developers are continuing the planning and though there is clearly a risk that the project may never materialise, therefore incorporating any incremental demand assumptions would not be prudent. Furthermore, the airports at Gatwick and Southend will both be closer to the theme park than Manston, therefore any benefit to Manston Airport is considered marginal at best.

- New runway capacity consensus amongst the industry is that it will be operational by 2030, which leaves a limited period of time for Manston Airport to develop its infrastructure and operation to recoup its investment. Currently there is residual capacity at Stansted airport to handle freighter operations, and airports in the Midlands have additional capacity. This again indicates that should Manston Airport re-open, it will face stiff competition from the outset.
- Whilst the income available from diversified business opportunities certainly augments airport profitability, the ability to generate such income on a long-term basis is challenging. Businesses of these type require high levels of investment meaning that barriers to entry are high, furthermore once they are established at an airport their barriers to exit are high. It is AviaSolutions' opinion that such businesses are unlikely to invest in Manston Airport until such time as they can be sure of its long-term future. Manston Airport presents significant risk, particularly in light of its recent track record of unprofitable operations.

2.5. Dover District Council – Comment ID 1221

Representation Details

Comment ID: 1221 Respondent: Dover District Council

Response Date: 23 March 2017 Responses Type: Observation

Dover District Council's representation raised no objections, rather it provided a commentary on the process thus far, and the position of the Council. In summary, it stated that Dover District Council upheld its previous resolution with regard to the airport;

> "This Council supports the campaign to retain Manston as an operational airport, recognising the role and place it can have in the UK aviation industry, making the better use of regional capacity in accordance with the views of the South East Local Enterprise Partnership, while making a significant contribution as one of the strategic priorities for regeneration of the East Kent area"

The Council came to this conclusion through an appraisal of the process to date including:

- A summary of DDCs agreed representations to TDC, including; an encouragement on TDC to more actively engage in the Duty to Cooperate (DCT) system, until any DCO process is concluded not to change the designation of the site away from 'Aviation Use Only'; a clear specification of other potential uses of the site, and a consideration of the impact on DDC of such uses.
- The chronology since its original resolution was passed in July 2014
- A summation of potential interested parties including RiverOak Strategic Partners and City financier Eddie Truell.
- A summary of the potential challenges DDC has to a housing and commercial development, including; employment and leisure floor space demand, the district centre and its effect on trade in across the two authorities' constituencies, and the visual impact on the landscape of any redevelopment.

AviaSolutions Response

DDC do not raise any objections specifically related to the viability of Manston Airport, rather it focuses on the process and political aspects. As such, AviaSolutions has not provided further comment at these areas of concern are outside of its remit.

2.6. Bob Parsons – Comment ID 1316

Representation Details

Comment ID: 1316 Respondent: Bob Parsons

Response Date: 13 February 2017 Response Type: Object

Summary of Representation

The Representation by Mr. Parsons objects to the SP05 proposal through an objection to:

- Manston's location has been described as being remote from a reasonable catchment area to support passenger flights but this is exactly the opposite for cargo where it is located close to dual carriageway and motorway routes avoiding the capital, railway infrastructure and ferries for efficient payload ground handling. The airport can deliver similar services for air cargo that the three-year-old London Gateway does for marine containers currently transferred from/to about five Freightliner/DB Cargo rail services in each direction per day.
- Manston has the potential to also develop some passenger services; some perhaps linked to operation of regional combi aircraft with a cargo capacity of (say) 3,000kg-4,000kg and 50 passengers to destinations beyond a reasonable time achievable by road or rail for time critical business and able to mix passenger and cargo capacity to ensure a high overall load factor.
- With its 2,750m runway the airport also has the potential to accept the largest aircraft for maintenance and end of life recycling which was a minor business under previous owners but is increasingly important for aircraft manufacturers' life cycle planning. The process removes reusable equipment that might then be reconditioned and form part of maintenance of equivalent aircraft with a continuing working life, the remainder of the body being deconstructed for removal to specialist recycling businesses.
- Turning to ground transport, there is a fairly high volume of air cargo moved by road between airports. As an example, the German operator Lufthansa operates about 200 HGV services, Mondays to Fridays, serving UK airports. Attracting cargo from/to Manston can, as with marine containers, allow for air cargo to be conveyed directly by rail from/to inland terminals in a similar way to present Royal Mail rail services and the planned international "Euro Carex" rail operation (Eurotunnel being the UK partner, the trains planned to use Deutsche Bahn's rail freight terminal at Dagenham via HS1).

AviaSolutions Response

AviaSolutions has reviewed the representation and provides the following response:

- Manston Airport is located in the south east of Kent. Viewed on a map, 3/5ths of the circle around south east Kent is the sea. It is not realistic that it could be considered as an excellent location for RFSs. Freight transported to Heathrow, Stansted and East Midlands has instant access to the UK motorway network, is much more closely located to large conurbations, and therefore reduces RFS time and cost.
- In the UK, there are currently no intermodal airfreight to rail freight exchanges[6], and the major freight hubs of Heathrow, East Midlands and Stansted are no exception. The reasons are multifaceted and revolve around certain key features. Firstly, current legislation permits the carriage of bonded 'Known' freight by Road Feeder Services (trucks) but this does not extend to rolling stock. Secondly, the structure of the industry is highly concentrated amongst the large Freight Forwarders; they have invested heavily (strategically, presenting barriers to entry of new competitors) in their current infrastructure which is centred around hub airports and the distribution channels they can already access.
- Whilst the income available from diversified business opportunities certainly augments airport profitability, the ability to generate such income on a long-term basis is challenging. Businesses of these type require high levels of investment meaning that barriers to entry are high, furthermore once they are established at an airport their barriers to exit are high. It is AviaSolutions' opinion that such businesses are unlikely to invest in Manston Airport until such time as they can be sure of its long-term future. Manston Airport presents significant risk, particularly in light of its recent track record of unprofitable operations.
- The suggestion for operators to utilise 50 seat combi aircraft is an interesting consideration, however, there are no airlines operating these aircraft types in the UK or Europe, and the concept is largely out-dated globally in all but the most remote regions; it would be challenging for the airport to attract such an operator. Furthermore, the range of such an aircraft would be considered limited, only able to operate to destinations that are currently operated to by aircraft from Heathrow and Gatwick. Such short haul flights attract very little freight which is generally transferred throughout Europe by RFS.

[6] *3. Page 41- Department for Transport (2009), The Air Freight End-to-End Journey: An analysis of the end-to-end journey of air freight through UK international gateways. Available from http://webarchive.nationalarchives.gov.uk/+/http:/www.dft.gov.uk/about/strategy/transportstrategy/tasts/userexperience/endtoendjourney.pdf*

2.7. John Jeapes – Comment ID 1425

Representation Details

Comment ID: 1425 Respondent: John Jeapes

Response Date: 10 February 2017 Response Type: Object

Summary of Representation

The Representation by Mr. Jeapes objects to the SP05 proposal through an objection to various aspects:

- Mr Jeapes has a clear belief that Aircraft Tear Down and Recycling would be suitable for Manston Airport and that this should be consider further.

AviaSolutions Response

AviaSolutions has reviewed the representation and provides the following response:

Whilst it is evident that Mr Jeapes has domain knowledge of the Aircraft Recycling sector it remains questionable whether:

- Aircraft recycling alone could support Manston Airport's viability.
- Any investor has the desire to invest in potentially the world's largest aircraft recycling centre in Manston Airport.
- Investors are willing to invest in Manston Airport given its uncertain future, or at what point in the future they may wish to invest. It is not unreasonable to assume they may defer investment for two years to ensure the airport is viable.
- Manston or the wider region in Kent has the labour knowledge and skills to support an operation in its start-up phase.
- How competitors will react. It would be highly unlikely that those businesses already operating in this sector would simply accept a loss of business.
- How such a business located in Manston, with its relatively high cost base vs. emerging economies, will compete in a labour-intensive industry.

2.8. Supporters of Manston Airport (SuMA) - Comment ID 734

Representation Details

Comment ID: 734 Respondent: Ruth Bailey, on behalf of Supporters of Manston Airport

Response Date: 16 March 2017 Response Type: Object

This document has been supplied as a non-submitted Representation.

The objections are as follows:

- AviaSolutions Viability Study cannot be used as evidence as it failed to meet the brief in that it did not consider ALL options, including various diversified businesses.
- The AviaSolutions report does not consider opportunities to offer short term capacity at Manston Airport whilst a new runway is developed, and then transfer/ redistribute services to a new runway at Heathrow or Gatwick.

AviaSolutions Response

AviaSolutions has considered the document supplied and has provides the following response:

- AviaSolutions considered what it believed to be the most viable means of ensuring the airport became a financially viable entity. This approach has been adopted because an airport must have a profitable core service offer. It is not conceivable that an investor would invest c. £75m - £300m to develop a business where its core service is unable to generate profits. In airport terms, this means the airport needs to be profitable from either its passenger or cargo operations, or a combination of the two. Additional and auxiliary services, no matter their number or diversity, should serve to improve EBITDA margins and generate incremental profit. If these businesses are required simply to break-even, the risk is likely to be considered too great for investors.
- With regards to a joint venture / share of operations with either Heathrow or Gatwick, airports in the UK operate in a free market and compete to attract airline customers. Airlines in turn operate their fleet, network and schedule for commercial objectives. In our view, Manston Airport (working with either London Heathrow or London Gatwick) could not develop the above proposition as neither Manston nor Heathrow/Gatwick has the authority to 'direct' aircraft to alternative airports. Furthermore, the commercial proposition to the airline is simply not the same, as operations from Manston Airport (when compared with Heathrow for example) will not generate the same levels of demand or average seat yields. A further key feature of Heathrow Airport is the diversity of connecting options, which would not be available at Manston. The concept of an airport seeking to 'redistribute' airline traffic is simply untenable in the UK aviation sector.

BIRCHAM DYSON BELL

Ms Madeline Homer
Chief Executive
Thanet District Council
P.O. Box 9
Cecil Street
Margate
CT9 1XZ

Your Ref

Our Ref
ADW/166055.0003

Date
16 January 2018

By Email

Urgent

Dear Madam

Extraordinary Council Meeting, 18 January 2018

This letter has been jointly prepared by BDB and RPS who are the legal and planning representatives acting on behalf of RiverOak Strategic Partners (RiverOak) in connection with their proposals to submit a Development Consent Order (DCO) application to reopen Manston Airport as an air-freight hub with some passenger services. It is written further to publication of the officer's report to the 18 January 2018 Extraordinary Council which will consider the Pre-Submission Publication Stage of the new Thanet Local Plan and should be read alongside the letter from RPS to the Head of Strategic Planning at Thanet District Council (TDC) dated 17th March 2017 in connection with the Proposed Revisions to the draft Thanet Local Plan (Preferred Options) (January 2017).

Following our review of the officer's report to the 18th January 2018 Extraordinary Council, it has become necessary to bring several items to your attention. We address these matters below and present them under sub-headings that match those used in the officer's report.

Introduction and Background

The officer's report clearly sets out how important the Local Plan is as a key strategy document that supports the Council's Corporate Plan priorities by seeking to support economic growth and regeneration and seeking opportunities for inward investment and job creation. In its current state, RiverOak do not believe that the Local Plan goes far enough and it is not proactive enough in securing policies that encourage deliver of the corporate priorities – not least in respect of the significant opportunity presented by the possible reopening of Manston Airport site. The 2015 Consultation of the draft Thanet Local Plan rightly acknowledged that "a successful airport has the potential to be a significant catalyst for economic growth" and Policy SP05 supported "retention, development and

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expansion of the airport and aviation operations" in full recognition of the opportunity that the airport presented to deliver strategic growth objectives. This policy approach to the airport was widely supported by the general public. To allocate the airport site for anything other than aviation use would be a missed opportunity for the District which should not be lost.

Government Guidance – Key Requirements

Paragraph 2.13 of the officer's report correctly recognises that the new Local Plan should be based on adequate, up-to-date and relevant evidence. RiverOak do not believe that Members of the Extraordinary Council have adequate evidence upon which to make such an important decision on the next stages of the Local Plan.

The officer's report itself identifies examples of where crucial pieces of evidence have not been completed and therefore made available to Members, or the general public. The evidence base to the Local Plan is lacking and incomplete and has not benefited from full scrutiny by way of a full consultation. Members have not seen the following evidence:

- **Avia response to the March 2017 representations** – Avia have already issued a preliminary response to RiverOak's comments from March 2017. However officers indicate that a fuller response, which relates directly to their September 2016 report, will be reported to Members in due course. No date is provided for this response. Additionally, the Avia Report itself has never been subject to scrutiny and comments have never been invited on it. As the principal evidence base for the Council's justification for no longer protecting the airport for aviation use, the Avia Report and any further commentary needs to be fully considered by Members and the subject of proper scrutiny before any definite decision is taken on the future of the airport.

- **Justification for the amount of employment land allocated** – The Council has promised to publish an Economic Development Needs Assessment-style document which will explain the amount of floorspace needed over the Plan period and the employment land supply situation. This is welcomed as the current document is very out of date (2010). The Council's employment strategy and policies are a central part of the Local Plan and in realising corporate priorities. They must be based on the latest information available especially as there are likely to be implications for other elements of the Local Plan if the currently reported land supply situation changes. It is understood that the promised document will be submitted to the Secretary of State alongside the Local Plan, but this will be after Members have made their decision at this week's meeting. RiverOak continue to raise significant concerns about the Council's continued approach and admittance to maintaining a significant oversupply of employment land especially when delivering employment land in Thanet has historically been difficult and failing to properly consider Employment Omission Sites, as doing this may present better options for addressing housing land supply needs thereby reducing the reliance on Manston Airport to meet this supply.

- **Strategic Housing Land Availability Assessment (SHLAA) and Strategic Housing Market Assessment (SHMA)** – the Council acknowledges that these documents are out of date. The SHMA has been revised to provide up to date evidence for the objectively assessed housing need for Thanet and the types and affordability of homes required but it has not been published. This should inform the level, size, type and affordability of housing to be provided for in the Pre-Submission draft Local Plan. The SHLAA will be updated for the Pre-Submission draft Local

Plan. The content of the Pre-Submission draft will be informed by the updated SHMA. Again, this is all crucial evidence which Members will not see before making a decision this week.

