

LONDON SOUTHEND AIRPORT

AIRSPACE CHANGE PROPOSAL

Introduction of Standard Instrument Departure Procedures
to Routes in the London Terminal Control Area

Sponsor Consultation – 2016

Appendices



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Appendices

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A. Annex - Glossary of Terms

A-weighted decibel dB(A)	Decibel (a unit of “loudness” of a sound), “A-weighted” (which matches the frequency response of the human ear).
Air Traffic Control Service (ATC)	A service provided for the purpose of preventing collisions between aircraft, and on the manoeuvring area between aircraft and obstructions; and expediting and maintaining an orderly flow of traffic.
Air Traffic Management (ATM)	The aggregation of the airborne and ground- based functions (air traffic services, airspace management and air traffic flow management) required to ensure the safe and efficient movement of aircraft during all phases of operations.
Air Traffic Service (ATS)	A generic term meaning variously, flight information service, alerting service, air traffic advisory service, air traffic control service (area control service, approach control service or aerodrome control service).
Altitude (ALT)	<p>The distance, in feet, above mean sea level. This is the standard level reference for aircraft operations and airspace design at the lower levels to overcome variations in terrain.</p> <p>The aircraft altimeter is set to the barometric pressure at the aerodrome which has been adjusted to take account of the aerodrome elevation (known as QNH).</p>
AMSL (or amsl)	Above mean sea level
AONB	Area of Outstanding Natural Beauty
ATC	Air Traffic Control
ATM	Air Traffic Management
CAA	Civil Aviation Authority
Capacity	The term used to describe how many aircraft can be accommodated within an airspace area or by a runway without compromising safety or generating excessive delay.
Centreline	The nominal track of a published route
CO ₂	Carbon dioxide
Concentration	Refers to the density of aircraft flight paths over a given location. Generally refers to high density where tracks are not spread out over a wide area. The opposite is Dispersion.
Continuous climb	A climb that is constant, i.e. without periods of level flight (sometimes referred to as “steps”).

Continuous descent	A descent that is constant, without periods of level flight (sometimes referred to as “steps”).
Controlled airspace	A generic term for airspace in which Air Traffic Control service is provided. There are different sub-classifications of airspace that define the particular types of air traffic services that are provided and the degree to which aircraft are required to participate.
Conventional navigation	The historic navigation standard by which aircraft fly, and routes are designed, with reference to ground-based navigation aids.
Dispersion	Refers to the density of flight paths over a given area and generally refers to low density operations where tracks or routes are “spread out” over a wide area. The opposite of Concentration.
Easterly operation	When a runway is operating so that aircraft take-off and land in a generally easterly orientation. At LSA this refers to Runway 05 which is aligned in a north-easterly direction.
Future Airspace Strategy (FAS)	The CAA’s blueprint for modernising UK airspace in line with European and other worldwide initiatives. The CAA explains the FAS here: www.caa.co.uk/fas
General Aviation (GA)	All civil aviation operations other than scheduled air services and non-scheduled air transport operations for remuneration or hire. It covers sport and recreational flying and corporate jet and non-jet flights
Holding; holding area; Holding stacks	An airspace structure where aircraft circle one above the other at 1000ft intervals when queuing to land.
L_{eq}	Equivalent Continuous Sound Level The level of hypothetical steady sound which, over the measurement period, would contain the same frequency weighted sound energy as the actual variable sound. It is used to assess long term environmental noise exposure and takes into account the impact of many noise events over longer periods. The extent of total noise exposure is illustrated by noise exposure contours (contours of equal L_{eq}) which are, effectively, aggregations of SEL noise footprints of individual aircraft movements.
$L_{Aeq16hr}$	The A-weighted L_{eq} measured over the 16 busiest daytime hours is the normal time period used to develop the Airport Noise Contours.

