Response to the

Draft South Dublin County Development Plan 2022-2028

for

National Vehicle Distribution Ltd Baldonnell Baldonnell, Dublin 22, D22 AV20

August 2021

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1.0 INTRODUCTION

1.1 National Vehicle Distribution (NVD) Ltd, Baldonnell, Dublin 22 requested Airport Planning & Development (APD) Ltd. to examine the Draft South Dublin County Development Plan (DSDCDP), in respect of proposed policies for;

- aerodrome Safeguarding,
- Aerodrome Security, and
- Public Safety Zone.

1.2 APD has assessed numerous development proposals about Casement Aerodrome, notably at both Baldonnell and Greenogue Business Parks in terms of Aerodrome Safeguarding and Safety. This report examines the potential implications of policies for the existing, long established, operations of NVD. In particular, Sections 11 and 13 of the DSDCDP.

2.0 SITE LOCATION AND GENERAL LAYOUT

2.1 The NVD lands are located to the east of Casement Aerodrome between the L2006 and the N7/Naas Road (the National Primary Route - an arterial route linking Dublin to the South-West of the country).

2.2 The operational NVD site lies to the East of the operational Casement/Baldonnell Aerodrome (IATA: N/A, ICAO: EIME). The northern corner of the low intensity commercially developed NVD site lies below the flight path of Runway 28/10, which is the relevant runway in terms of the potential impact of the proposed draft Policies on the company's long-term operation. See Figure 2.1 below for location of NVD lands.