- **Housing Omission Sites (which have not be allocated)** – there were numerous objections from landowners and agents whose sites had not been allocated for housing. The Council is considering the sites individually and on their own merits in line with established assessment procedures set out in the evidence base. The Council has previously promised to publish an Environmental Report to update on this process and to explain why sites had not been allocated. This report has not been published. This evidence needs to be considered in full against the Council's proposed list of housing allocations and especially in light of the proposal to deliver a new settlement on Manston Airport (which was once the Council's least preferred housing solution) and which RiverOak state is not required with reference to the January 2018 RPS Report "*Thanet District Local Plan: Review of Future Housing and Employment Growth and Capacity for Development*."

- **Final versions of the Infrastructure Delivery Plan, Sustainability Appraisal, Viability Assessment and Transport Modelling Work** – objections were received stating that these documents should have been published as part of the 2017 consultation. The Council has responded by saying it has published evidence base documents and information in the past, and is committed to continuing to do so, as and when evidence is available and at the appropriate stage. The Council recognises that these are important elements of evidence for the Examination. The officer's report states that it is the Council's intention to publish the evidence mentioned at the next stage, if available. This is simply not good enough when we are talking about such important evidence documents which underpin the District's future for the next 20 years.

- **Whole Plan Viability Study** – this document is required to ensure that the development identified in the draft Plan is deliverable in the Plan period to 2031. As this document has not yet been completed and therefore published, there is no certainty that the development being proposed (including the new settlement at Manston Airport) is viable and therefore deliverable. This evidence should be made available to Members now.

The above list is sizeable and contains a number of essential evidence documents that could all have significant implications for the Local Plan which the Council itself recognises as a key strategic document. Members have not been properly informed in advance of being asked to make decision on the next steps. This is not only unfair but irresponsible and could have severe repercussions at the Examination stage if an independent Inspector is not satisfied that adequate evidence has been supplied or that it is out-of-date.

<u>Duty to Cooperate</u>

We suggest that, despite the assurances given in the officer's report (paragraph 2.25), all the evidence suggests that there has not been sufficient co-operation with Dover District Council (DDC) on cross-boundary strategic priorities especially in relation to Manston Airport and that DDC is likely to make this point to the Local Plan Inspector at the appropriate time. A failure to demonstrate evidence of having effectively cooperated to plan for cross-boundary issues in accordance with paragraphs 178-181 of the

NPPF before submitting Local Plans for examination is a serious issue for the Inspector that could lead to the Local Plan not being accepted.

Housing Omission Sites

Paragraph 2.106 of the officer's report recognises that at the last consultation, the Council received a number of proposals for new housing sites that had not been allocated in the draft Local Plan. The Council alleges that the new sites have all been subject to assessment and in the same way as those sites that were submitted earlier on in the Local Plan process at the 'call for sites' stage. There has been no information published to date to evidence or justify the Council's decisions. Consequently, the Council's approach to meeting its housing land supply needs is not fully understood and even less so when considering that there needs to be a clear synergy and integration between the Local Plan housing and employment strategies (with reference to paragraph 158 of the NPPF) – where there is evidently none (see earlier section on Government Guidance – Key Requirements and comments made in relation to the Council's employment land supply assessment).

The overprovision of employment land allocations within the Local Plan (see paragraph's 2.131 to 2.135 of the officer's report) needs to be fully considered alongside the new SHLAA to establish if there is further opportunity for employment sites to be given over to housing (and therefore not having to allocate Manston Airport for a new settlement before the airport's future is properly considered). Additionally, there needs to be a proper consideration of the employment land omission sites (paragraph 2.136 and 2.137 of the officer's report) to see if they represent better examples for employment allocations therefore meaning that existing employment sites could be released for housing. Presumably if Manston Airport is retained in employment use, then other employment sites could be released for housing while maintaining the same amount of employment land.

Future of the Airport Site

There are a couple of points that we need to respond to in relation to paragraphs 2.107 to 2.130 of the officer's report. These are separated out under headings below:

Selective and Inaccurate Reporting of the Planning Inspector's decision on Manston Airport (dated July 2017)

The characterisation of the unsuccessful planning appeals relating to the Manston Airport site at paragraphs 2.119 to 2.122 of the officers' report is wholly misleading. The true picture is as follows:

The Council refused, or did not determine, four applications for changes of use of buildings on the site away from airport use. This was appealed by Stone Hill Park Limited. In December 2016, the Council decided that it would not defend the appeals, relying on the Avia Solutions report for its change of heart.

The Council attended, but did not participate at all in the appeals, which were heard in the Council Chamber in March 2017. The Avia Solutions' report was not introduced to evidence and was not therefore subject to any scrutiny and has as yet not been subject to scrutiny in any other way. In contrast, RiverOak's reports by Dr Sally Dixon and Mr Chris Cain were submitted in evidence and were able to be scrutinised, but were not challenged either by Stone Hill Park Limited nor the Council.

The Inspector decided on 13th July 2017 to dismiss the appeals because there was sufficient prospect of the airport site being brought back into airport use, and he concluded that existing national aviation policy framework and adopted Thanet Local Plan Policy EC4 carry 'significant weight', and that the emerging Policy SP05 carries 'little weight'.

Justification to retain the airport designation

It is wholly inappropriate and wrong for the Council to state in paragraph 2.117 that there is insufficient justification to retain the airport designation during the Plan period. The future of the airport has not yet been properly considered or tested through either the Local Plan or development consent processes and to base the new Local Plan on this conclusion would be wholly wrong. In paragraph 2.121 the Council fully recognises that the airport's future is a matter for the Local Plan and DCO process. It is simply too premature to conclude as the Council has on this matter – especially in light of the Planning Inspector's conclusions in July 2017 in connection with the planning appeals by Stone Hill Park Limited (see above).

Paragraph 2.38 says that the Environmental Report (yet to be published by the Council) will make the Council's assessment of the airport site much clearer. This document must be seen by Members and scrutinised before making such an important decision on the airport's future.

Paragraph 2.123 states that there are implications for the Local Plan if the airport site was not allocated for mixed-use development. RiverOak simply does not agree. The implications can be satisfactorily addressed through better consideration of the evidence base. We believe that there are equally implications for the Local Plan (and the Council's Economic Growth Strategy) by not safeguarding the airport for aviation use – this is not something that has been properly considered by the Council.

Prematurity of deciding the airport's future now

Paragraph 2.128 says that DCLG have said that there is no need for the draft Local Plan to be delayed by the DCO. Whilst this is true, it would also be significantly premature for the Council to assume that the DCO will not be successful and that an alternative use for the airport site must be promoted now. The airport should remain protected for aviation uses until such time that the Local Plan review and DCO processes have been completed – a fact that officers themselves acknowledge in the report (paragraph 2.120).

<u>Weight to be given to the draft Local Plan</u>

In paragraphs 2.150 to 2.152, the officer's report suggests that as the draft Local Plan progresses towards Examination, it gradually accrues more weight in development decisions and that when the Local Plan is submitted for Examination, that significant weight can be afforded to the draft policies. Until the Local Plan has been considered by an independent Planning Inspector, little weight can be given to the emerging plan policies and in particular Policy SP05 (Manston Airport) which continues to attract significant outstanding objection.

<u>Consideration by the Overview and Scrutiny Panel</u>

The officer's report also gives a misleading account of the proceedings of the Overview and Scrutiny Panel that took place on 21st November 2017 (paragraphs 1.10 and 2.168). In fact, a motion to

recommend that the Cabinet agree the Local Plan and that it recommend that the Council submit the Local Plan to the Planning Inspectorate for Examination was defeated by nine votes to one. This represents a strong message from elected Members about the concerns surrounding the new Local Plan and the outcome of the vote should be properly reported and accepted.

We have previously expressed concerns about the way that the comments from the Overview and Scrutiny Panel have been recorded. The concerns that they raised at the 21st November 2016 meeting a year earlier, namely the proposed loss of Manston Airport; the shortage of time that the Panel were given to study evidence documents; the lack of considering alternative uses for the airport site other than for housing; and whether the Council was going to look at rejected housing sites before finalising its housing strategy to deal with the need for additional homes, are all matters that are still of concern. The Panel's specific recommendation from that meeting to conduct further reviews in relation to the rejected housing sites to find extra land for housing development in order to minimise the use of greenfield sites still has not been actioned by the Council – over a year on.

Conclusions

For the reasons set out in this letter, and in the RPS letter to the Head of Strategic Planning at the Council dated 17th March 2017 in connection with the Proposed Revisions to the draft Thanet Local Plan (Preferred Options) and contrary to the requirements of paragraph 182 of the NPPF:

- the draft Local Plan has not been positively prepared;
- it is not justified through adequate and up-to-date evidence;
- there is no evidence available to confirm that it will be effective and deliverable over the Plan period;
- there has not been effective joint working on cross-boundary strategic priorities;
- is not consistent with national planning and aviation policy objectives; and
- it has not been prepared in accordance with the Duty to Cooperate or legal and procedural requirements and therefore fails the 'soundness' test.

Consequently, the Plan should not be submitted for Examination.

RiverOak maintain that there should be no new mixed-use settlement promoted at Manston and that there is a clear need, which needs to be captured in the new Local Plan, to safeguard land at Manston Airport exclusively for aviation related uses – consistent with the national policy context. The airport would deliver much-needed infrastructure which in turn would deliver economic growth on a local, regional and national level in addition to wider growth opportunities fully consistent with national planning policy objectives and the Council's own strategic priorities to grow economically.

Yours faithfully

[redacted]

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cc All Members invited to the 18th January 2018 TDC Extraordinary Council Meeting
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Review of CPO Indemnity Partner Process for Manston Airport

Final Report

22 June 2015

pwc

Table of Contents

List of terms and abbreviations

The table below includes a description of the defined terms and abbreviations used within this report.

Term	Description
CPO	Compulsory Purchase Order
DfT	Department for Transport
Disclosure Request	PwC's request for additional information provided to DfT in April 2015
Falcon	Falcon Consultancy
GAAP	Generally Accepted Accounting Principles
Manston	Manston Airport
Partner Identification Process	The process undertaken by Thanet District Council to identify a suitable CPO indemnity partner
PIN	Prior Information Notice
Provided Documents	The contents of the original dossiers provided by Thanet District Council and RiverOak Investment Corp., LLC and additional information provided in response to the Disclosure Request
"PwC" or "we"	PricewaterhouseCoopers LLP
Review Timeframe	The period of time (18 September 2014 to 18 November 2014) where Thanet District Council were requesting information from RiverOak Investment Corp., LLC and assessing it in the context of a due diligence process
RfP	RM5340 SO8925 – Provision of consultancy for a due diligence review in assessing a potential indemnity partner – Manston Airport
RiverOak	RiverOak Investment Corp., LLC
RO	Reference prefixing RiverOak document submissions as part of their original Dossier
SMT Document	Soft Market Testing Document
TDC or "The Council"	Thanet District Council
TH	Reference prefixing TDC document submissions as part of their original Dossier
UK GAAP	Generally Accepted Accounting Practice in the UK
WLG	Wragge Lawrence Graham & Co (RiverOak Investment Corp., LLC's legal advisors in the UK)

1. Introduction

1.1. Introduction

By a letter dated 18 March 2015 (the "Appointment Letter"), PricewaterhouseCoopers LLP ("PwC" or "we") was appointed by the Department for Transport ("DfT") to provide consultancy for a due diligence review in assessing a potential indemnity partner in relation to the Compulsory Purchase of the Manston Airport site ("Manston" or "Manston Airport").

This report sets out a summary of the work that we have performed and the findings and conclusions arising from our work.

1.2. Disclaimer

The report has been prepared for DfT and solely for the purpose and on the terms agreed with DfT. While, having considered its contents, DfT may decide to publish it, we accept no liability, including for negligence, to anyone other than DfT in connection with this report.

1.3. Background

Having previously operated as a military and then commercial airport, the privately-owned Manston Airport was closed to commercial aviation operations in May 2014 due to a prolonged decline in passenger and cargo traffic, which resulted in poor financial performance.[1] While the current majority shareholders have expressed their intention to redevelop the site for commercial and residential use, we understand that there has been strong interest from the local community and local Members of Parliament to re-open the site as a commercial airport (citing the economic benefits to the surrounding region).[2]

As part of its assessment of the future viability of Manston Airport, we understand that Thanet District Council ("TDC" or "the Council") commissioned a viability report from an organisation of independent aviation experts, Falcon Consultancy ("Falcon"). The findings from the work performed by Falcon were provided to the Council in a report dated 16 July 2014 (the "Falcon Report").

Our scope of work has not included a review or assessment of the findings of the Falcon Report. However, we understand that the Falcon Report concluded that commercial aviation operations at Manston were a viable option, provided that a suitable long-term operating model for Manston was developed.[3]

We understand that the Falcon Report itself did not propose or suggest any such long-term operating model for Manston. Further, we understand that the Falcon Report commissioned only considered the potential commercial viability of Manston Airport and did not, for example, consider other aspects of viability such as environmental viability and impact.[4]

In-light of the conclusions set out in the Falcon Report, the Council made a decision to assess the option of acquiring Manston from its current owners under the Compulsory Purchase Powers assigned to the Council under section 226 of the Town and Country Planning Act 1990 and the Circular 06/2004.[5]

As part of this assessment, the Council decided that the potential compulsory purchase of Manston could only proceed if a suitable operating partner could be identified for Manston and such a partner could indemnify the Council from the costs of issuing a Compulsory Purchase Order ("CPO").

In order to identify suitable potential partners for this process, the Council issued a Prior Information Notice ("PIN") on 9 August 2014 followed by a Soft Market Testing document issued on 13 August 2014. This exercise was undertaken to identify a suitable CPO indemnity partner and to identify if RiverOak were a suitable party to subsequently operate Manston Airport (the "Partner Identification Process").