L _{max}	The simplest measure of a noise event, such as an aircraft overflight, is L _{max} which is the maximum sound level recorded (in dB(A)).
Low altitude airspace	A generic term to describe airspace in the vicinity of an airport containing arrival and departure routes below 4000ft. Airports have primary accountability for the design of routes in this airspace as this and the local ATC operation is largely dictated by local environmental requirements, airport capacity and efficiency.
NATS	An air traffic service provider licensed by Government to provide the air navigation services in en-route airspace which connects the airports with each other and with the airspace of neighbouring States. NATS also provides ATS, under contract, to some airports.
Nautical Mile (NM)	Aviation measures most horizontal distances in nautical miles. One nautical mile is 1852 metres, making it approximately 15% longer than a statute mile. (Aviation uses metres for some horizontal distances such as runway lengths and visibility.) (The standard measurement of vertical distance is feet.)
Noise contours	<p>The depiction of noise across a period of the day as a series of contours around the airport.</p> <p>Aircraft noise maps, which show lines joining points of equal noise, to illustrate the impact of aircraft noise around airports.</p> <p>Major airports publish annually or bi-annually the noise contours for the “daytime” period (0700 to 2300). These are referred to as the Leq (16 hours) noise contours.</p>
Noise footprint	The depiction of noise from a single aircraft as a “footprint” around the airport. These are referred to as SEL footprints.
Performance-Based Navigation (PBN)	A generic term for modern standards for aircraft navigation capabilities (as opposed to conventional navigation standards). The design of future airspace routes and structures will be predicated on requiring a specified minimum navigation capability by all aircraft using the route or airspace structure. For more information see www.caa.co.uk/pbn and www.eurocontrol.int/navigation/pbn .
Radar Vectoring	Provision of navigational guidance to aircraft by ATC in the form of specified headings based on the use of radar.

Route	Published routes that aircraft are required or plan to follow. Routes have a nominal centreline which gives an indication of where the aircraft would be expected to fly; however, aircraft will fly along routes or route segments with varying degrees of accuracy based on a range of operational factors such as weather, aircraft weight, aircraft speed and altitude, and technical factors such as PBN specification and ATC intervention. (The depiction of a nominal route on a map should not be taken as an indication that aircraft will not be seen elsewhere.)
Route system or Route structure	The network of routes linking airports to each other and to the airspace of neighbouring States.
Runway designation	Airport runways are referenced by a 2-digit number which is derived from the orientation of the runway relative to magnetic north. For example, the runways at LSA are orientated on a bearing of 054°M/234°M, the rounded-down reference numbers given to them are 05 and 23. Magnetic variation in the UK is gradually reducing over time. Prior to November 2015 the runway designations (at LSA) relative to magnetic variation were 06 and 24.
Sound Exposure Level (SEL)	SEL footprints show the extent of noise energy generated from a single aircraft event, for example, an aircraft either taking off or landing.
Standard Instrument Departure procedure (SID)	A published route for departing aircraft to follow which links an airport or a runway at an airport to the en-route airspace structure. A SID incorporates both airport and en-route ATC requirements for the integration of departure routes with routes to and from other airports together with the Airport Operator’s noise abatement requirements in proximity to the airport. It is presented in the UK AIP in graphical format to assist pilots in briefing themselves on the route and levels to be flown after departure. It also includes sufficient information for loading into aircraft navigation databases for use by aircraft flight management systems.
Tactical air traffic control	Air traffic control methods which involve air traffic controllers directing aircraft off the established route structures for reasons of safety or efficiency.
Westerly operation	When a runway is operating such that aircraft are taking off in a generally westerly orientation. At LSA this means runway 23 which is aligned in a south-westerly direction.