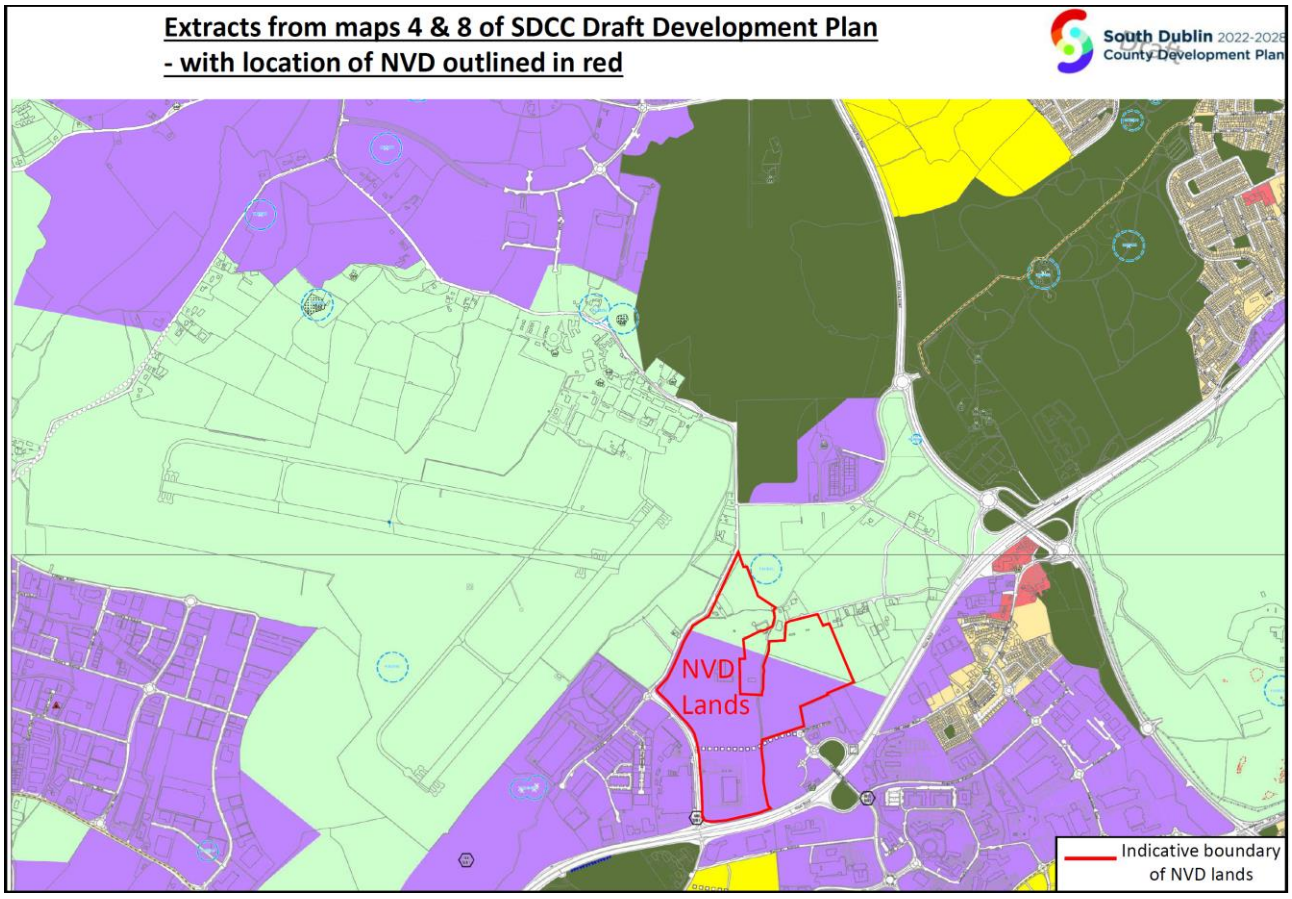


Figure 2.1: NVD lands location map

2.3 Casement Aerodrome is the headquarters and the sole airfield of the Irish Air Corps. As the only Military Aerodrome, it facilitates the vast majority of the Irish Air Corps training flights along with operational flights as part of the Irish military commitments. The Aerodrome has 4 available runways utilising 2 paved surfaces. The dimensions and directions are detailed below.

	Runways		
Direction	Physical	Type of	Strength
	Dimensions	Surface	PCN
22/04	4800 x 150 feet 1463 x 46 meters	ASPHALT	46/F/B/X/U
28/10	6001 x 150 feet 1829 x 46 meters	ASPHALT	52/F/B/X/U

3.0 AERODROME SAFEGUARDING CONSIDERATIONS

3.1 The International Civil Aviation Organisation (ICAO) develops the principles and techniques of International Air Navigation and fosters the planning and development of international air transport. Through its many Annexes, ICAO provides nation state aviation regulators with advice on the safe operation and movement of aircraft. In respect of the safe operation and movement of aircraft at airports, aerodromes and airfields, the relevant Annex (Annex 14) provides guidance on the safeguarding of aerodromes. It is expected that nation state Regulators (the Civil Aviation Authority) will enforce the principles of the design and the safeguarding of aerodromes. The Irish Aviation Authority (IAA) adopts Annex 14 in respect of civil aerodromes, as does the Department of Defence for military establishments; specifically, Casement/ Baldonnell Aerodrome.

Obstacle Limitation Surfaces

3.2 Accordingly aerodrome owners/operators identify Obstacle Limitation Surfaces (OLS) which define the limits to which objects, such as buildings, boundary fences/walls and vegetation may project into the airspace. The relevant surfaces at Casement Aerodrome are the Approach Surface (APPS) and Take-Off Climb Surface (TOCS) for Runway 28/10, and where appropriate the Transitional Surface (TS) for both runways.

Runway 28/10 Approach & Take-Off Climb Surface

3.3 As stated at paras 2.2, a large part of the low intensity commercially developmed in the NVD operation is located below the APP/TOC Surfaces of Runway 28/10, providing long stay secure storage of vehicles prior to final distribution to dealerships across the country (see Figure 3.1 below). The APP/TOCS is determined by a slope of 1/50 (2.5%) measured from a point 60m from the runway threshold, and no object should penetrate that surface. At the nearest part of the NVD site (at 93.0m AOD) the aerodrome's APP/TOCS slope is some 107m above ground level. As such, the use of the land for car parking, or indeed any buildings, would only cause a penetration of the Obstacle Limitation Surface (the APP/TOC) if the height exceeded 14.0m.