[1] Financial statements for Kent Airport Limited show losses of £5.4million for year ended 31 March 2014 (2013: £3.6million loss).
[2] See the RfP.
[3] See the RfP.
[4] See the RfP.
[5] Included within TDC's legal advice provided on 10 December 2014. See TH03 and RO25.

Four potential counterparties requested the questionnaire and we understand that two submitted returns. One of the two parties did not take up the subsequent offer of a meeting with TDC and did not provide any response to questions provided to them by TDC. The party was therefore considered not to have expressed an interest in being the Council's indemnity partner. On this basis only one company, RiverOak Investment Corp., LLC ("RiverOak") responded to the Council's offer for a meeting and was the only party to progress through to the Due Diligence stage.[6] Accordingly, upon receiving RiverOak's response to certain questions from TDC on 29 August 2014, the Council conducted due diligence on RiverOak from 18 September 2014 to 18 November 2014.

Following completion of this due diligence exercise, the Council announced on 11 December 2014 that, in its opinion, RiverOak did not have the necessary financial capacity to support the Council's plan for Manston and that RiverOak's business plan was insufficient. It was concluded that the Council would not take forward the Partner Identification Process any further at this time.[7]

1.4. Overview of the conclusions reached by the Council from its Partner Identification Process

The Council released their final report on 11 December 2014, outlining their conclusions on the soft market assessment. We note that at the time this report was released, TDC and RiverOak had entered into a confidentiality agreement and the latter were, therefore, referred to as "Party A" throughout the document.[8] TDC reached the following conclusions in their final report with respect to RiverOak's submission:[9]

- **Section 5.2 (Party A [CPO Process])**: *"Party A proposes to approach the CPO acquisition a stage at a time. This would be inconsistent with the requirements of Circular 6/2004, sections 20 and 21."*
- **Section 6.1 (Accounting and Investor Information)**: *"The information provided by Party A does not demonstrate that it has the appropriate financial status or has committed investors: to enable it – if required – to acquire the site by private treaty prior to a CPO process being commenced; to fund the preparation of a robust case for CPO acquisition; to meet the expected compensation costs; to develop the airport and operate it viably in the long-term."*
- **Sections 7.1 and 7.2 (Business Plan)**: *"The Business Plan provided by Party A is a short-term (5-year) business plan and the scope is insufficient in the light of the objective set out in 3.1 [i.e. 'a viable airport comes into sustainable long-term operation']. The plan does not provide for the CPO compensation cost, and this could be substantial. The business assumptions appear to be optimistic as regards revenues and the known costs of the operation… A 20 year business plan is required for a project of this scale to demonstrate long-term viability, and that the proposed operation is sustainable in the long term. Unless these requirements can be clearly demonstrated there is no prospect of achieving a CPO."*
- **Sections 8.1 and 8.2 (Indemnity)**: *"The approach suggested by Party A is that funds would be transferred in tranches to a UK account managed by UK solicitors. The Council could then incur CPO costs to the value of funds in the account. The Council would not be obliged to proceed with further work until new funds were paid into the account by Party A. The Council is not seeking a CPO on a speculative basis and would not wish to put itself in a position whereby full achievement and vesting of the site would depend on the partner's ability to generate investment in the project."*

The Council, in concluding each of the above sections, stated that RiverOak (or "Party A") as *"an indemnity partner would therefore constitute a high risk option given the objective set out in 3.1 above and legal advice secured by the Council."* In Section 10.1 of this document, they stated their final recommendation *"that no further action be taken at the present time on a CPO of Manston Airport, on the basis that the Council has not identified*

[6] See TH23 and RO22.

[7] See TH23 and RO22.

[8] TDC provided the decision document to RiverOak on 3 December 2014, in advance of the council meeting on 11 December 2014. RiverOak sent a letter to TDC on 6 December 2014 outlining their views on the decision, which they considered to be unfair, and stated that they intended to publish the said letter on their website. As part of TDC's response to the Disclosure Request, they provided additional information indicating that RiverOak had issued a statement regarding the process and the findings of the report. However, at the time of the final report, we understand that the confidentiality agreement signed by TDC and RiverOak was still in effect and therefore they have been referred to as Party A throughout. In the Disclosure Request, we asked TDC for clarification regarding whether they considered this to be a breach of the confidentiality agreement. We have not been provided with any evidence regarding this point.

[9] See TH23 and RO22.

any suitable expressions of interest that fulfil the requirements of the Council for a CPO indemnity partner and that it does not have the financial resources to pursue a CPO in its own right."

1.5. Terms of Reference

The service requirements provided to us in conjunction with the Appointment Letter instructed PwC to perform the following reviews:

(1) A review of a dossier of papers provided by TDC to the DfT on 13 January 2015 covering the due diligence process that TDC undertook in assessing RiverOak as a potential indemnity partner in a Compulsory Purchase of the site of Manston Airport (the "TDC Dossier"). A list of the documentation included in the TDC Dossier is set out in Appendix A.

(2) A review of a dossier of papers provided by RiverOak to the DfT in December 2014, comprising RiverOak's financial and other information previously provided to TDC to support their indemnity partner bid, as well as further information provided by RiverOak to TDC on 18 February 2015 and 25 February 2015 (the "RiverOak Dossier"). A list of the documents included in the RiverOak Dossier is set out in Appendix A.

Based on these reviews, we have been instructed to address the following three requirements (the "Requirements"):

Requirement	What we have been instructed to address therein
1	*Any key considerations that TDC could have taken into account at the time, based on a review of the information provided to TDC (at the time).*
2	*Further key considerations that TDC may wish to take into account in any further CPO review based on a review of the additional information provided by RiverOak to the DfT.*
3	*On the basis of the findings from the above, the consultant should also provide advice on what, if any, further work TDC may wish to undertake to help strengthen findings from any future due diligence exercise.*

Source: RfP

As set out in our Terms of Reference, the scope of our work has not included the provision of any opinion on whether TDC's due diligence was sufficient, nor on the reasonableness or otherwise of TDC's conclusions. Further, our scope of work has not included any consideration of the viability (financial or otherwise) of Manston Airport, nor of the potential CPO process which was considered by TDC. Accordingly, this report does not express any opinions on these matters.

Our findings and conclusions in respect of the Requirements are set out in this report.

1.6. Our approach

General principles

As directed by our Appointment Letter, our primary focus throughout our work has been a review of the information contained in the TDC Dossier and the RiverOak Dossier.

The TDC Dossier included five bundles of documents, which we have broken down into 23 individual documents. As set out in Appendix A, we have assigned a unique reference number to each of these individual documents, in the form of TH[xx], with TH01, for example, being the first document included in our list.

The RiverOak Dossier included 31 documents. As set out in Appendix A, we have assigned a unique reference number to each of these documents, in the form of RO[xx], with RO01, for example, being the first document included in our list.

We have reviewed the dossiers provided to us to identify unique and common documents included in both. We set out in Appendix B a copy of a Venn Diagram that we have prepared to summarise the unique and common documents included in the TDC and RiverOak Dossiers.

As shown in Appendix B, of the 31 documents included in the RiverOak Dossier, 11 of these documents were also included in the TDC Dossier.

Our initial review of the TDC and RiverOak Dossiers identified a number of references to documents and other information which did not appear to have been included in the two dossiers provided to us. In light of this initial review and in order to allow us to understand the information that was available to TDC, we issued additional document disclosure requests to DfT on 16 April 2015 to forward to both TDC and RiverOak (the "Disclosure Request").

In response to this request, we received additional documentation relating to some, but not all, of the questions and clarifications included within the Disclosure Request. This information was provided to DfT by TDC on Friday 15 May 2015, and forwarded to us on Monday 18 May 2015. Where this information was deemed to be relevant to our scope of work, we have sought to reflect this additional information in our report. We note that RiverOak did not provide any response to the Disclosure Request.

Based on the references to meetings and other communications that we have identified, we have prepared a timeline of key dates relevant to the Partner Identification Process. A copy of this timeline is set out in Appendix C. We set out below details of the approach that we have adopted, based on the information included in the TDC and RiverOak Dossiers, in order to address the Requirements.

Finally, we would note that the review performed by TDC was intended to be a soft-marketing exercise in order to identify a potential indemnity partner for any future CPO process, as well as for the future operation of Manston Airport. It did not constitute a full review of the potential viability of any CPO process. Our understanding of the requirements has therefore been framed on this basis.

1.6.1. Requirement One

Under Requirement One, we have been instructed to address the following:

Any key considerations that TDC could have taken into account at the time, based on a review of the information provided to TDC (at the time).

We set out details of the work we have performed in responding to this requirement in Sections 3, 4, 5 and 6 of this report.

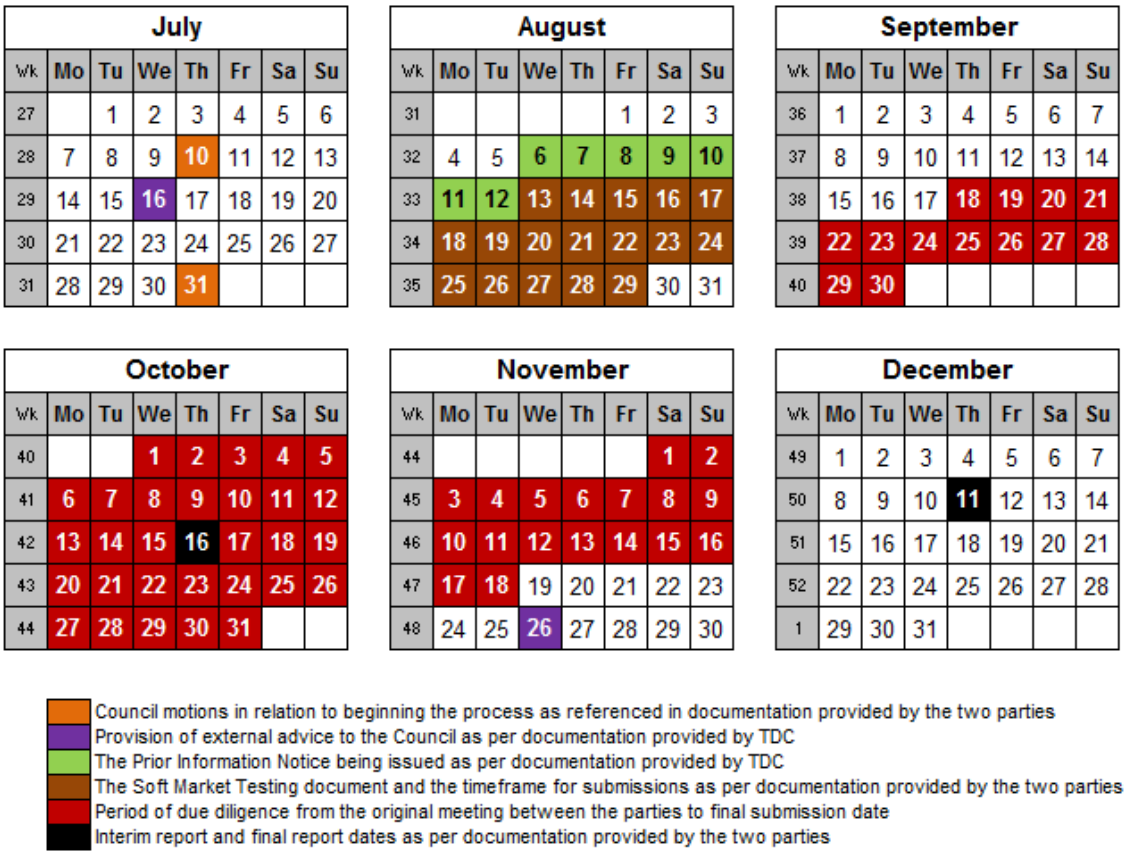
In responding to Requirement One, we have assumed that the term "*key considerations*" refers to considerations in respect of the Partner Identification Process which was undertaken by TDC. In order to provide a context to these "*key considerations*" we first set out our understanding of the framework under which TDC sought to assess the response during the Partner Identification Process (the "Review Framework").

We then summarise the information requests issued by TDC to RiverOak (the "Information Requested") in order to obtain the information it required under the Review Framework. We next review the information that we are aware of which was provided to TDC in response to these requests. Based on this we assess the key considerations, in light of the Review Framework, which TDC could have taken into account given this information.

In assessing the information provided to TDC and the key considerations which it could have taken into account under the Review Framework, we have only reviewed the information provided to TDC between the issuance of the PIN on 9 August 2014 and the announcement of TDC's final decision on 11 December 2014 (the "Review Timeframe").

Figure 1.1 summarises the key dates and periods covered by the Review Timeframe.

Figure 1.1 – Overview of key dates and periods covered by the Review Timeframe (Year: 2014)



[10]

It has not been possible for us to establish the full range of information which was provided to TDC during the Review Timeframe. In responding to this requirement, we have solely relied upon the information included in the TDC and RiverOak Dossiers and the additional documents provided to us in response to the Disclosure Request (together, the "Provided Documents"). For the purpose of this report, we have therefore assumed that the Provided Documents represent the "*…information provided to TDC (at the time)*".

It is possible that additional information not included in the Provided Documents was available to TDC during the Review Timeframe. We reserve the right to amend the views and opinions set out in this report should we be made aware of any additional information or documentation that exists beyond that included in the Provided Documents.

1.6.2. Requirement Two

Under Requirement Two, we have been instructed to address the following:

Further key considerations that TDC may wish to take into account in any further CPO review, based on a review of the additional information provided by RiverOak to the DfT.

We set out details of the work that we have performed in responding to this requirement in Section 7 of this report.

In responding to this requirement, we have assumed that the additional information provided by RiverOak to the DfT consists of the unique documents included in the RiverOak Dossier (as shown in the Venn Diagram attached in Appendix B).

