FLOOD RISK ASSESSMENT

Proposed extension to existing solar array at
Manor Farm, Burton Pidsea, Hull, HU12 9DJ

1.0 Introduction

1.1 This Flood Risk Assessment has been produced by Brown & Co to support a full planning application for the installation of a 996.30kWp ground mounted solar array at Manor Farm, Burton Pidsea.

1.2 The site is a 10-acre arable field, and the site is surrounded by arable land. There are farm buildings and dwellings close to the application site. There are two vehicular access points into the field from Carr Road, with the southern access being used to serve the application site.

2.0 Flood Zones

2.1 The Flood Map for Planning shows the site to be in Flood Zone 1 and therefore at a low risk of flooding.

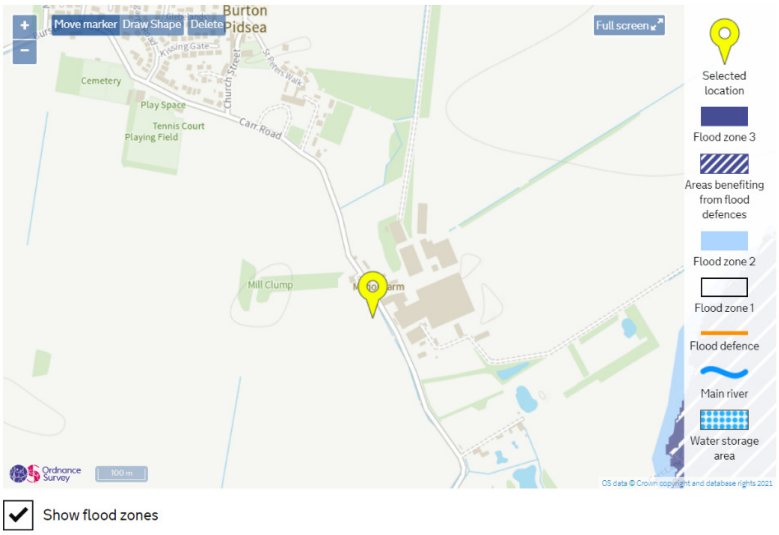

Figure 1: Flood Map for Planning - Flood Zone

3.0 Flood Risk and Mitigation Measures

3.1 The National Planning Practice Guidance relating to Flood Risk includes tables relation to flood risk vulnerability classification and compatibility and these are included below. Solar Panels are considered to be a less vulnerable use and are considered to be acceptable in zones 1-3. It is not considered that the proposed development would significantly increase the risk of flooding elsewhere.

Table 2: Flood risk vulnerability classification

Essential infrastructure • Essential transport infrastructure (including mass evacuation routes) which has to cross the area at risk. • Essential utility infrastructure which has to be located in a flood risk area for operational reasons, including electricity generating power stations and grid and primary substations; and water treatment works that need to remain operational in times of flood. • Wind turbines.
Highly vulnerable • Police stations, ambulance stations and fire stations and command centres and telecommunications installations required to be operational during flooding. • Emergency dispersal points. • Basement dwellings. • Caravans, mobile homes and park homes intended for permanent residential use[3]. • Installations requiring hazardous substances consent[4]. (Where there is a demonstrable need to locate such installations for bulk storage of materials with port or other similar facilities, or such installations with energy infrastructure or carbon capture and storage installations, that require coastal or water-side locations, or need to be located in other high flood risk areas, in these instances the facilities should be classified as "essential infrastructure")[5].
More vulnerable • Hospitals. • Residential institutions such as residential care homes, children's homes, social services homes, prisons and hostels. • Buildings used for dwelling houses, student halls of residence, drinking establishments, nightclubs and hotels. • Non–residential uses for health services, nurseries and educational establishments. • Landfill and sites used for waste management facilities for hazardous waste[6]. • Sites used for holiday or short-let caravans and camping, *subject to a specific warning and evacuation plan.*[7]
Less vulnerable • Police, ambulance and fire stations which are *not* required to be operational during flooding. • Buildings used for shops, financial, professional and other services,

Figure 2: Flood risk vulnerability classification

Table 3: Flood risk vulnerability and flood zone 'compatibility'

Flood risk vulnerability classification (see table 2)		Essential infrastructure	Water compatible	Highly vulnerable	More vulnerable	Less vulnerable
Flood zone (see table 1)	Zone 1	✓	✓	✓	✓	✓
	Zone 2	✓	✓	Exception Test required	✓	✓
	Zone 3a	Exception Test required	✓	×	Exception Test required	✓
	Zone 3b functional floodplain	Exception Test required	✓	×	×	×

Key: ✓ Development is appropriate.
× Development should not be permitted.

Notes to table 3:
This table does not show:
a. the application of the Sequential Test which guides development to Flood Zone 1 first, then Zone 2, and then Zone 3;
b. flood risk assessment requirements; or
c. the policy aims for each flood zone.

Figure 3: Flood zone compatibility

3.2 The proposed site is within 20 metres of drainage ditches; however the site is not considered to be at risk of flooding or at a high risk of surface water flooding. The installation does not add to the risk or exacerbate the effects of a flood. No hardstanding will be created and rainwater is able to run over, through and behind the solar panels. The ground beneath the panels consists of a soil which is relatively free draining. The proposed solar panels will have minimal effect on the ground beneath.