3.4 It is respectfully submitted that SDCC may have misinterpreted the The Development Plan extract (Figure 3.1) is incorrectly drawn in that both the APP and TOC Surfaces illustrates that the Surfaces start from different distances from Runway 28 Threshold; both should be calculated from the same distance of 60m from the runway threshold.

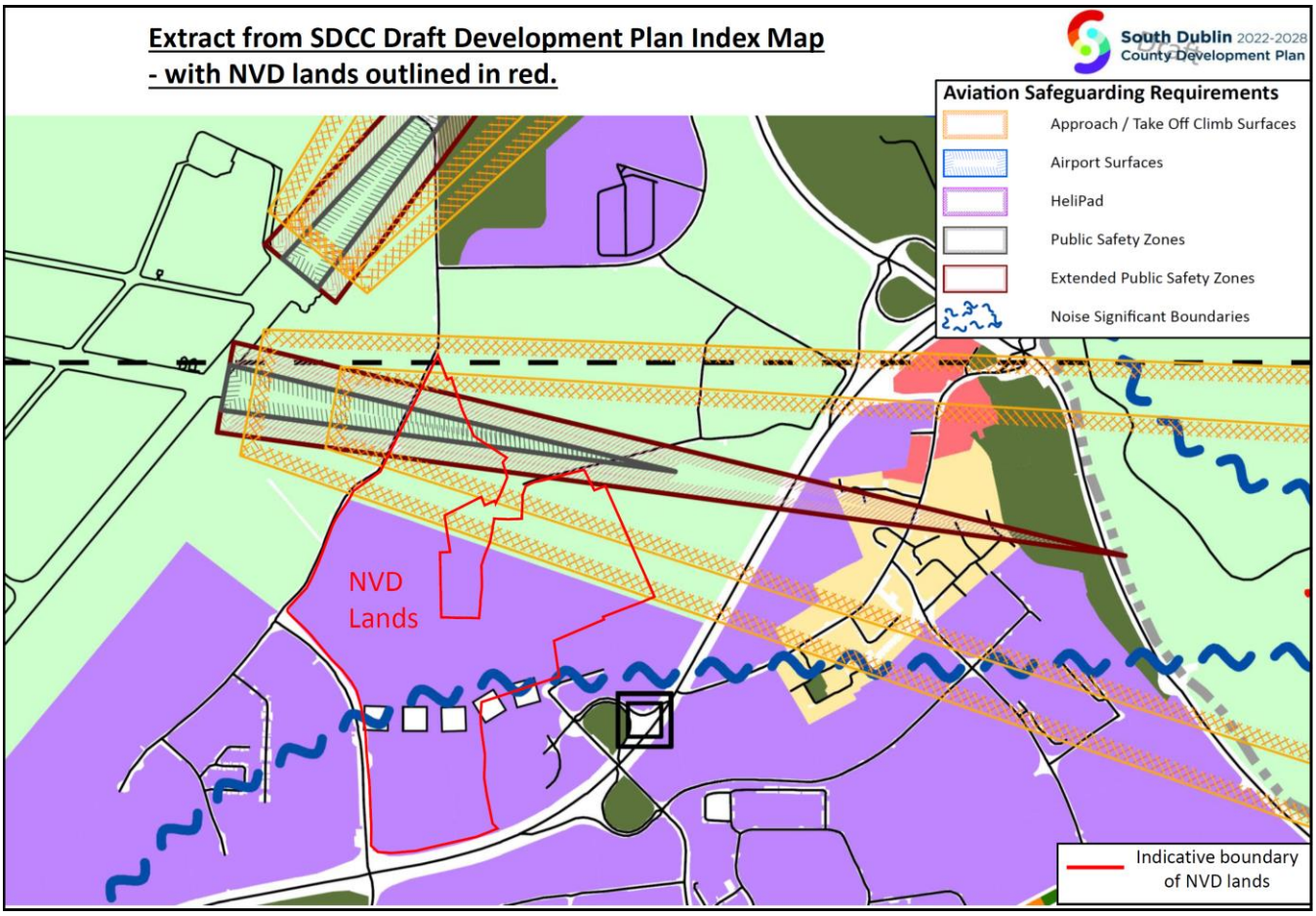


Figure 3.1: Casement Aerodrome Approach & Take-Off Climb Surfaces as shown on the draft Development Plan Maps