[10] In response to one of the clarification questions raised by PwC as part of the Disclosure Request, TDC provided additional information relating to the issuance of the PIN and the SMT Document. We have noted that the deadline was extended for additional parties to register their interest and complete the SMT Document. However, we do not believe it bears any relevance to the requirements and, therefore, this information has been: a) excluded from the calendar provided; and b) excluded from the narrative discussion itself.

With regards to the "*…further key considerations that TDC may wish to take into account in any further CPO review*", we note that the process which TDC had undertaken during the Review Timeframe does not appear to have included a full review of the potential viability of any CPO process. As set out above, the review performed by TDC during the Review Timeframe was intended to be a soft-marketing exercise in order to identify a potential indemnity partner for any future CPO process, as well as for the future operation of Manston Airport.

In the context of responding to Requirement Two, we have therefore assumed that the "*key considerations*" that we have been instructed to consider relate to the key considerations in respect of TDC's soft-marketing process to identify a potential CPO indemnity partner.

1.6.3. Requirement Three

Under Requirement Three, we have been instructed to address the following:

On the basis of the findings from the above, the consultant should also provide advice on what, if any, further work TDC may wish to undertake to help strengthen findings from any future due diligence exercise.

We set out details of the work that we have performed in responding to this requirement in Section 8 of this report.

In responding to this requirement, we understand that the term "*future due diligence exercise*" refers to any future process that TDC may undertake in order to identify a potential CPO indemnity partner for the redevelopment of Manston Airport. Accordingly, our work has focused on addressing this process and not considering any related processes, such as further due diligence which may be required to establish the overall viability of Manston Airport, or any related CPO process.

2. Executive summary

2.1. Introduction

In this section, we set out a summary of the key findings arising from our work in response to the Requirements. Given the summarised nature of this section of our report, it should be read and considered in conjunction with the rest of our report, which provides more detail and context to our key findings.

Based on the RfP, we have been instructed to address the following three requirements (the "Requirements"):

Requirement	What we have been instructed to address therein
1	*Any key considerations that TDC could have taken into account at the time, based on a review of the information provided to TDC (at the time).*
2	*Further key considerations that TDC may wish to take into account in any further CPO review based on a review of the additional information provided by RiverOak to the DfT.*
3	*On the basis of the findings from the above, the consultant should also provide advice on what, if any, further work TDC may wish to undertake to help strengthen findings from any future due diligence exercise.*

Source: RfP

The key findings arising from our work in relation to the above will be summarised in Sections 2.2, 2.3 and 2.4 below.

2.2. Requirement One

As noted within **Section 1.4: Overview of the conclusions reached by the Council from its Partner Identification Process**, TDC believed RiverOak had not demonstrated a viable interest on the following points:

- *Section 5.2 – Approach to the CPO;*
- *Section 6.1 - Accounting and Investor Information;*
- *Sections 7.1 and 7.2 - Business Plan; and*
- *Sections 8.1 and 8.2 – Indemnity.*[11]

In our response to Requirement One, we have considered a number of different factors which the Council have considered in reaching their conclusions on the above. We have approached our work under the following sub-headings:

Information received by the Council during the Partner Identification Process	Overview of the Council's findings from the Partner Identification Process
• The Council's application of 'Section 2.4.3: Financial information; last 3 years financial accounts' during the due diligence process • The Council's attempts to verify funding levels and the proposed funding structure through which TDC would be indemnified • RiverOak's financial model, cash flow projections and wider business plan • Evidencing the level of funding and prospective investors • The credit check undertaken in the context of the Due Diligence Protocol and factors the Council may have considered at the time	• The process for informing the final decision document • Evidencing external advice sought in the final decision document • Underpinning the process and the final decision document with appropriate frameworks previously provided to respondents • The preparation and contents of the Soft Market Testing document with respect to framing the information gathering exercise

Each of these sub-headings will now be considered in turn and the key recommendations outlined.

[11] See TH23 and RO22.

2.2.1. Information received by the Council during the Partner Identification Process

The Council's application of 'Section 2.4.3: Financial information; last 3 years financial accounts' during the due diligence process (relates to Section 6.1 – Accounting and Investor Information)

The Council took a rigid interpretation of 'Section 2.4.3 Financial information; last 3 years financial accounts' of the Due Diligence Protocol. Given this interpretation, it would appear that RiverOak would always have struggled to demonstrate a viable interest on this point, since they do not prepare financial statements for all entities within the group and have not done so historically. We, therefore, note the following key considerations the Council may have taken into account at the time which may have provided an alternative mechanism by which comfort over their historic financial performance may have been derived:

- External expert advice on the disclosure requirements in Delaware and their comparability to United Kingdom Generally Accepted Accounting Practices ("UK GAAP")[12];
- Specifically requested that the audited accounts, and the combined balance sheet, be presented using UK GAAP disclosures for comparable purposes;
- Sought clarification from RiverOak regarding their ability or willingness to indemnify the Council against the costs pertaining to the above input from reputable and independent third parties; and
- Have made it explicit to RiverOak at the beginning of the process that the provision of this information was considered to be fundamental and that failure to comply would likely lead to the Council concluding that they did not express a viable interest.

However, we note that should the Council have undertaken such alternative steps, these may have been inconsistent with the past approach taken by the Council. If the Council had adhered to the principles of the Due Diligence Protocol in previous procurement exercises, any alternative could be considered to set a precedent from which the Council could not be seen to deviate. Therefore, the Council could:

- Have sought external legal counsel on the rigidity with which they must adhere to the Due Diligence Protocol; and
- Have sought further external legal counsel on the extent to which, if any, they may have deviated from the said protocol and what information, if any, may be considered relevant or sufficient for obtaining comfort over the financial aspect of the due diligence.

The above represent our own views of considerations the Council may have taken into account at the time. We have not received any evidence that the Council have undertaken the above during the Partner Identification Process.

The Council's attempts to verify funding levels and the proposed funding structure through which TDC would be indemnified (relates to Section 6.1 – Accounting and Investor Information)

According to the final decision document of 11 December 2014, the Council were not satisfied with the evidence of funding provided by RiverOak or the indemnification procedures which they proposed to enter into with TDC.[13] Therefore, in addition to the procedures undertaken by the Council, we have noted the following additional key considerations which the Council could have taken into account at the time. The Council:

- Could have asked RiverOak to provide a letter of authorisation to the bank and contacted them directly to provide confirmation of the total funds in RiverOak's account as at a particular date[14];
- Could have asked for bank statements to demonstrate historic levels of liquid cash on hand held with the bank;

[12] DfT provided TDC's response to the final draft of this report on 18 June 2015. In this response, the Council stated that they *"did contact a number of the top accountancy firms for assistance but requests were declined"*. PwC has not been provided with any evidence of these requests or any responses the Council may have received from accountancy firms regarding such approaches for this work.

[13] Final decision document of 11 December 2014; Sections 6.0 and 8.0. See TH23 and RO22.

[14] DfT provided TDC's response to the final draft of this report on 18 June 2015. In this response, the Council stated that *"RO provided a letter from their bank and the Council independently contacted the said institution for independent confirmation that the communication had been generated by them."* PwC has not been provided with any evidence of this correspondence with the bank or any responses the Council may have received related to this matter.

- Could have explored alternative funding mechanisms beyond an escrow account which the Council may have been satisfied with, or sought to obtain alternative guarantees regarding the depositing of relevant funds in a UK bank account[15];
- Could have provided more detail to RiverOak regarding why they (TDC) required a more detailed estimate of the potential level of CPO compensation payable;
- Could have asked for evidence of any preliminary negotiations or otherwise which RiverOak had undertaken with any lending or banking institution with respect to obtaining sources of funding for the Manston project[16]; and
- Could have provided a more explicit list of parameters against which TDC would be appraising the level of funding required or against which TDC would be appraising the sufficiency of the funding proposed.

The above represent our own views of considerations the Council may have taken into account at the time. We have not received any evidence that the Council have undertaken the above during the Partner Identification Process.

RiverOak's financial model, cash flow projections and wider business plan (relates to Sections 7.1 and 7.2 – Business Plan)

According to the final decision document of 11 December 2014, the Council were not satisfied with the depth or scope of the business plan provided during the due diligence period. The Council's view, as expanded in the decision document, states that *"…[it is] a short term (5-year) business plan and the scope is insufficient in light of the objective… [the business plan] does not provide for the CPO compensation cost… the business assumptions appear to be optimistic as regards revenues and the known costs of operation."*[17]

We also note from our own review that there is no explicit cross-reference between the contents of the business plan and the four key areas of enquiry included within the PIN. Therefore, in addition to the procedures undertaken by the Council, we have noted the following key considerations which the Council may have taken into account at the time:

- Could have explicitly asked RiverOak to provide a business plan which specifically addressed the four key areas of enquiry included with the PIN;
- Could have requested the key assumptions underpinning the business plan and sought external aviation expert advice to determine the reasonableness of the underlying assumptions and therefore obtained an external, independent judgement on the commercial viability of the business plan;
- Could have sought specific clarification from RiverOak in relation to how the business plan addressed key headings within the Due Diligence Protocol including Corporate Image, Social Responsibility and Environmental Responsibility; and
- On the basis of the above points, considered how to critically challenge and audit RiverOak's business plan to provide greater comfort over its robustness and therefore the medium and long-term viability of the plan itself.

The above represent our own views of considerations the Council may have taken into account at the time. We have not received any evidence that the Council have undertaken the above during the Partner Identification Process.

Evidencing the level of funding and prospective investors (relates to Section 6.1 – Accounting and Investor Information and Sections 8.1 and 8.2 - Indemnity)

According to the final decision document of 11 December 2014, the Council were not satisfied with the evidence provided to substantiate the level of funding available and the level of commitment of investors. The said document states *"the information provided… does not demonstrate that it [RiverOak] has the appropriate financial status or has committed investors: to enable it – if required – to acquire the site by private treaty*

[15] DfT provided TDC's response to the final draft of this report on 18 June 2015. In this response, the Council stated that *"there were a number of discussions with RO that gave them the opportunity to propose other options."* PwC has not received any evidence of these discussions or any outcomes arising therefrom.

[16] DfT provided TDC's response to the final draft of this report on 18 June 2015. In this response, the Council stated that this *"information was requested."* PwC has not been provided with any evidence of this request or any response provided in relation to this request.

[17] Final decision document of 11 December 2014; Section 7.0. See TH23 and RO22.

prior to a CPO process being commenced; to fund the preparation of a robust case for CPO acquisition; to meet the expected compensation costs; to develop the airport and operate it viably in the long-term."

We have not been provided with any evidence from either party (that is, TDC or RiverOak) as to which information pertaining to RiverOak's investors was provided to TDC. Therefore, in addition to the procedures undertaken by the Council, we have noted the following additional key considerations which the Council may have taken into account at the time. The Council could:

- Have sought clarification from independent Counsel regarding the confidentiality and/or privacy of this information and whether it would be appropriate for a private equity fund to disclose such information;
- Have sought clarification from independent Counsel regarding the legal situation in the United States with respect to the privacy and/or confidentiality, specific to the States in which the investors and/or company were located, and whether it would be appropriate for a private equity fund to disclose such information; and
- Have discussed the process with RiverOak and Wragge Lawrence Graham & Co to provide details of the criteria upon which their submission would be judged, specific to the Due Diligence Protocol and the contents therein, to determine a disclosure mechanism that may have satisfied both parties.

The above represent our own views of considerations the Council may have taken into account at the time. We have not received any evidence that the Council have undertaken the above during the Partner Identification Process.

The credit check undertaken in the context of the Due Diligence Protocol and factors the Council may have considered at the time (relates to Sections 7.1 and 7.2 – Business Plan)

The Council were required, under section 2.4.4 of the Due Diligence Protocol, to undertake a credit check of RiverOak. The credit check undertaken returned a number of zero balances. We have not been provided with any evidence that shows the Council's conclusions of the credit check, or any actions arising therefrom.

In addition to the work already performed, the Council could have undertaken the following:

- Seeking additional credit checks from an alternative source to provide further information on the financial status of RiverOak[18];
- Seeking external advice on the information to obtain and/or on what was returned through the Council's own credit check and whether such information can be obtained from public sources in a United States legal domain[19]; and
- Enquiring of RiverOak whether they would be prepared to indemnify the Council against the costs of a credit check or a more thorough financial due diligence process being undertaken by an independent third party.

The above represent our own views of considerations the Council may have taken into account at the time. We have not received any evidence that the Council have undertaken the above during the Partner Identification Process.

2.2.2. Overview of the Council's findings from the Partner Identification Process

Following the information gathering exercise undertaken between 18 September 2014 and 18 November 2014, a final decision document was prepared for 11 December 2014. We have noted the following points with respect to the preparation process and the content of this document.

The process for informing the final decision document

The final decision document should effectively be built upon the two publicly available documents available in the PIN and the Due Diligence Protocol. On the basis of the four key areas of enquiry included within the former,

[18] DfT provided TDC's response to the final draft of this report on 18 June 2015. The Council stated that *"TDC has an existing contract with our current supplier for Credit Checks. However, we independently searched Companies House for available information which provided links to the USA and companies with Delaware registrations but limited information was available. In addition we went to the United States Securities and Exchange Commission."* PwC has not been provided with any evidence of these credit checks or the findings the Council received therefrom.

[19] DfT provided TDC's response to the final draft of this report on 18 June 2015. The Council stated that *"[TDC] contacted a number of large accountancy firms to assist. However, we were unable to find any that wanted to take on the work."* PwC has not been provided with any evidence of these requests or any responses the Council may have received from such firms rejecting the work.

and in the context of the requirements of the latter, the Council should have provided a detailed body of evidence on 'Step 3 – analyse the information gathered' using the PIN (Section 3.3) and the Due Diligence Protocol (Section 3.2) themselves as a framework; that is, parameters against which the submission would be judged. We have not received any evidence that the Council has explicitly undertaken this cross-referencing between the submission and the Due Diligence Protocol and/or the PIN.

On the basis of the information provided at the time and which the Council had access to, we note the following considerations relating to the preceding documents which were used to inform and assess the information gathered. The Council:

- Should have made explicit reference in the final decision document to the four key areas of enquiry within the PIN and assessed the viability of RiverOak's submission in the context of this; and
- Should have made explicit reference to further aspects of the Due Diligence Protocol for which we have seen no evidence of their being explicitly addressed.