B. List of Consultees

B.1. Development of the consultee list

- B.1.1. This Section is included so that consultees understand why they have been included on the consultation list. In consultations in the past some aviation consultees have challenged the inclusion of non-aviation interests in an aviation consultation.
- B.1.2. Development of the “Consultee List” is dictated very much by the CAA requirements specified in CAP725. LSA sought advice and guidance from the CAA prior to the compilation of an appropriate list of consultees and subsequently this has been agreed with the CAA staff.
- B.1.3. The CAA requires that consultation with non-aviation bodies includes Statutory Bodies and appointed Councils down to and including Parish Council level throughout the area that would be overlaid or affected by the proposed flight paths or the operation of them. Thus 30 Councils at County, City, District, Borough and Town level have been identified as consultees together with 158 Parish Councils. The CAA also expects certain other non-aviation national organisations that may have an environmental interest to be included.
- B.1.4. It is expected that some consultees may not be familiar with aviation terminology, particularly with the technical aspects of IFP design. Thus the offer is made for them to seek clarification, preferably by e-mail query, if they so desire. (See Section 19 in **Part C** of the consultation document.)
- B.1.5. With respect to the “aviation interests” side, the CAA requires appropriate “local” aviation parties to be included in the process as individual entities; these being aircraft operators likely to regularly use the procedures or other aerodromes that may be affected by the procedures.
- B.1.6. However, such is the national interest in airspace usage that the consultation process needs to include the wider aviation community (including more distant aerodromes and airspace user groups). The CAA expects national bodies (such as Light Aircraft Association (LAA), British Gliding Association (BGA), Airport Operators Association (AOA), etc.) to represent their members interests through the auspices of the CAA’s National Air Traffic Management Advisory Committee (NATMAC). These member organisations are inherently more aware of the wider issues involved and, moreover, have been directly involved in the development of the CAA’s regulatory process for airspace change. Consequently it is reasonable to expect that they should respond objectively to the consultation.
- B.1.7. A number of military organisations are also members of the NATMAC and are, individually, included as consultees. However, it is standard practice for the MOD to provide a consolidated response representing all military branches. The number

of military aircraft operating to/from LSA and requiring access to the Network airspace route system is minimal.

B.2. Airport user consultees

Airport Consultative Committee Chairman

easyJet

Stobart Air

Thomson

Thomas Cook

Flybe

BA Cityflyer

City Jet

Lufthansa

Volotea

Seawing Flying Club

Southend Flying Club

London Executive Aviation

Kings Aviation

Net Jets

Finesse Aviation

JOTA

Terry Holding

Select Plant

Air Hamburg

Excel Charter

Woodgate

Inflite

Avionicare

B.3. Off-airport aerodrome and airspace user consultees

QinetiQ

Essex Air Ambulance

Essex Police Air Support Unit

London City Airport

London Stansted Airport

Biggin Hill Airport

Rochester Airport

Barling Airstrip

Burnham Airstrip

Laindon (Bensons Farm) Airstrip

St Lawrence Airstrip
Stapleford Tawney Aerodrome (Herts & Essex Flying Club & Stapleford Flight Centre)
Stoke Aerodrome
Stow Maries Aerodrome
Thurrock Airstrip
Tillingham Airfield

B.4. NATMAC consultees

Airport Operators Association (AOA)
Aircraft Owners & Pilots Association UK (AOPA UK)
Association for Remotely Piloted Aircraft and Systems (ARPAS-UK)
Aviation Environment Federation (AEF)
British Airways (BA)
BAE Systems
British Airline Pilots Association (BALPA)
British Air Transport Association (BATA)
British Balloon & Airship Club (BBAC)
British Business & General Aviation Association (BBGA)
British Gliding Association (BGA)
British Hang Gliding & Paragliding Association (BHPA)
British Helicopter Association (BHA)
British Microlight Aircraft Association (BMAA)
British Model Flying Association (BMFA)
British Parachute Association (BPA)
Future Airspace System VFR Integration Group (FASVIG)
General Aviation Alliance
General Aviation Safety Council (GASCo)
Guild of Air Traffic Control Officers (GATCO)
Helicopter Club of Great Britain (HCGB)
“Heavy Airlines”
Honourable Company of Air Pilots (HCAP)
Light Aircraft Association (LAA)
“Light Airlines”
“Low Fares” Airlines”
NATS
PPL/IR Europe
Unmanned Aerial Vehicle Systems Association (UAVS Association)
UK AIRPROX Board (UKAB)
UK Flight Safety Committee (UKFSC)