3.5 ICAO and National policy does not, in itself, prohibit development, although it is recognised that some uses, such as car parking, are permitted which generate only temporary occupation by workers and the public delivering vehicles to/from the location.

Development under APP/TOC Surfaces

3.6 RAF Northolt aerodrome is located in the South Ruislip in the London Borough of Hillingdon c. 10km north of Heathrow Airport. The station has become the hub of British military flying operations in the London area and Northolt has been extensively redeveloped since 2006 to accommodate these changes. This high security aerodrome is in an semi urban area like Casement Aerodrome. There is retail development within 174 m of the runway threshold and a two storey office park within 362 m all of achic are under the APP/TOC surfaces. RAF Northolt has operated for many years in conjuction with new development under the APP/TOC surfaces.

3.7 There are many examples of UK airports where long stay parking or other land uses are located below a runway's APP/TOCS, and which does not penetrate the Surfaces. For example, Table 3.1 illustrates some of these airports;

Table 3.1: UK Airports with commercial development/land use below APP/TOC Surfaces

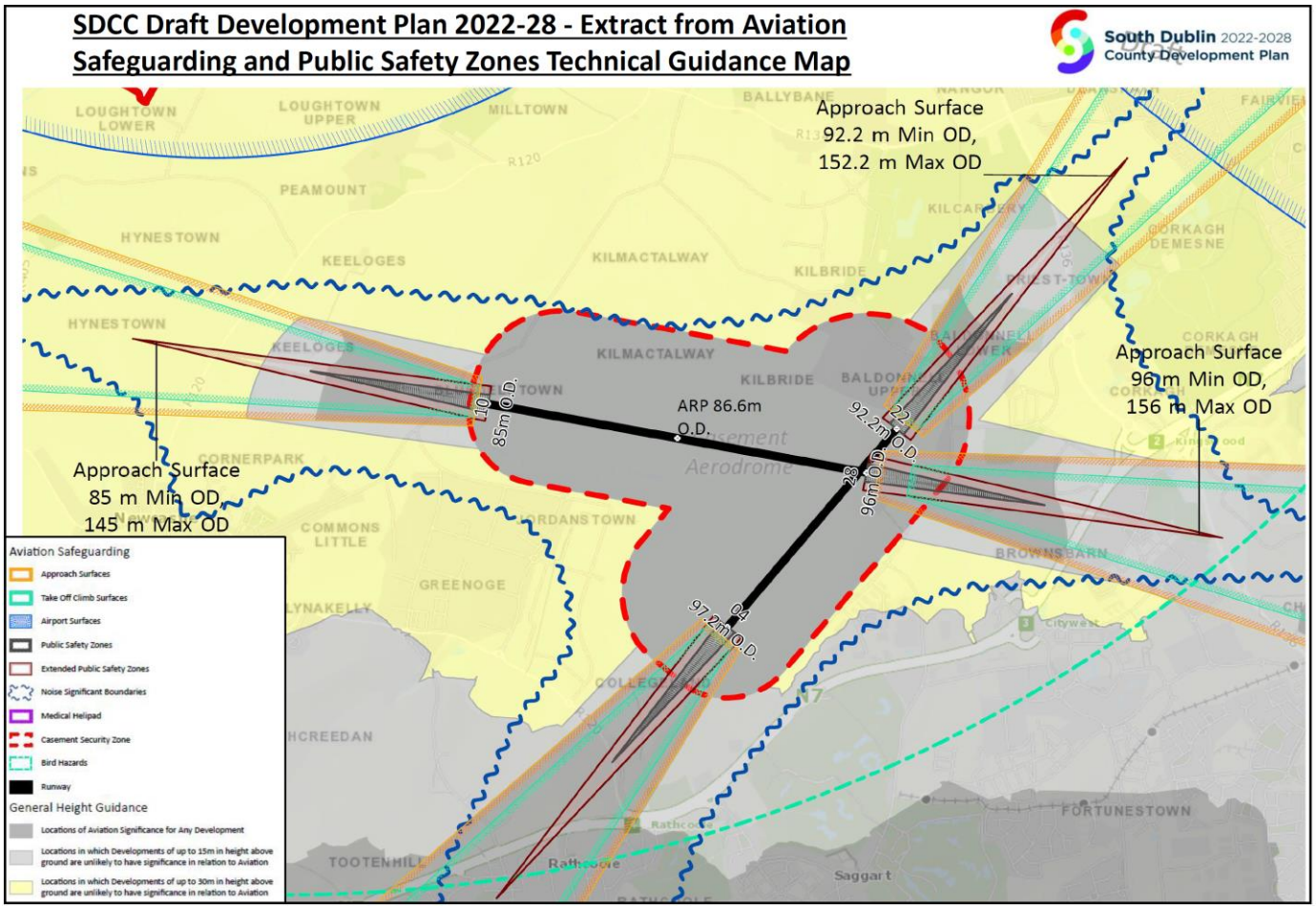
Airport	Distance from RWY Threshold (m)	Land use
Casement Baldonnel Runway 28	640	industrial - car storage
Dublin Airport Runway 34	345	Car parking
Birmingham	650	Parking/ Light Industrey
Edinburgh	870	Light Industry
London Gatwick RWY 26L	840	Staff Parking
London Heathrow RWY 27R London Heathrow RWY 27L	485 410	Staff Parking Public Parking
Luton	415	Truck Park
Southampton	237	Public Parking
LAX (Los Angeles)	425	Public Parking