The above represent our own views of considerations the Council may have taken into account at the time. We have not received any evidence that the Council have undertaken the above during the Partner Identification Process.

Evidencing external advice sought in the final decision document (relates to Section 5.2 – Approach to the CPO)

With the exception of the opinion from legal counsel that we discuss in Section 6.2.2., we have not been provided with any evidence that the Council consulted with external experts throughout the Review Timeframe. The legal counsel opinion sought on 20 November 2014, and provided on 10 December 2014, encompasses an assessment of the review process for identifying a CPO Indemnity Partner.

Therefore, the Council:

- Could have provided evidence of external advice sought beyond legal counsel in assessing the technical aspects of RiverOak's submission;
- Where they did not, provided a rationale for assessing the specific element of the submission without external expert contribution and support; and
- Sought confirmation, and established an appropriate framework, by which the Council could be indemnified by RiverOak for seeking external expert advice.

The above represent our own views of considerations the Council may have taken into account at the time. We have not received any evidence that the Council have undertaken the above during the Partner Identification Process.

Underpinning the process and the final decision document with appropriate frameworks previously provided to respondents

Throughout our review, we were not provided with any internal working papers or meeting minutes which suggest that the Council undertook a process of directly and explicitly linking their requested information back to the two publicly available documents available to respondents (that is, the Prior Information Notice and the Due Diligence Protocol).[20] Further, TDC should have made more explicit reference to the Soft Market Testing document when raising questions with RiverOak. We have therefore noted the following considerations which the Council may have taken into account at the time they were requesting information from RiverOak. The Council:

- Could have provided greater clarity on the fundamental nature to be placed on the Due Diligence Protocol and asked questions which could be specifically and explicitly linked back to the financial elements of the Due Diligence Protocol on a line by line basis;
- Could have framed questions in relation to commercial viability and other wider business questions in a manner consistent with the four key areas of enquiry within the PIN;

[20] It is our understanding that the Due Diligence Protocol of TDC was publicly available on their website throughout the process.

- Could have structured the request in such a way to ensure that the information being requested was complete in terms of assessing RiverOak's submission;
- Could have ensured a greater explicitness of the requirements of both the PIN and the Due Diligence Protocol within the Soft Market Testing document;
- Could have ensured that all three documents specifically informed the questions and documents requested of RiverOak;
- Could have ensured that the first set of questions and documents requested were explicitly linked back to the requirements of the financial Due Diligence Protocol;
- Could have ensured that the first set of questions and documents requested were explicitly linked back to the requirements of the PIN;
- Could have highlighted for respondents, at all stages of the process, the appraisal framework upon which they would be judged and the fundamental nature of the Due Diligence Protocol in making that assessment;
- Ensured that all requirements in the four key areas of enquiry within the PIN and the Due Diligence Protocol were addressed for completeness; and
- May have considered seeking external advice from aviation experts on drafting the four key areas of enquiry for the PIN.

The above represent our own views of considerations the Council may have taken into account at the time. We have not received any evidence that the Council have undertaken the above during the Partner Identification Process.

The preparation and contents of the Soft Market Testing document with respect to framing the information gathering exercise

We would expect that both the Due Diligence Protocol and the PIN (specifically the four key areas of enquiry) would be referenced throughout the Soft Market Testing document. We note that the Council has not addressed all of the Due Diligence points within this Soft Market Testing document, particularly with respect to sections 2.4.3 Financial information and 2.5.6 Financial ability within the Due Diligence Protocol.[21]

Given the fundamental nature of this criteria for demonstrating viability of interest, as expressed in the final decision document presented to Cabinet on 11 December 2014, the Council should have made all respondents aware of the framework upon which they would be appraised at an earlier stage in the process and this should have been made explicit within the Soft Market Testing document.

We have been provided with no working papers in respect of the compilation of the Soft Market Testing document. We note that the Council had received external aviation advice from Falcon Consultancy prior to the information gathering process starting. However, it is unclear if the Council sought Falcon's input on the viability questions in the Soft Market Testing document and the structuring thereof. Further, the Council does not ask questions which explicitly link back to all four key areas of enquiry included within the PIN.

Therefore, the Council could have taken into account the following key considerations at the time of compiling this document for completion by respondents. The Council:

- Could have structured the organisational element of the document in a manner consistent with the Due Diligence Protocol and made explicit reference to this in the document;
- Could have structured the Project Questions element of the document in a manner consistent with the four key areas of enquiry within the PIN to ensure that respondents were being asked to provide information relevant to the appraisal parameters previously identified;
- Could have involved Falcon Consultancy in the drafting of the Project Questions element of the document and in the assessment of the initial responses by respondents to determine the reasonableness of the underlying assumptions; and

[21] See Exhibit 2.

- Could have structured the Financial Questions element of the document in a manner consistent with the Due Diligence Protocol and made explicit reference to the protocols and the fundamental nature of a respondent's need to meet these requirements to go forward in the process.

The above represent our own views of considerations the Council may have taken into account at the time. We have not received any evidence that the Council have undertaken the above during the Partner Identification Process.

2.3. Requirement Two

Under Requirement Two, we have been instructed to address the following:

> ***Further key considerations that TDC may wish to take into account in any further CPO review based on a review of the additional information provided by RiverOak to the DfT.***

As set out in Section 1.6, the RiverOak Dossier included a total of twenty additional documents which were not included in the TDC Dossier provided to the DfT. However, based on our review of these additional documents, it appears that whilst copies of these documents were not included in the TDC Dossier, they were provided to TDC. Table 2.3.1 below summarises the additional documents included in the RiverOak Dossier and our assessment as to whether these documents were also received by TDC.

Table 2.3.1: Unique submissions in the RiverOak file and our assessment as to whether they were provided to TDC

Additional RiverOak Documents (reference)	Description	Did TDC have access to this document?	Further information
RO01	Letter from RiverOak to Thanet District Council	Yes	Sent directly to TDC on 24 July 2014
RO02	Opinion of Counsel	Yes	Sent directly to TDC on 6 July 2014[22]
RO03	Heads of Terms for CPO Indemnity Agreement	Yes	Provided to the Council (specific date unknown)
RO04	Thanet District Council OJEU prior information notice	Yes	Produced by TDC
RO05	Thanet District Council's Soft Market Testing Questionnaire	Yes	Produced by TDC
RO07	RiverOak's submission to the Davies Commission	Yes	Send directly to TDC in August 2014
RO09	Email correspondence between Thanet District Council and RiverOak	Yes	TDC involved in correspondence between 19 Sept 2014 and 25 Sept 2014
RO11	Working draft of the CPO indemnity Agreement	Yes	Sent directly to TDC on 20 Oct 2014
RO12	RiverOak's email attaching further due diligence material	Yes	Sent directly to TDC on 8 Oct 2014 to 31 Oct 2014
RO19	RiverOak confirmation regarding the UK bank account	Yes	Sent directly to TDC on 2 Oct 2014
RO20	RiverOak emails regarding discussions with a leading aircraft manufacturer	Yes	Email chain forwarded to TDC in Oct and Nov 2014
RO21	Thanet District Council email confirming that no further information would be accepted	Yes	Produced by TDC (email sent from TDC to RiverOak on 24 Nov 2014)
RO23	RiverOak's open letter to Cabinet	Yes	Sent directly to TDC on 6 December 2014

[22] Following the Disclosure Request, PwC were provided with an e-mail communication showing this had been provided to the Council on this date.

Additional RiverOak Documents (reference)	Description	Did TDC have access to this document?	Further information
RO24	RiverOak offers to purchase Manston Airport	No	Before Process with the Council had begun
RO26	RiverOak solicitors writing to John Hayes MP	After 11 December 2014	N/A
RO27	The Role of Smaller Airports	Document is undated	N/A
RO28	Index of documents	After 11 December 2014	N/A
RO29	WLG communication with Minister	After 11 December 2014	N/A
RO30	Letter from RiverOak to Iris Johnson 18/2	After 11 December 2014	N/A
RO31	Letter from RiverOak to Iris Johnson 25/2	After 11 December 2014	N/A

Source: Appendix B.

Our review of the additional information contained in the RiverOak Dossier identified that of the twenty additional documents in this dossier, thirteen of them appear to have been previously provided to the Council, but were not included in the TDC Dossier. We do not know why this information was not included in the TDC Dossier.

Of the seven additional documents included in the RiverOak Dossier which we have not been able to establish were provided to the Council, either, we do not believe that these documents contain any additional information of which the Council was not already aware of during the Review Timeframe, or the information or correspondence related to the period after the final decision document was prepared and released on 11 December 2014.

2.4. Requirement Three

Under Requirement Three, we have been instructed to address the following:

> ***On the basis of the findings from the above, the consultant should also provide advice on what, if any, further work TDC may wish to undertake to help strengthen findings from any future due diligence exercise.***

Following the consideration of the due diligence exercise undertaken with respect to RiverOak, PwC have been asked to consider the above. We have identified a number of points which the Council could consider undertaking and/or implementing in any future due diligence exercise to strengthen its findings and provide further support to the Council's decisions. The Council should consider the following points:

- Linking information gathering and decision making into a consistent framework and narrative;
- TDC needs to consider its handling of gaps in submissions and the extent to which they can or need to be addressed;
- Seeking external advice in relation to the requirements of the PIN and Due Diligence Protocol;
- Clear communication to all parties on the scoring system to be used in the process;
- Transparency of the process; and
- Enquire of prospective partners the extent of indemnification they are prepared to underwrite.

Additional detail on each of the above is included within **Section 8: Work TDC may undertake in any future due diligence**.

2.5. Conclusion

Following completion of the due diligence exercise, the Council announced on 11 December 2014 that, in its opinion, RiverOak did not have the necessary financial capacity to support the Council's plan for Manston and

Historic England

Historic Characterisation of Ramsgate

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SUMMARY
A historic characterisation of Ramsgate and its land and sea environs has been undertaken as part of this Ramsgate Historic Character project, funded by Historic England's Heritage Protection Commissions programme. It has been primarily designed as a resource integral to, and supporting, the work of the Ramsgate Heritage Action Zone (HAZ). The HAZ programme is an initiative in which Historic England works together with local partners in places with a rich and characterful historic environment to use this as a catalyst for building economic growth. Ramsgate is one of the first Heritage Action Zones.

The aim of this project was to assess and map patterns of historic character across Ramsgate and its adjacent seascape. Methods used draw upon historic landscape and urban characterisation approaches, as well as the National Historic Seascape Characterisation methodology. Information was collected from a range of sources such as open source Geographic Information System (GIS) data, Historic Environment Record data, aerial imagery, historic maps and charts, published sources and field visits.

This source information has been used to inform the assessment and mapping in GIS of areas of shared historic character, known as 'Character Types'. The spatial and temporal patterning of these character types has been analysed during the latter stages of the project to produce a high-level assessment of each character type's evidential, historical, aesthetic and communal values as well as an overview account of the development of the project area's character.

The project's key outputs include the GIS data and associated summary texts and report. As well as supporting the work of the Ramsgate Heritage Action Zone, the project outputs have been made publicly accessible by Historic England.

CONTRIBUTORS
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CONTENTS

1 INTRODUCTION

Project background

1.1 Ramsgate is known as both a Channel port and seaside resort. Its location at a break in the chalk cliffs on the north side of Pegwell Bay, a strategic location for continental traffic, has meant that Ramsgate was also a key trade and fishing port prior to its development as a resort. This location has also meant that Ramsgate lies in close proximity to the putative location of several symbolic turning points in the history of the British Isles such as the arrival of the Saxons and the coming of Roman Christianity with the landing of St. Augustine. Whilst there are few visible remains associated with these periods, the events are a source of identity for the local area as well as for the nation as a whole, and are commemorated both in street and place-names and in public monuments. Like many southern coastal towns, accommodation and amenities for resort visitors began to be developed at Ramsgate in the mid-18th century. Ramsgate's resort status was also helped by early Royal patronage. Its role as a port meant that it also developed military characteristics in tandem with its growth as a resort, functioning as an embarkation point for Britain's military from the Napoleonic Wars onwards and as a focus of civil defence during World War II. It also meant that the town became a target for enemy bombing raids in World War I and World War II and this opened up pockets of the town for subsequent redevelopment. Ramsgate has suffered similar fortunes to other towns combining port and resort functions since the later 20th century, such as Sheerness and Poole, with its port operations scaling back and holidaymakers being replaced by day trippers. Ramsgate's traditional industries, such as fishing, and new industries, including marinas and offshore wind turbine services, have offset some of this decline. Consequently, the town suffers from high levels of social deprivation and some of its built stock, including historic buildings, is neglected and this contributes to a somewhat rundown feel to the town. Despite this, the very different influences in Ramsgate's development have combined to confer the town a rich mix of historic building types and character in close proximity which is little paralleled elsewhere.

1.2 Heritage Action Zones (HAZs) have been identified by HE and are places which possess a rich historic environment but also face significant economic challenges. Ramsgate was amongst the first batch of HAZs, announced in March 2017. HAZs enable HE to work with local partners to design and implement projects that use the historic environment as a catalyst to build economic growth and respond to economic, social and environmental needs.

1.3 The central aims of the Ramsgate HAZ are:

- To raise understanding and awareness of the fabric and character of the town's heritage amongst a broad range of audiences;

- To highlight the way in which this unique heritage has created the town's distinctiveness; and
- To harness the potential of the town's heritage in underpinning a vibrant, culturally distinctive, future place and community.

1.4 The HAZ is not an arm's length exercise but works with the local community to ensure that improvement and regeneration is meaningful to the town. Key outcomes will be that neglected places are restored and that new development reflects local character and identity. This will ensure that the town retains its distinctiveness whilst adapting to its changed and evolving economic and social roles.