B.5. NATMAC military consultees

HQ 3rd Air Force USAFE (3AF UK/A3)
DAATM
Military Aviation Authority (MAA)
Ministry of Defence (MoD) (JtCap-ISTAR-1)
NC HQ Aviation Division

B.6. Non-aviation consultees (County, City, District Councils)

Essex

Essex County Council

Chelmsford City Council

Brentwood Borough Council

Castle Point Borough Council

Colchester Borough Council

Southend Borough Council

Basildon District Council

Braintree District Council

Epping Forest District Council

Maldon District Council

Rochford District Council

Tendring District Council

Thurrock Council

Billericay Town Council

Brightlingsea Town Council

Burnham-on-Crouch Town Council

Canvey Island Town Council

Frinton & Walton Town Council

Leigh-on-Sea Town Council

Maldon Town Council

Rayleigh Town Council

South Woodham Ferrers Town Council

West Mersea Town Council

Witham Town Council

Wivenhoe Town Council

Kent

Kent County Council

Gravesham Borough Council

Maidstone Borough Council

Medway Council

Swale Borough Council

B.7. Non-aviation consultees (Parish Councils)

Essex

Abberton & Langenhoe Parish Council

Alresford Parish Council

Althorne Parish Council

Asheldam & Dengie Parish Council

Ashingdon Parish Council

Barling Magna Parish Council

Beaumont-cum-Moze Parish Council

Birch Parish Council

Blackmore, Hookend & Wyatts Green Parish Council

Bowers Gifford & North Benfleet Parish Council

Boreham Parish Council

Bradwell Parish Council

Bradwell on Sea Parish Council

Broomfield Parish Council

Canewdon Parish Council

Chignall Parish Council

Cold Norton Parish Council

Danbury Parish Council

Doddinghurst Parish Council

East Donyland Parish Council

East Hanningfield Parish Council

East Mersea Parish Council

Fingringhoe Parish Council

Foulness Island Parish Council

Frating Parish Council

Galleywood Parish Council

Goldhanger Parish Council

Great Baddow Parish Council

Great Bentley Parish Council

Great Braxted Parish Council

Great Burstead & South Green Village Council

Great Oakley Parish Council

Great Totham Parish Council
Great Wakering Parish Council
Hatfield Peverell Parish Council
Hawkwell Parish Council
Hazeleigh & Woodham Mortimer Parish Council
Herrongate & Ingrave Parish Council
Heybridge Parish Council
High Ongar Parish Council
Highwood Parish Council
Hockley Parish Council
Hullbridge Parish Council
Ingatestone & Fryerning Parish Council
Kelvedon Hatch Parish Council
Lambourne Parish Council
Langford & Ulting Parish Council
Latchington Parish Council
Layer Breton Parish Meeting
Layer Marney Parish Council
Layer-de-la-Haye Parish Council
Little Baddow Parish Council
Little Bentley Parish Council
Little Braxted Parish Council
Little Burstead Parish Council
Little Clacton Parish Council
Little Oakley Parish Council
Little Totham Parish Council
Margaretting Parish Council
Mayland Parish Council
Mountnessing Parish Council
Mundon Parish Council
Navestock Parish Council
Noak Bridge Parish Council
North Fambridge Parish Council
Paglesham Parish Council
Purleigh Parish Council
Ramsden Bellhouse Parish Council
Ramsden Crays Parish Council
Rawreth Parish Council
Rettendon Parish Council
Rochford Parish Council
Runwell Parish Council
St Lawrence Parish Council
St Osyth Parish Council