More details on the above airports and the commercial development uses are included in Appendix 1 - Development under Airport Approach /Take Off & Climb Surfaces. Car parking is the most common commercial use for the lands under APP/TOC surfaces as this use is not suitable in high noise areas and car or truck parking will not penetrate the AAP/TOC surfaces.

3.8 The current and establisheduse of the NVD land is for long term storage of vehicles awaitng distribution throghout the country. Such established and legal planning use of the site cannot be discontinued as a consequence of future changes in planning policy, and neither should planning policy be a vehicle for amending well established international and national polcy to maintain air safety.

3.9 At Section 13.9.5 of the Draft Development Plan, the opening paragraphs reflect current related practice. Reference is also made to the fact that new development may be permitted below the lowest applicable Obstacle Limitation Surface (OLS) provided that confirmation is given that the proposed development would not create a penetration of an Obstacle Limitation Surface. The existing or longer-term use of the site WILL NOT PENETRATE the Approach or Take-Off Climb Surfaces

3.10 The Aviation Safegurding and Publin Safety Zones Technical Guidance Map indicates in varous grey and beige colours some guidance on heights for development. See extract from the Draft SDCC Development Plan map below. Any development of the NVD lands under the APP/TOC surfaces will not interefere with the opterations of the aerodrome. Any application for development on such land will include an aeordrome safety assessment.



Transitional Surface

3.11 Beyond the Approach & Take-Off Climb Surfaces of RWY 28/10, the wider NVD operational site lies below the Transitional Surfaces of both Runway 28/10 and Runway 22/04. At the nearest point of the site toaving to the Runways, the maximum permissable height of new builings on any part of the site located below the Transitional Surface of eithe runway would be 12.0m. Clearly, the current use of the site does not present a penetration of the Transitional Surfaces, and nor would any future buildings required for the operation of the NVD facility.