1.5 The Ramsgate Historic Character project, hereafter 'the project', has been identified as a key element in supporting the objectives of the HAZ. The project area, shown on **Figure 1-1**, encompasses the town centre and its surrounding landscape and seascape. The characterisation investigates those forces which have shaped Ramsgate and its environs into the distinctive place it is now. It provides a spatial framework accommodating and giving context to the more detailed, specific or thematic projects within the HAZ. Used in conjunction with outputs from those other projects, especially the Historic Area Assessment (HAA), this project will offer a resource helping the town's heritage play as full a role as possible in regeneration by making its complexities more clearly intelligible to the community and others leading change. This includes enabling recognition of the social and historic relationships that link, or have linked, the seafront to the town and its hinterland. Further details of the projects aims and objectives can be found in the project brief (Historic England, 2017b) which forms part of the project archive.

1.6 The study also builds on, and is informed by, the understanding of the evolution of the town developed by the Ramsgate Archaeological Assessment (Kent County Council, 2004). The earlier study was undertaken as part of Kent Historic Towns Survey and focused on the evolution of aspects of the town's plan form, whether or not associated contemporary archaeological and structural remains were likely to survive and identified priorities for further archaeological research.

Historic Characterisation of Ramsgate

Figure 1-1: Project location

Project area

Map Scale @ A4: 1:36,000

LUC

Historic England

CB:KS EB:Stenson_K LUC FIG1_1_10036_r1_Location_A4L 12/07/2018

Source: HE, OS

2 METHOD

Method summary

2.1 **Table 2-1** provides an overview of the tasks undertaken to complete the historic characterisation of Ramsgate.

Table 2-1: Overview of project stages and tasks

Stage/Task	Overview of actions
Stage 1: Set up, data acquisition and familiarisation	
Task 1	Project start: equipping; HE digital summary; notification to data holders and stakeholders, summary on contractor's website
Task 2	Inception Meeting with HE Research Group/Project leads and PAO
Task 3	Familiarisation
Task 4	Data sourcing and collection
Stage 2: Historic characterisation of project area	
Task 5	Set up landward GIS and relational database
Task 6	Set up seaward GIS and relational database
Task 7	Undertake characterisation of project's landward area
Task 8	Undertake characterisation of project's seaward area
Task 9	Field visit to assess townscape relationships and collect imagery
Stage 3: Appraise Character Types for summary texts	
Task 10	Review meeting with HE Research Group/Project leads and agreement on summary text headings
Task 11	Undertake landward Narrow Type appraisal
Task 12	Undertake seaward Character Type appraisal
Task 13	Draft summary texts
Stage 4: Assess Character Type heritage values	
Task 14	Assess heritage values for landward Narrow Types
Task 15	Assess heritage values for seascape Character Types
Task 16	Incorporate heritage values assessments into summary texts
Task 17	Link .pdfs of the summary texts to the GIS layers
Task 18	Review meeting with HE Research Group/Project leads
Stage 5: Produce overview narrative of Ramsgate's present historic character development	
Task 19	Produce overview narrative from summary texts and GIS analysis
Stage 6: Prepare project products, dissemination and archiving	
Task 20	Project Report compilation, drafting; submission for HE comment
Task 21	GIS finalisation, cleaning and submission with linked texts for HE comment
Task 22	Project Report and GIS editing/amending/final submission
Task 23	Closure Report and ADS entry
Task 24	Project archive preparation and submission to Historic England
Task 25	Project Report, GIS and linked texts submission to ADS and project completion

2.2 Expanding on the table above, the following section provides more detail on the main elements of the work including:

- Data collation;
- Approach to characterisation;
- Approach to GIS data creation;
- Fieldwork;
- Development of the historic character types texts; and
- Developing the overview narrative

Data collation

2.3 The project started with a review of relevant information to enable the successful characterisation of the project area. This included early discussions with a number of stakeholders to identify what data was available to inform this study. Ideally data used in characterisation is digital in format and comprehensive across the whole of the area and is reasonably systematic in its collection and presentation.

2.4 Data was collated from a range of open data sources including HE and the Ordnance Survey. Examples of open data include the designation datasets covering Listed Buildings, Registered Parks and Gardens and Scheduled Monuments. Additional GIS data was obtained subject to arranging appropriate licences or subject to fees, such as the Thanet Council Historic Environment Record (HER).

2.5 The following datasets and sources were collated:

- Historic Ordnance Survey mapping;
- Ordnance Survey base maps (1:25,000 scale, VectorMap Local and MasterMap data);
- Aerial photographs (via ESRI);
- Raster admiralty charts (current and historic) and supporting SeaZone Hydrospatial data;
- The National Historic Seascape Characterisation (NHSC) database;
- Historic environment datasets (Designations information from HE and Thanet District Council Conservation Areas local list and Kent County Council HER);
- UKSeaMap data;
- UK Soil Observatory (UKSO);
- British Geological Survey (BGS) geology data;
- MMO Marine Planning Evidence mapping;
- ABPMer Vessel data;
- Strava heatmaps;
- Forestry Commission National Forest Inventory; and

- Historic England thesauri covering landscape and seascape characterisation (Historic England, 2015; Historic England, 2017a).

2.6 The following archival resources were also accessed:

- HE Archive Swindon;
- Kent Library and History Centre;
- British Library;
- The National Archives; and
- National Maritime Museum

2.7 In addition to reviewing the available data resources covering the historic development of Ramsgate, the current planning policy context was reviewed, including Conservation Areas, and regeneration plans for the area to broaden the project team's understanding of the study area and drivers for change. A summary of the Conservation Area context is included in **Appendix 1.**

Approach to characterisation

2.8 Characterisation followed the generally accepted work flow for historic characterisation:

- Review of collated sources (map-based and documentary);
- Identification of areas with shared land-use, or sea-use, histories and current character;
- Digitisation of polygons, or identification of seaward grid cells, around areas of shared character;
- Attribution of controlled terms to the relevant database fields to describe the current and previous character, the period of origin and use of the character, the sources for this attribution and a confidence level for that attribution.

2.9 The creation of the Historic Seascape Characterisation elements, hereafter HSC, of the data used the principles, method and sources laid out in the National HSC Method Statement (Tapper & Hooley, 2010), although this was necessarily adapted to suit the finer grain of this characterisation.

2.10 The creation of the Historic Landscape Characterisation elements, hereafter HLC, of the data used the Historic Characterisation Thesaurus to attribute broad and narrow types. Novel terms were included in the draft characterisation and circulated to the HE Project Assurance Officer (PAO) for approval prior to inclusion in the final dataset. This was also the case for Novel terms included in the draft HSC. A list of novel terms, with scope notes, is included as Appendix 2.

Approach to GIS data creation

Historic Landscape Characterisation

2.11 This data used a 'current' and 'previous' Types approach with Types ascribed at a Broad Type and Narrow Type level (See Appendix 3 Table 1: HLC GIS data structure). It was created using heads-up digitisation working from OS VectorMap Local and MasterMap supplied by HE. The minimum mapping threshold for representation within landward data was 25m x 25m. Throughout

the data creation process, rigorous controls over topology were maintained to ensure compliance with HE data standards.

2.12 The data sources used for the HLC are listed in 2.5 with archive sources used detailed in Appendix 4. Sources used to identify Historic Character Type were recorded at each level of the data to enable transparency in attribution.

Historic Seascape Characterisation

2.13 Above MLW, polygons were taken from the landward characterisation, and the landward Character Types were replaced with HSC terms.

2.14 For all areas below Mean Low Water (MLW), a 50m grid was generated in GIS and the full set of HSC fields was added. The fields mirrored those of the National HSC database

2.15 **Table 2-2** shows the approach taken to characterising grid cells at each marine level and key GIS data sources in this process. (See 2.5 (above) for abbreviations.)

Table 2-2: Summary of approach to seaward characterisation by marine level

Sub-sea floor (SBFLR)
• UKSeaMap, UKSO and BGS data used to inform assessment of Cultural topography (marine) values (coarse sediment plains and fine sediment plains). • Where exposed rock is found in the sea floor level, all SBFLR fields except SBFLR_NTS are left blank as exposed rock cannot exist at SBFLR level. A note is recorded in the SBFLR_NTS field explaining this.
Sea floor (SFLR)
• UKSeaMap, UKSO and BGS data used to inform assessment of Cultural topography (marine) values (coarse sediment plains, fine sediment plains and exposed bedrock). • SeaZone data used to inform assessment of: - Submarine cables; - Spoil and waste dumping; - Wrecks; and - Shoals and flats.
Water column (WTRCL)
• SeaZone data used to inform assessment of: - Shoals and flats; - Hazardous water (extent 100 m around grid squares covered by shoals and flats); - Buoyage; - Anchorage; and - Navigation Channel (active). • Ordnance Survey Master Map (OSMM) and aerial imagery: - Port; and - Marina

Sea surface (SSRFC)
• SeaZone data used to inform assessment of: - Hazardous water (extent 100 m around grid squares covered by shoals and flats at WTRCL level); - Buoyage; - Anchorage; and - Navigation Channel (active). • .Ordnance Survey Master Map (OSMM) and aerial imagery: - Port; and - Marina.
Coastal and conflated (CC)
• An evaluation of the dominant Sub-type across all levels of the hierarchy to populate grid cells for 'conflated'. • Repopulation of the coastal HLC polygons with HSC Types and Sub-types for 'coastal'.
Previous Types (PRVS) (across all marine levels)
• All character Sub-types were considered and the relevant data sources investigated in order to identify presence.

2.16 Data sources used are summarised by Broad Type in **Table 2-3** below. Not all of these Types are found in the study area, but it was necessary to interrogate all sources to establish presence/absence. Across all Types, historic and current Ordnance Survey mapping was interrogated.

Table 2-3: Summary of data sources interrogated for seaward characterisation

Broad Type	**Data sources**
Civic provision	• OS MasterMap • Current aerial imagery
Coastal Infrastructure	• OS MasterMap • Current aerial imagery • SeaZone
Commerce	• OS MasterMap • Current aerial imagery
Communications	• SeaZone • OSMM
Cultural topography	• UKSeaMap • UKSO • BGS

Broad Type	Data sources
	• OS MasterMap
Enclosed land	• OS MasterMap • Current aerial imagery
Fishing	• Coasts and seas of the United Kingdom: Region 7 • MMO marine planning evidence
Industry	• OS MasterMap • Current aerial imagery • SeaZone • MMO marine planning evidence
Military	• OS MasterMap • Current aerial imagery • SeaZone
Navigation	• SeaZone • ABPMer vessel data
Ports and docks	• OS MasterMap • Current aerial imagery • SeaZone
Recreation	• OS MasterMap • Current aerial imagery • Strava labs
Settlement	• OS MasterMap • Current aerial imagery
Unimproved land	• OS MasterMap • Current aerial imagery
Woodland	• OS MasterMap • Current aerial imagery • Forestry Commission National Forest Inventory

2.17 In order to link the summary texts to the GIS data, link tables have been used. Each record of the GIS data was assigned a unique ID and the ArcMap Summarize tool was used to generate the tables (which are saved in the geodatabases). Within the project MXD (an ESRI GIS project file including a range of GIS layers with associated symbology and hyperlinks), links have been added using the unique ID between the GIS data and tables. This set up mimics that used in the NHSC Database. It allows the user to view all the hyperlink

details by using the Identify tool. The hyperlinks allow users to access the relevant texts for a polygon or grid square onscreen while exploring the mapping without requiring recourse to an entirely separate database or reference volume.

Fieldwork

2.18 Two field visits were undertaken during the project development. An initial familiarisation visit (22-23rd November 2017) was followed by fieldwork to field-check the emerging characterisation and take digital photographs to support the character texts (31st January 2018). Photography has focused on capturing distinctive, rare or characteristic features of the project area. All fieldwork was undertaken from publicly accessible areas and public rights of way.

Development of the Historic Character Type texts

2.19 This stage comprised appraisal of the mapped Historic Character Types and the manner in which they illustrate development and change in the project area. This entailed investigating the spatial and temporal patterning of Types through querying and reviewing how closely this aligned with the developmental history expected of the project area from initial research and other HAZ work.

2.20 The analyses fed into the summary texts prepared to accompany each Narrow Type (landward HLC and HSC Sub-type). The summary texts have been written so as to be accessible to non-specialists. They are illustrated by appropriate imagery gathered during fieldwork and a map showing spatial distribution of the Type.

2.21 As per the guidance on heritage values contained in *Conservation Principles* (English Heritage, 2008), each Narrow Type was appraised for how users may consider its Evidential, Historic, Aesthetic and Communal Value. This included consideration of the Narrow Type as whole and also any notable components it has.

2.22 The heritage values assessment is a high-level consideration befitting the strategic nature of the project. The consideration of communal values has been designed as prompts to facilitate future discussion with the community rather than attempting a definitive consideration of the values the community may place on a Narrow Type. This will assist in opening up discussion and aims to avoid a top-down approach whereby 'experts' presume to know what the community value and how.

2.23 The Historic Character Type (HCT) texts are presented as follows:

- Introduction – short summary of defining and/or distinctive characteristics and features of the HCT, any variability (e.g. in form or date) and location of good examples;
- Historic processes - influences on HCT development and, where appropriate, change since its origin;
- Condition (usually a consideration of survival and maintenance);
- Vulnerability (in terms of how its short and medium term future looks in relation to forces for change);
- Forces for Change (those factors that may reasonable be expected to affect examples of the Type);

- Relationships (functional and geographical) with other Character Types;
- Heritage values, as suggestions of the ways that the Type under consideration might be assessed under each of the four ways of valuing set out in the 2008 *Conservation Principles*:
  - Evidential
  - Historical
  - Aesthetic
  - Communal
- Sources used to identify, map and interpret the Type.

Developing an overview narrative

2.24 Following the development of the Type texts and analysis of the GIS data, it was possible to develop an overview narrative based on the time-depth in Ramsgate's present historic character. So the narrative discusses Ramsgate's historic processes through time focusing on how these processes have shaped the present. The narrative also observes the successor roles and values of the areas concerned and their features. It shows how the present place is unique and distinctive because of the varied mix of choices and hopes, pressures and contexts, of the area's previous communities.