Sandon Parish Council
Shotgate Parish Council
South Hanningfield Parish Council
Southminster Parish Council
Springfield Parish Council
Stambridge Parish Council
Stapleford Abbots Parish Council
Stapleford Tawney Parish Council
Steeple Parish Council
Stock Parish Council
Storndon Massey Parish Council
Stow Maries Parish Council
Sutton Parish Council
Tendring Parish Council
Theydon Garnon Parish Council
Theydon Mount Parish Council
Thorpe-le-Soken Parish Council
Thorrington Parish Council
Tollesbury Parish Council
Tollshunt D'Arcy Parish Council
Tolleshunt Knights Parish Council
Tolleshunt Major Parish Council
Weeley Parish Council
West Hanningfield Parish Council
West Horndon Parish Council
Wickham Bishops Parish Council
Winstread Hundred Parish Council
Woodham Ferrers & Bicknacre Parish Council
Woodham Walter Parish Council
Writtle Parish Council

Kent

All Hallows Parish Council
Bapchild Parish Council
Bicknor Parish Council
Bobbing Parish Council
Borden Parish Council
Boughton Malherbe Parish Council
Bredgar Parish Council
Broomfield & Kingswood Parish Council
Cliffe & Cliffe Woods Parish Council
Cooling Parish Council
Doddington Parish Council

Eastchurch Parish Council
Eastling Parish Council
Faversham Town Parish Council
Frindsbury Extra Parish Council
Frinted Parish Council
Harrietsham Parish Council
Hartlip Parish Council
High Halstow Parish Council
Higham Parish Council
Hollingbourne Parish Council
Hoo St Werburgh Parish Council
Hucking Parish Meeting
Iwade Parish Council
Leeds Parish Council
Lenham Parish Council
Leysdown Parish Council
Lower Halstow Parish Council
Luddenham Parish Council
Lynsted with Kingsdown Parish Council
Milstead Parish Council
Minster on Sea Parish Council
Newington Parish Council
Newnham Parish Council
Norton Buckland & Stone Parish Council
Oare Parish Council
Ospringe Parish Council
Otterden Parish Meeting
Queenborough Parish Council
Rodmersham Parish Council
St James, Isle of Grain Parish Council
St Mary Hoo Parish Council
Stalisfield Parish Council
Stockbury Parish Council
Stoke Parish Council
Teynham Parish Council
Throwley Parish Council
Tonge Parish Council
Tunstall Parish Council
Upchurch Parish Council
Warden Parish Council
Wichling Parish Meeting
Wormshill Parish Meeting

B.8. Non-aviation consultees (Other organisations)

CPRE - Essex
CPRE - Kent
English Heritage
Environment Agency
Friends of North Kent Marshes
Friends of the Earth
Kent Downs AONB
National Trust
Natural England
RSPB - Wallasea
Stop Airport Expansion & Noise (SAEN)

B.9. Members of Parliament

Mr J Duddridge MP	Southend East
Mr D Amess MP	Southend West
Mr M Francois MP	Rayleigh
Ms R Harris MP	Castle Point
Mr J Whittingdale MP	Maldon
Mr S Metcalfe MP	South Basildon & East Thurrock
Ms J Doyle-Price MP	Thurrock
Mr E Pickles MP	Brentwood & Ongar
Mr J Baron MP	Basildon & Billericay
Mr J Cleverly MP	Braintree
Mr D Carswell MP	Clacton
Mr W Quince MP	Colchester
Ms P Patel MP	Witham
Mr R Christi MP	Gillingham & Rainham
Mr G Henderson MP	Sittingbourne & Sheppey
Ms H Whately MP	Faversham & Mid Kent
Mr A Holloway MP	Gravesham
Ms K Tolhurst MP	Rochester & Strood
Ms E Laing MP	Epping
Mr S Burns MP	Chelmsford
Ms T Couch MP	Chatham & Aylesford
Ms H Grant MP	Maidstone & The Weald

B.10. Copy addressees

CAA SARG	R Bishton (NATMAC)
CAA AAA	C Peart (NATMAC)