3.12 It is noted that Irish Air Corps may consider the potential upgrade of the Instrument Landing System (ILS) at some date in the future, although the likely Category has not been designated. APD has assumed ILS CAT I facility. The Transitional Surface Assessment does not change, with any higher grade of ILS Category. Second, **it is important to note that the draft policies in the Draft Development Plan are not relevant to the existing use of the NVD site, in relation to Casement Aerodrome, which is a low intensity commercial use**.

Other Obstacle Limitation Surfaces (OLS)

3.13 The other OLS's (Inner and Outer Horizontal, Conical etc) which prevent development in excess of 45.0m, are well beyond the NVD site, and are not relevant to NVD and the Draft Policies.

As a principle, civil aviation policy in Local Plans cannot, nor should not, override National Policy and Legislation in associated Irish Aviation Authority Guidance Material and established aviation documentation.

3.14 In the opening paragraph of Section 11.7.3, reference is made to the fact that the OLS associated with the overlap of OLS's between Weston Airport with those of Casement Aerodrome. In the opening paragraph of Section 11.7.4, reference is made to the fact that the Outer Horizontal Surface of Dublin Airport overlaps a limited area to the north of the County. It is important to note that, as a result, in instances of overlap "the more stringent requirements of the two aerodromes shall apply". The Casement OLS's are the relevant Surfaces.

Public Safety Zone

3.15 At Section 11.7.2, the four objectives listed do not generate any specific operational issues although Objective 4 makes reference to the fact that "no development shall be permitted in the Public Safety Zone (PSZ)" with more information detailed at section 11.7.7. This is not strictly accurate since international and national PSZ Guidance recognizes that some land uses are acceptable, providing that such uses do not generate significant occupation by people for lengthy periods of time for example car/HGV storage/parking or storage of material does not represent a penetration of a runway's APP/TOC Surfaces. There are many examples at aerodromes, worldwide, where long-stay car parking exists, and are located adjacent to, but beneath the flight paths (see Table 3.1 and Appendix 1).

3.16 Section 11.7.7 provides more detail on the latest proposal for new PSZs at Casement Aerodrome. The Inner PSZs will be triangular and 1000m long by 100m wide. In addition, new Outer PSZs will be 2000m long by 200m wide within which development containing limited human occupancy may be permitted. It should be recognized that PSZ's narrow from the base adjacent to the runway end to a pinnacle at its furthest point from the runway end. Further the scale of any risk is determined by the number of aircraft movements. Pending further review, occupancy numbers will be the same as applied in other larger Outer PSZs in Ireland which is <110 persons per half hectare for working premises such as car/truck storage areas.

The overall plan is that all new Inner/Outer PSZs will all be the same size for all runways at Casement Aerodrome with any 'permitted' development restricted to the maximum heights/elevations permitted under an Approach Surface or Take-Off Climb Surfaces.

3.17 The draft SDCDP states that Public Safety Zones are areas of land at the end of runways established to control the number of people on the ground at risk in the unlikely event of an aircraft accident on take-off or landing. These areas are delineated as a triangular shape on the Development Plan maps and in general, no development shall be permitted within these zones."

3.18 It is our considered view that the combined effect of the aviation and public safety policy changes in the Development Plan is to secure the sanitization of lands adjoining the aerodrome, rather than to control land use and development. The reason for Obstacle Limitation Surfaces regulation and guidance is to ensure the safety of aircraft movements. Conversely, Public Safety Zones are about protecting people on the ground.

3.19 However, it is important to note in establishing new Inner and Outer PSZ's regard should be given to an evaluation of RISK, and should be subject to detailed review and re-calculation

based on updated air traffic movement figures. It is recommended that the Policy should be amended to reflect this comment as follows:

Current wording:

"**IE8 Objective 4:**
To prohibit and restrict development in the environs of Casement aerodrome, where it may cause a safety hazard. In general, no development shall be permitted in the public safety zone. (See also Chapter 13 *Implementation and Monitoring*)."