2.25 As with the summary texts, the resulting narrative is intended to provide a non-specialist audience with a clear understanding of aspects covered.

3 RAMSGATE'S DEVELOPMENT: AN OVERALL NARRATIVE

Introduction

3.1 The following narrative overview is drawn from the results of the characterisation and incudes elements from both the HLC and HSC. It focuses on the way in which the past uses of the landscape and seascape express themselves in the present and how this is captured through the characterisation. A greater level of detail on the development of each Type is contained in the HLC and HSC datasets themselves and the accompanying Type texts[1]. Complementary accounts of the history and development of the project area, particularly the traces of the deeper past, as evidenced by research into archaeological heritage assets, and the nature and dating of individual buildings is presented in other projects associated with the Heritage Action Zone (HAZ) initiative. The narrative is supported by maps exported from the characterisation dataset (Figures 3-1 to 3-4) which give an overview of the characterisation results, in line with the broad periods of development set out at 3.3 below, and illustrate specific aspects discussed below. Additional summary maps, illustrating the types applied across the HLC and HSC, are provided as Figures 3-5 – 3-13.

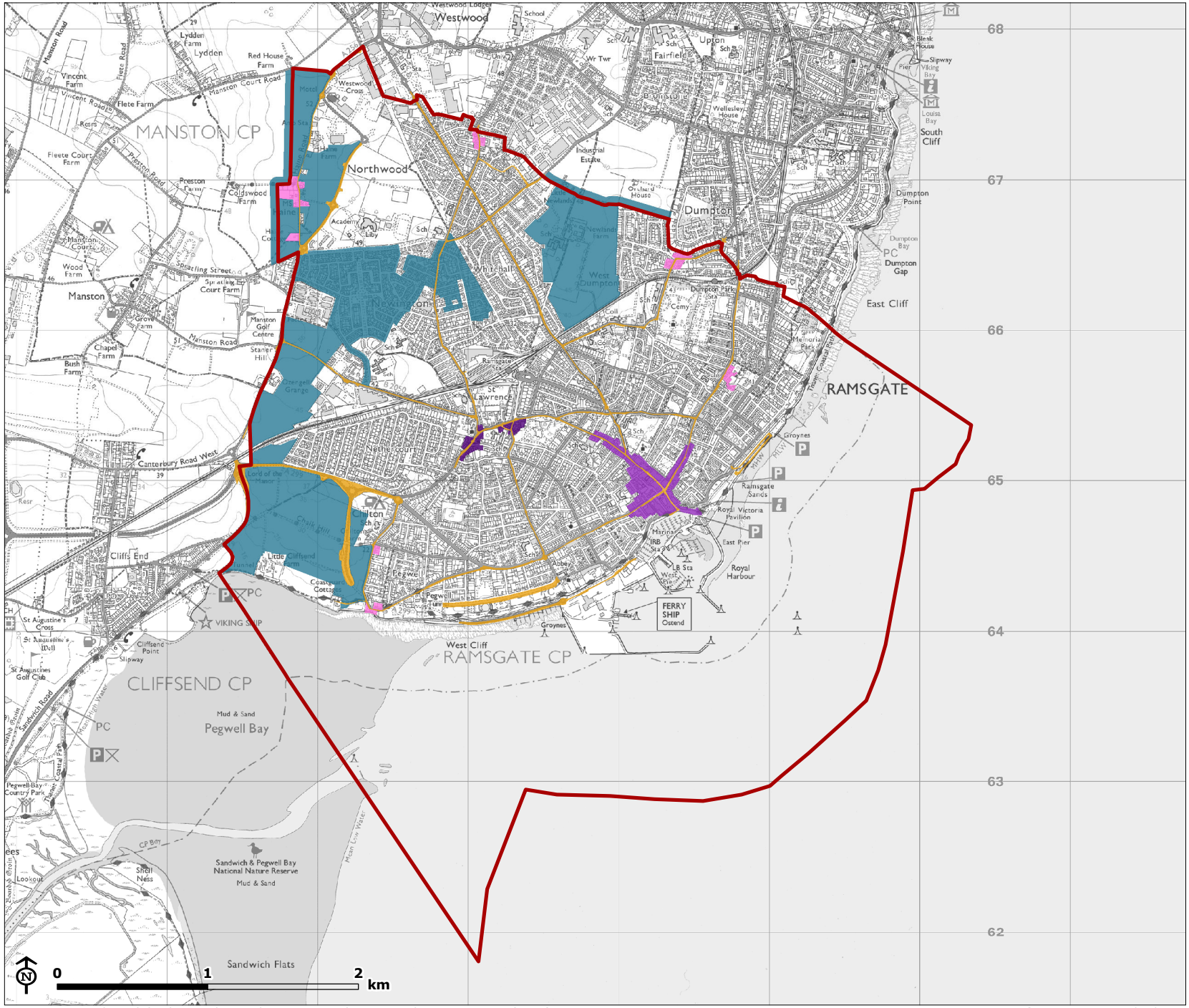
3.2 The project area comprises the present urban extent of Ramsgate. The characterisation identified 82 HLC narrow Types and 34 HSC Sub-types[2]. These illustrate a relatively straightforward pattern of growth, with urban development spreading out from Ramsgate's historic urban core, which had inherent links to the use of the sea. This latter aspect is reflected in some commonality between the HLC and HSC results, with several key Types occurring in both datasets (e.g. port, promenades, coastguard and lifeboat stations).Where specific Types are discussed in the narrative they are indicated with italics at first use.

3.3 The history of Ramsgate's development as a resort and harbour is relatively well understood, particularly with regard to the individuals who shaped it, individual events and notable individual constructions and buildings. Looking at it from a character perspective, further influences in the project area's present form become apparent. Five main phases of development are apparent from the characterisation:

- Before the mid-18th century port works;
- Growth of port and resort - mid-18th to mid-19th century;
- Consolidation – mid-19th century to World War I;
- World War I to World War II;
- Post-war to present.

[1] These can be accessed primarily via the GIS project by clicking on any data polygon the user has an interest in. They also appear as Appendix 5 to this report so that they may be accessible to non-GIS users.

[2] For the purposes of this narrative HLC narrow Types and HSC Sub-types are hereafter referred to as 'Types'.



CB:KS EB:Stenson_K LUC FIG3_1_10036_r1_Before_Port_A4L 29/11/2018

Source: HE, OS

Historic Characterisation of Ramsgate

Figure 3-1: Before the Port Works

Project area

Communications and Movement

Route

Settlement

Hamlet

Historic Urban Core

Village

Enclosure

Open Field System

Map Scale @ A4: 1:36,000

LUC

Historic England

Before the port works – pre-1750

3.4 Although there is a long history of human activity in the project area, with significant prehistoric and Anglo-Saxon archaeological remains recorded and Roman activity a short distance away at Cliffsend and Richborough, there is little that manifests in the present landscape until the medieval period. Much of the framework of the project area, in which later urban development has evolved, is medieval in nature. This framework comprises the distribution of pre-urban settlements (*village* & *hamlet*) and the network of *routes* connecting them with each other and the coast. These appear to have been mainly rural settlements with some reliance on the exploitation of coastal resources, including fishing. The largest settlement in the area was St Lawrence. This was the only village in the project area and the only place with ecclesiastical provision, meaning it gave its name to the parish which covered the majority of the project area until the 19th century. Other settlements were hamlets, comprising small groups of farms grouped around a junction of routes. These included Hereson, Northwood, Pegwell and Haine. Ramsgate appears to have begun as a satellite settlement of St Lawrence, providing the inland village with access to fishing and landing through the natural harbour at the only break in the cliff line between Pegwell Bay and Dumpton Gap. Later development, from the later post-medieval period onwards, has removed traces of the hamlet of Ramsgate but aspects of the other villages and hamlets remain visible within the suburban expansion of the town.

3.5 The settlements appear to have practiced common farming using *open field systems* and the main routes between settlements followed the perimeter of these open fields. Other, minor, routes ran through these fields providing secondary connections between the settlements and the coast. Much of the open field system remained unenclosed at the end of the 19th century and does not appear to have ever been formally enclosed. The surviving agricultural land within the project area, whilst not in use as an open field system, still lacks formal fixed boundaries in the form of hedges or fences. This lack of formal boundaries is a relatively rare feature nationally but appears to be common in the immediate environs of the project area. The majority of routes survive and have been perpetuated within the system of roads now in operation in the project area. Whilst they have been somewhat straightened and widened to meet the changing requirements of road traffic through time, the majority run on a course similar to that followed historically and remain legible as historic routeways. The chief exception to this is the route from St Lawrence to Pegwell (now Pegwell Road/Nethercourt Hill). This was diverted to move it away from a country house, Nethercourt, whose grounds were extended in the early 19th century.

3.6 Secondary accounts of the development of Ramsgate indicate that fishing would have been an important activity from at least the medieval period, with boats probably sailing and landing catches at what later became the formal harbour. No sources were located during research, however, that indicated the precise location of this activity so it has not been possible to map fishing, or fishing related activities, in the HSC data for the project area.

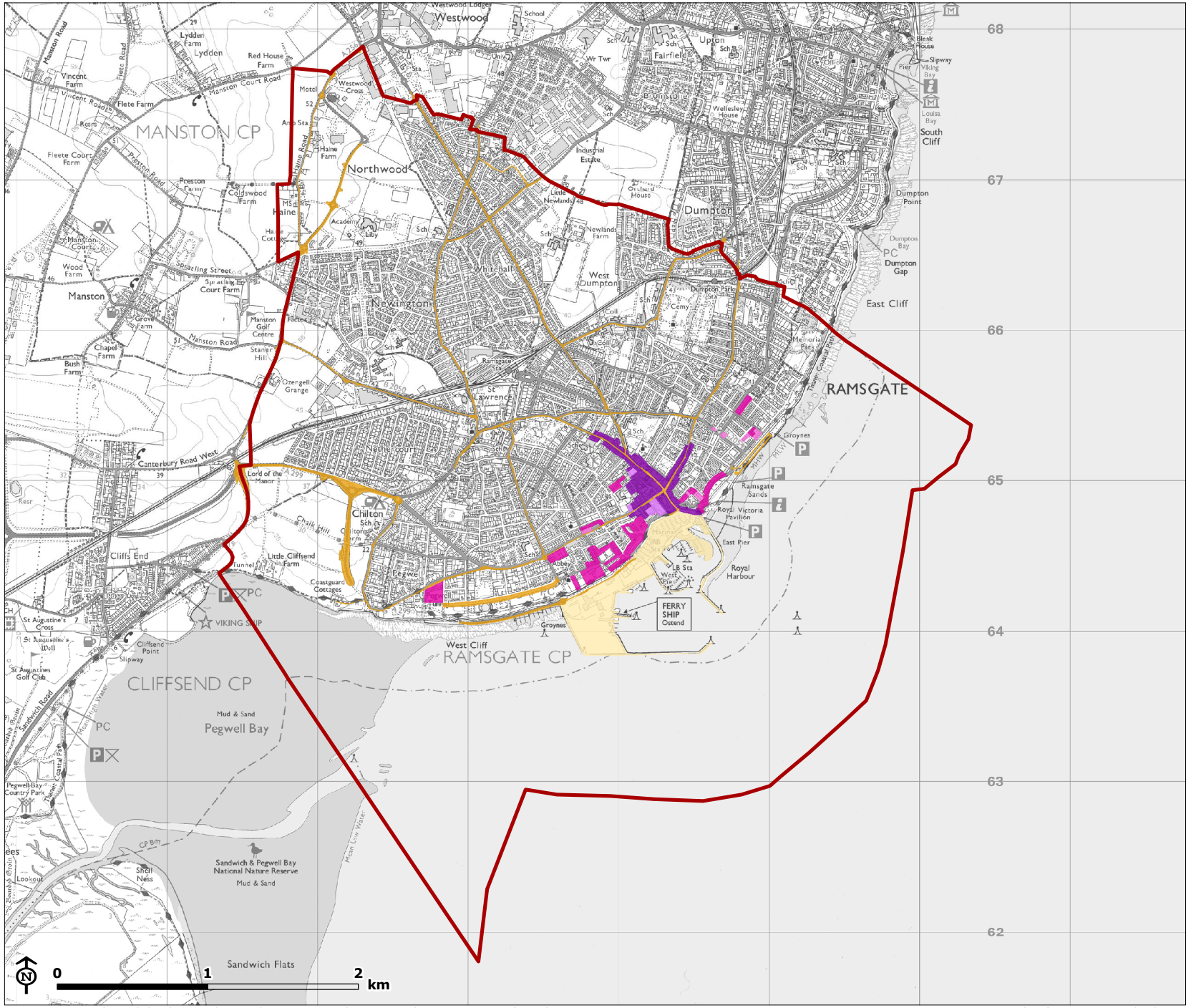
3.7 It is also evident that Ramsgate had evolved to become a locally important harbour by the close of the medieval period as it was taken on as a limb of nearby Cinque Port of Sandwich by the 1480s. At this date, it is thought to have had a small wooden pier offering anchored ships some protection. This was improved with the addition of groynes in the 16th century. Early maps indicate

that this pier was on a similar alignment to the landward portion of the present harbour's East Pier but later development, particularly of the harbour, has removed all visible traces of this in the present townscape. By the 17th century an associated settlement with maritime character was beginning to grow around the junction of the routes and the harbour. Some early buildings, such as the 17th century house illustrated in Photograph 1, attest to this phase of development in addition to reflecting some of the settlement's international links – most notably the Flemish/Dutch influence. The harbour provided services to ships and boats moored at Ramsgate and vessels lying at anchor offshore. The extent of this settlement, prior to the transformations effected by the harbour improvements commenced in the mid-18th century, is shown on the first detailed plan of the town. This was prepared as part of proposals for the harbour's extension in 1755[3] but provides a reasonable level detail of the layout of the settlement, its extent and the nature of the surrounding countryside, including that it remained in use as open fields at this date. The extent of the settlement, essentially an emerging town by that date, is mapped as *historic urban core* in the HLC data. This area remains the heart of the present town of Ramsgate so has been heavily reworked by later development but it does retain some important aspects of the early town, chiefly the alignment of streets and plot patterns but also some buildings. These, particularly the street pattern, as illustrated in Photograph 2, are still palpable influences on the town.