Proposed wording

"IE8 Objective 4:
To prohibit and restrict development in the environs of Casement aerodrome, where it may cause a safety hazard. In general, no development shall be permitted in the public safety zone. (See also Chapter 13 *Implementation and Monitoring*). **Where new development is proposed within a PSZ, a Risk Assessment should be submitted**."

Aerodrome Security

3.20 National Policy, applied by the Department for Defence and the Irish Aviation Authority, applies standards for the establishment of physical protection of aerodrome boundaries (military and civil). It should be recognized that development of land adjacent to aerodromes should not adversely impact on such protection.

3.21 The NVD facility is a highly valuable operation which requires maximum security in terms of physical protection at its boundaries and human surveillance. As such, the NVD site adds to the effectiveness of the aerodrome's security as the NVD lands are secured with high quality fencing and security measures to ensure the security of vehicles stored on the land.

3.22 An area which is often of concern to the aerodrome operator is the floodlighting of industrial sites adjacent to an aerodrome. If inappropriate, the sighting and nature of lighting may constitute a danger to aircraft approaching or departing the runway. However new modern LED lights, which are installed below the horizontal level, have proved to eliminate such concerns. If new proposals for improved lighting are proposed, it is suggested that any developer should consult with the aerodrome operator on such proposals.

CONCLUSIONS

4.1 The NVD facility is a low-rise long established industrial activity involving the long-term storage of vehicles, prior to distribution to dealerships country-wide. A small part of the NVD site, lying below the Runway 28 Approach/Take-Off Climb Surfaces, is used for low intensity commercial development (i.e., car and truck storage) at present, but as the company expands, an increased use for the storage of vehicles is anticipated. It is a very secure and well protected facility, operated by a 'growing' business. It is located in a well-established and expanding industrial area lying to the East of Casement Aerodrome. It is important to note that there is an existing car/truck storage use on the NVD lands closest to the aerodrome boundary under the Runway 28 Approach/Take-Off Climb Surfaces - see Figure 4.1 below.

4.2 Currently, there are a number of premises and residential units located beneath the Approach and Take-Off Climb Surfaces of Runway 28/10 – see Figure 4.1 below.

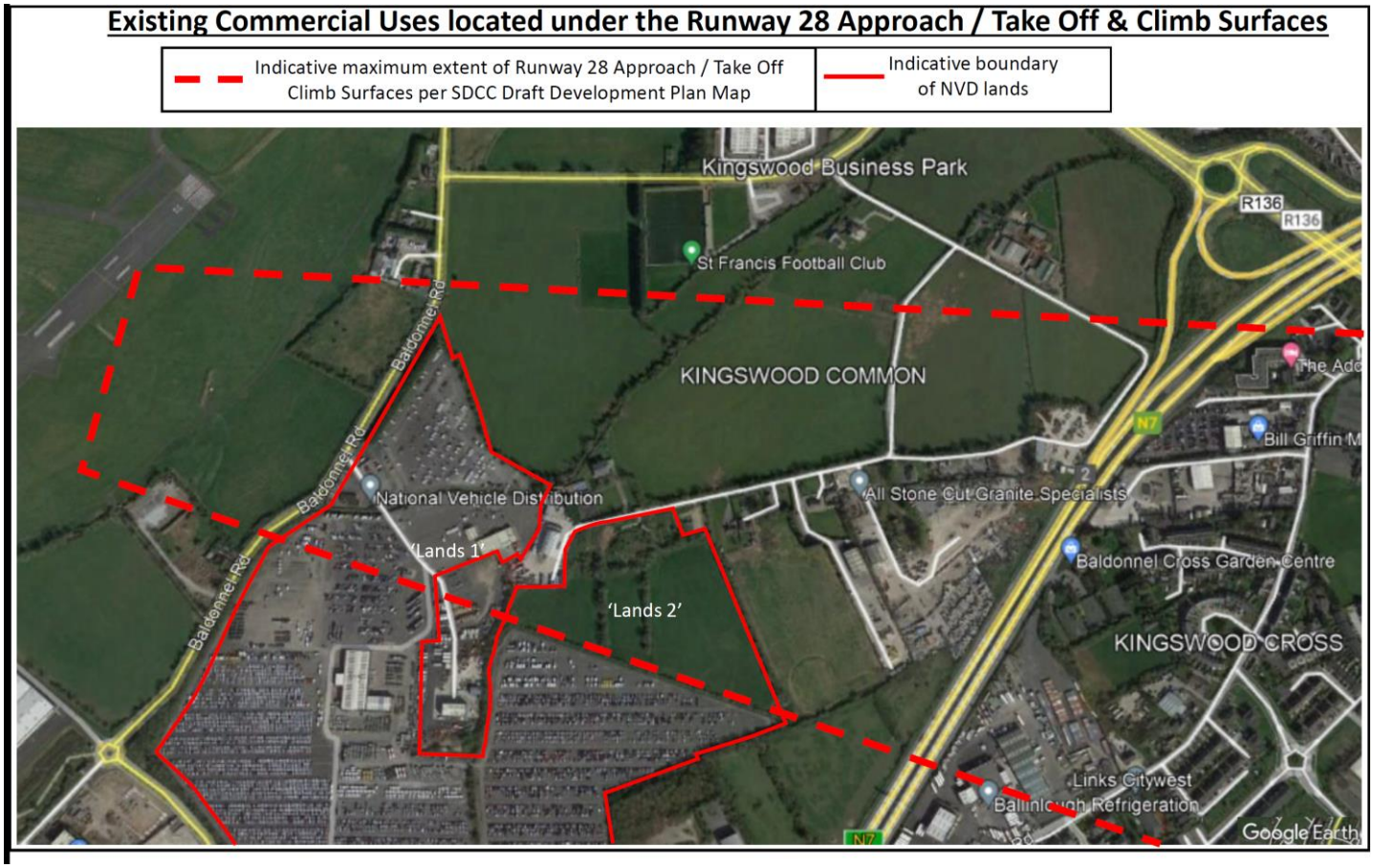


Figure 4.1: NVD lands under Casement Aerodrome Runway 28 Approach & Take-Off Climb Surfaces as shown on the draft Development Plan Maps

4.3 The potential impact of increased activity on that part of the greenfield NVD site beneath the APPS/TOCS, and other Obstacle Limitation Surfaces (OLS), and the operation of the aerodrome has been assessed. It is concluded that no part of the NVD facility penetrates any OLS, including the Transitional Surfaces of either runway. In fact, the RWY 28 APP/TOC Slope is well above all existing car storage and low-rise operational buildings. Further, the facility does not generate significant numbers of people on the ground, as there are only a small number of employees, temporarily occupying the site as vehicles are moved in/out of the car/truck storage areas. Therefore, this low occupancy use is compatible with Section 11.7.7 of the SDCC Draft Development Plan.

4.4 In conclusion, on grounds of aerodrome safeguarding, there is no justification for Planning Policy in the SDCDP prohibiting development beneath Approach/Take-Off Climb Surfaces/Public Safety Zones providing certain conditions are satisfied. Having regard to public safety, it is recommended that Objective IE8 Objective 4 is amended to reflect National Aviation policy, as follows:

> **"IE8 Objective 4:**
> To prohibit and restrict development in the environs of Casement aerodrome, where it may cause a safety hazard. In general, no development shall be permitted in the public safety zone. (See also Chapter 13 *Implementation and Monitoring*). **Where new development is proposed within a PSZ, a Risk Assessment should be submitted**."

4.5 Also, where new development is proposed, promoters of such activity should be advised to consult with the aerodrome operator on proposals for floodlighting.

4.7 In our view, the NVD facility is a low intensity commercial development in those areas under the under the Approach and Take-Off Climb Surfaces and is not a danger to the safe and secure operation of Casement Aerodrome.

Appendices

Appendix 1 RAF Northolt (military airport), Ruislip, London, UK. Development under APP/TOC Surfaces

Appendix 2 Development under Airport Approach /Take Off & Climb Surfaces