Photograph 1: Ramsgate historic urban core – Pair of 17th century houses , 1 and 2 Queens Court (to the north side of Queen Street) (Listed Grade II); note distinctive 'Dutch' gables

[3] Piercy Brett and J P Desmaretz *An Exact Plan of the New Works at Ramsgate for making a Harbour with A Survey of the Adjacent Coast*. The National Archives MPH 1/422

Photograph 2: Ramsgate historic urban core – 18th century (re-fronted in 19th century) properties to York Street, illustrating historic plot layout and street pattern



Historic Characterisation of Ramsgate

Figure 3-2: Growth of the Port and Resort

Project area

Current

Communications and Movement

Port

Route

Settlement

Historic Urban Core

Townhouses

Previous

Settlement

Historic Urban Core

Townhouses

Map Scale @ A4: 1:36,000

LUC

Historic England

CB:KS EB:Stenson_K LUC FIG3_2_10036_r1_Growth_of_Port_A4L 29/11/2018

Source: HE, OS

Growth of the port and resort – 1750 to c.1850

3.8 The harbour works begun in the 1750s were the result of debate over construction of a haven of refuge for shipping on this stretch of the coast. Such debate had occurred periodically since the 16th century, owing to the silting and increasing unsuitability of the Cinque Port of Sandwich and the small size of other harbours and havens along the coast. The need for such a haven was given fresh impetus due to the catastrophic storm, referred to as the Great Storm, of December 1748 in which numerous vessels were driven from shelter in the Downs and wrecked on the Thanet coast. The harbour at Ramsgate, then relatively small and rudimentary, successfully sheltered several ships driven from the Downs and emerged as a serious candidate for a haven of refuge. Accordingly, a parliamentary committee was appointed in the following year to review plans with Ramsgate eventually emerging as the chosen site for such a harbour. After a somewhat ill-fated start to the design and construction of the harbour, works commenced to the design of Sir Percy Brett and Captain Desmaretz[3], made following survey of the harbour in 1755, and were not completed until well into the following century. They saw the addition of harbour walls and breakwaters, referred to as the East Pier and West Pier, to create inner and outer basins. The western outer breakwaters had lighthouses sited on the end of the West Pier to act as a navigational aid. The harbour improvements were designed and overseen by many of the early leading lights in civil and marine engineering, including John Smeaton, Samuel Wyatt, John Rennie and Sir John Rennie, and included many then-innovative methods, including sluicing systems designed to reduce and remove silt from the basins. The harbour established by these improvements led to Ramsgate developing as a key *port* on the southeast coast. The works of 1750-1850 still form the essential framework of the town's old port, illustrated in Photograph 3.

Photograph 3: The inner basin of the historic port, displaying its current use as a marina

Photograph 4: Southeast-facing elevation of the Harbour Clock House (Listed Grade II*), now Ramsgate Maritime Museum, with slipways in the foreground

3.9 The harbour extension came at a time when the concept of a seaside resort was developing and the well-to do or well-connected were seeking out seaside towns to undertake sea bathing being extolled for its therapeutic benefits amongst polite society. The expanded harbour, with its capacity for more and larger vessels coupled with relative ease of access from London, and the presence of a decent stretch of shallow, sandy foreshore enabled the town to capitalise not just on maritime trade, but also on early resort tourists. The town began to attract wealthy visitors and resort facilities are documented from at least the 1760s. The majority of these, such as waiting rooms for bathers, were at the junction of the harbour and the foreshore so no longer survive due to the intensity of later development. What does survive is the vast expansion of housing that came with the town's growing status as a maritime centre and resort. This was focused on the East and West Cliff, around the routes to Pegwell and Dumpton, and comprised both properties for wealthy residents and visitors and for those at the lower end of the social spectrum. The former comprised *townhouses* whereas the latter comprised *terraced housing* of varied forms. The development of housing required the acquisition of those parts of the open field system bordering the historic urban core and its division into building plots. Many of these building plots, particularly those further inland, appear to have remained undeveloped into the later 19th century.

3.10 The townhouses were speculatively-built and laid out in crescents and terraces, as illustrated in Photograph 5 below. These were aimed squarely at wealthy would-be residents and visitors and used the polite architectural forms and layouts seen in fashionable contemporary spa and resort towns such as Bath and Cheltenham and in the Georgian expansion of London. Some developments were even of the 'garden square' form and included private communal *ornamental gardens* for residents. The townhouses featured extensive use of restrained,

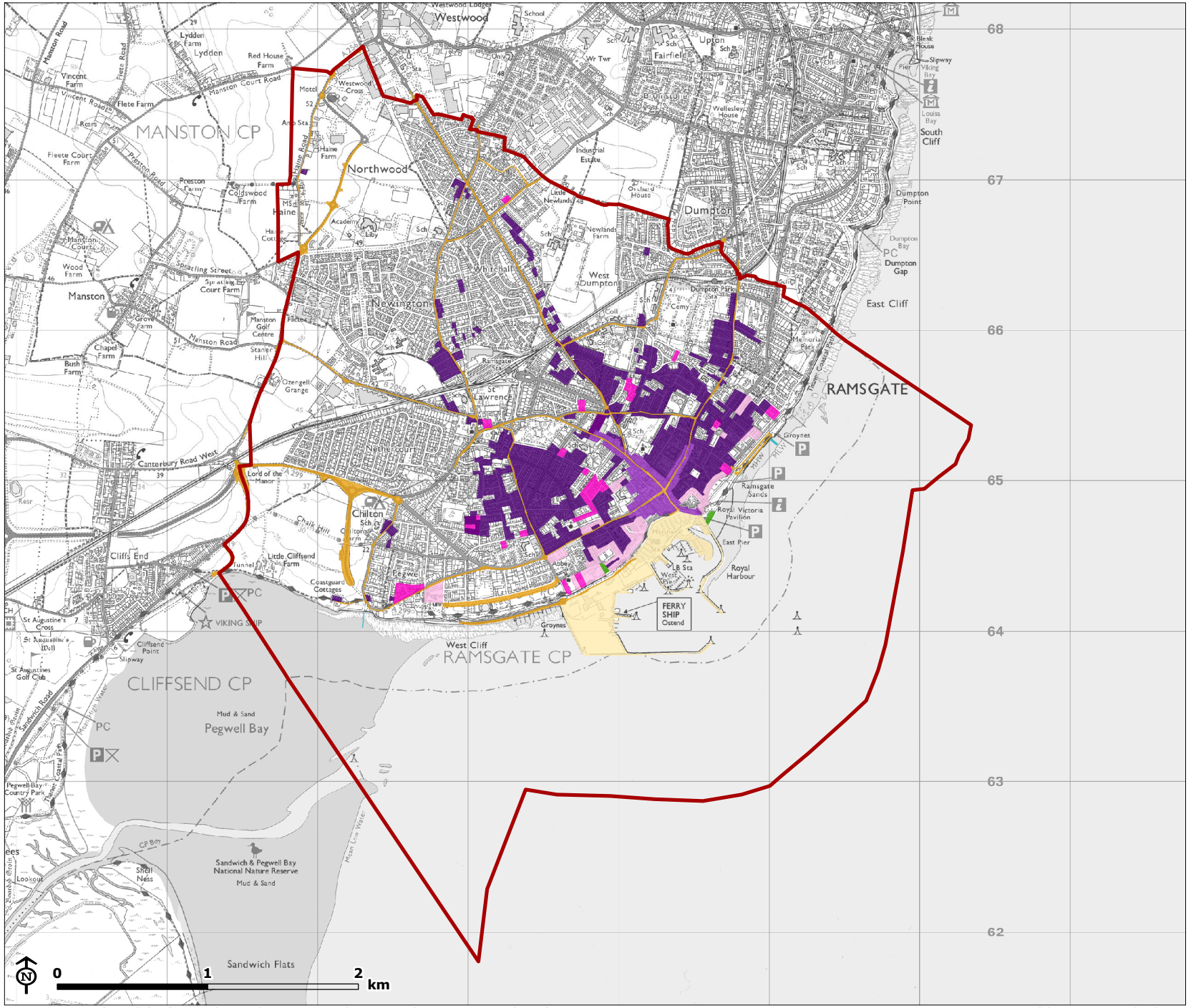
classically-influenced styles with frontages in either stucco or brick with stone detailing. Many were sited in elevated locations overlooking the sea and with some degree of separation from the main commercial centre of the town. Most were not that far from the town itself but Westcliff Terrace, a relatively late example of the type built in the 1840s, was at some distance on a then-isolated site on the Pegwell Road. They offered flexible accommodation that could serve either as long-term residences or be rented out on a seasonal basis. Whilst some *hotels* evolved from earlier inns in the historic urban core, owing to the flexibility of the townhouses, large stand-alone hotels did not become a feature of the resort until the later Victorian period. The terraced housing of this period ranged from some with a relatively high degree of architectural detailing to the extent where some border on the style of the townhouses, to relatively plain terraces. The former were typically built adjacent to the seafront townhouses, with the latter built on the fringe of the historic urban core. Terraced housing housed the workers and merchants who serviced both the maritime and resort trade.

Photograph 5: Townhouses on Nelson Crescent

3.11 In the latter part of the 18th century and early 19th century some small *country houses* were developed at the fringes of the then built-up area of the town for those who sought a greater degree of seclusion. These were miniature versions of the country houses and landscaped parks being developed by the landed aristocracy and comprised ranges of service buildings and facilities such as kitchen gardens alongside the main house and informal garden areas. They included developments for incomers, such as Eastcliff Lodge, and those for families with some history in the area, such as Townley House and Townley Lodge – built for the Townley family in the 1790s. Such houses were the exception within the project area with most of the prosperous families 'making do' with the accommodation provided by townhouses.

3.12 A major feature of this period was the development of military installations during the Napoleonic wars. Ramsgate became a major embarkation port for campaigns on the continent and had militia massing in camps at the town fringes awaiting deployment. This was carried out parallel to, and does not appear to have disrupted, the growing maritime and resort trade at the turn of the 18th to 19th centuries. Indeed, warfare on the continent prevented wealthier individuals undertaking 'The Grand Tour', contributing to a rise in domestic tourism. Owing to the importance of the harbour to military movements and the potential for invasion forces to utilise this stretch of coast, batteries were constructed on the East and West Cliff and at Pegwell. These formed part of a chain of defences along the Kent coast. Although military activities were clearly notable at the time and installations such as the batteries were built, there is no readily visible trace of this distinctive activity within the project area in character terms. This is largely as the batteries were sited at clifftop locations overlooking Ramsgate harbour and the cove at Pegwell. These are both locations which were heavily reworked by development in the later 19th century. As such, whilst military use is an important and defining part of the town's history, it is not one which is manifested significantly in the town's present character. It is, however, reflected in a more intangible sense to an extent by the proliferation of patriotic and commemorative street names relating to the battle of Waterloo in the roughly contemporary townhouse and terraced housing developments at East Cliff (Plains of Waterloo, Wellington Crescent, Nelson Crescent, La Belle Alliance Square).

3.13 Development of the landscape was also influenced by attempts to improve inland connections via road in the early part of the 19th century. The Margate Road, an earlier route, was turnpiked in the early 19th century, resulting in its realignment in the Northwood area and the development of a *public house* adjacent to the check bar at its junction with the route running from St Lawrence to St Peter. This public house still stands and is the only historic hostelry large enough to be mapped within the characterisation dataset.



Historic Characterisation of Ramsgate

Figure 3-3: Consolidation

Project area

Communications and Movement

- Port
- Route

Recreation And Leisure

- Concert Hall
- Pleasure Pier (HSC)

Settlement

- Historic Urban Core
- Terraced Housing
- Townhouses
- Villas

Map Scale @ A4: 1:36,000

LUC

Historic England

CB:KS EB:Stenson_K LUC FIG3_3_10036_r1_Consolidation_A4L 29/11/2018

Source: HE, OS

Consolidation – c.1850 to 1914

3.14 The latter part of the 19th century and the lead up to World War I saw the consolidation of the town as a resort destination. It also saw its evolution from a resort for polite society to one attracting visitors further down the social scale. This was associated with national trends, such as increasing prosperity, the availability of paid holiday for workers and a less formal method of seaside recreation, plus the improved accessibility to the town provided by connection to the railway network.

3.15 The early railway network and its later rationalisation had a distinctive impact on the development of the town. Ramsgate, as a bustling port and resort, was such a prize for operators of the emerging railway network that two companies competed to provide the best connection to the town. The earliest was South Eastern Railway (SER) in the 1840s, followed by the London, Chatham and Dover Railway (LCDR) in the 1850s. SER's *railway station*, Ramsgate Town, was slightly inland, at the junction of the Chatham Street (part of the route to Margate) and Boundary Road (part of the route from St Lawrence to Hereson). LCDR's was a much bolder move, designed to eclipse SER. By tunnelling through the bedrock from near Dumpton, LCDR was able to bring its line through the cliffs to the seafront right next to the harbour. This railway station, later known as Ramsgate Harbour, allowed passengers to alight right on the seafront and go straight onto the beach or into the town but was beset by reliability issues. Neither of the early stations now survives, owing to later rationalisation of lines, but they are preserved to an extent in later land uses so recorded as a previous Type. Some of the former *railway* into Ramsgate Town station is also preserved in later land uses between Newington, Whitehall and Northwood.

3.16 The town also developed features closely associated with seaside resorts over this period. These included large seafront hotels, *promenades*, a *pleasure pier* and *concert halls* by the seafront (Royal Victoria Pavilion and West Cliff Hall). As described above, large stand-alone hotels were generally not a feature of the town in its early resort development. This changed in the later Victorian period when two seafront blocks of relatively late townhouses on East Cliff, part of the Victoria Parade development, failed to sell and were acquired by hoteliers.