VEOLIA WATER

PL/2023/06813

Sports Field, Meerut Road, Tidworth

Flood Risk Assessment

Revision 1.1



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ABBREVIATIONS

Abbreviation	Description
DIO	Defence Infrastructure Organisation
EA	Environment Agency
MoD	Ministry of Defence
NPPF	National Planning Policy Framework

DOCUMENT RECORD

Rev No.	Date	Prepared By	Checked By	Purpose
1.1	11/09/2023	N Hawken	G Dunk	For planning

FLOOD RISK ASSESSMENT

Planning Reference

This Flood Risk Assessment is prepared to support and to be read in conjunction with other documents submitted in connection with the Planning Application to Wiltshire County Council:

- Reference: PL/2023/06813
- Site Location: Sports Field, Meerut Road, Tidworth, Wiltshire, SP9 7SF
- Description: Gated entrance to sports field off of Meerut Road, plus associated dropped kerb vehicle access crossing from the public highway

For completeness of understanding, this Flood Risk Assessment should only be read having due consideration to the other documents provided in support of the above referenced Planning Application. This avoids unnecessary duplication of like information across multiple documents.

Introduction

The purpose of this flood risk assessment is to consider the potential for increased flooding as a result of the development proposal, taking account of all reasonable mechanisms of flooding.

Planning policy for flood risk is set out in the National Planning Policy Framework (NPPF). The policy document sets out key planning objectives in relation to land usage and flood risk management. The development proposals are designed to be compliant with the requirements of the NPPF.

Site Location

The site is a sports field within the garrison town and civil parish of Tidworth, Wiltshire, which itself lies on the eastern edge of Salisbury Plain.

The site is bounded by military garrison to the north and west with residential dwellings to the south and open land to the River Bourne to the east. The River Bourne is approximately 65m east of the development proposal.

The site is currently primarily used as a sports field and recreation facility, which includes use annually to host the Tidworth Fun Fair.

The site is owned by the MoD (Ministry of Defence), who periodically use the site as a helicopter landing area, and managed by DIO (Defence Infrastructure Organisation).

Location details as follows:

- Sports Field, Meerut Road, Tidworth, Wiltshire, SP9 7SF
- Co-ordinates: Easting (x) 423451, Northing (y) 148558
- Grid Reference: SU 234485
- What 3 Words: hitters.eagle.lavished



Figure 1 - Location overview

Development Proposal

The development proposal is for the creation of a gated entrance to the sports field off of Meerut Road, plus associated dropped kerb vehicle access crossing from the public highway.

The gated entrance will be constructed in place of a section of the existing post-and-rail boundary fence.

The dropped kerb vehicle access will be created by the removal of the existing line of kerbs and replacing with line of PCC drop kerbs. The tarmac apron surfacing will be re-profiled to match existing, splayed to blend in with the existing footpath.

The estimated lifetime of the proposed development is 50 years.

There is no new or additional hardstanding area associated with this proposal.

There is no work affecting trees, hedgerows, flora or other species habitat sites associated with this proposal.

There is no change of use associated with this proposal.

The development proposal is classed as a 'non-major development', being any development not falling into the 'major' or 'minor' development classes:

- "Major development" is defined by the Town and Country Planning (Development Management Procedure) (England) Order 2015 (Article 2)
- "Minor development" is defined as certain categories of householder development, non-residential extensions with a floorspace not in excess of 250 m^2, alterations to a building that do not increase the size of the building.

Site Classification

The Environment Agency flood map for planning (see Appendix A) indicates that the site location is in flood zone 2, an area with medium probability of flooding:

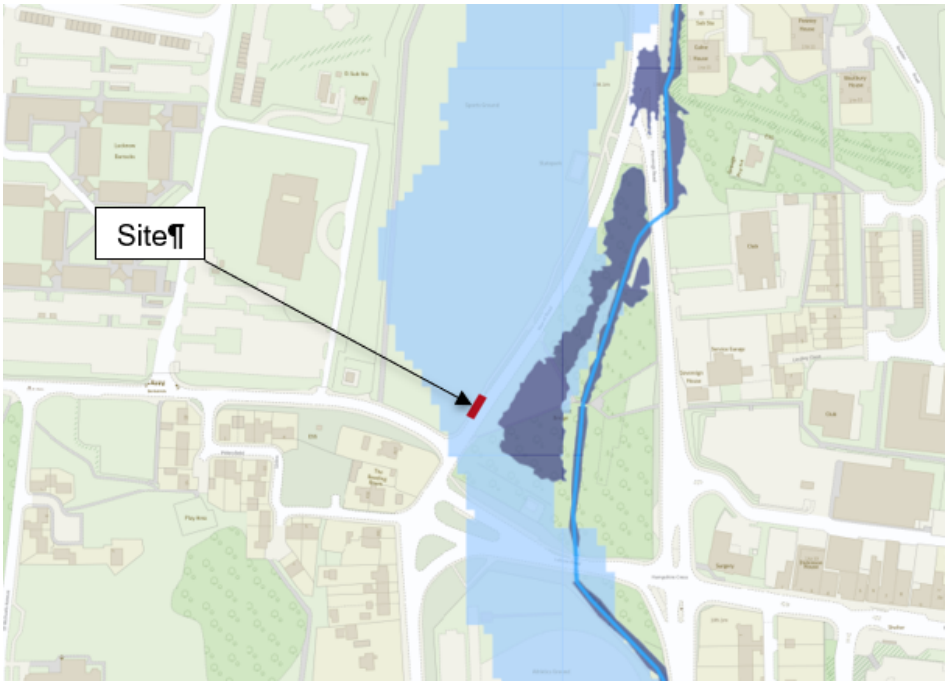


Figure 2 – Environment Agency Flood Map for Planning

Flood Zone	Definition
Zone 1 Low Probability	Land having a less than 0.1% annual probability of river or sea flooding. (Land shown 'clear' on the EA Flood Map for Planning – all land outside Zones 2, 3a and 3b)
Zone 2 Medium Probability	Land having between a 1% and 0.1% annual probability of river flooding; or Land having between a 0.5% and 0.1% annual probability of sea flooding. (Land shown in light blue on EA Flood Map for Planning)
Zone 3a High Probability	Land having a 1% or greater annual probability of river flooding; or Land having a 0.5% or greater annual probability of sea flooding. (Land shown in dark blue on EA Flood Map for Planning)
Zone 3b The Functional Floodplain	This zone comprises land where water from rivers or the sea has to flow or be stored in times of flood. The identification of functional floodplain should take account of local circumstances and not be defined solely on rigid probability parameters. Functional floodplain will normally comprise: • Land having a 3.3% or greater annual probability of flooding, with any existing flood risk management infrastructure operating effectively; or • Land that is designed to flood (such as a flood attenuation scheme), even if it would only flood in more extreme events (such as 0.1% annual probability of flooding). Local planning authorities should identify in their Strategic Flood Risk Assessments areas of functional floodplain and its boundaries accordingly, in agreement with the Environment Agency. (Not separately distinguished from Zone 3a on the EA Flood Map for Planning)

Based upon NPPF Table: Flood Zones

Consideration of Alternative Site Location

The purpose of the development proposal is to create a gated entrance to the sports field off of Meerut Road, plus associated dropped kerb vehicle access crossing from the public highway. This will enhance the amenity value of the current use of the site by facilitating improved vehicular access for maintenance activity and in support of the annual Tidworth FunFair which is held at the site location.

The sports field and current use of the site pre-exist this development proposal.

Alternative points of access to the sports field suitable for the development proposal lie within the same flood zone 2 area. Access from St Patrick's Avenue which lies to the south of the site is not suitable for the development proposal because of the need to remove established trees for construction plus the narrow nature of the road not being optimum for the annual access required for the vehicle movements associated with the Tidworth Fun Fair.

The nature of any flood event, such as flood depth, velocity, hazard and speed of onset has not been considered in selecting the site location. It is not envisaged that the gated entrance to the sports field off of Meerut Road, plus associated dropped kerb vehicle access crossing from the public highway would be used during periods of flood event. In any event, the predominantly flat topography of the area would mean that any alternative point of access to the existing sports field would be impacted to the same extent as the site location.

The objectives of the development proposal can only be met by a location immediately connecting to the existing sports field. No alternative site location would be capable of meeting the objective of the development proposal and as such none have been considered.

Vulnerability Classification

Annex 3 (Flood Risk Vulnerability Classification) of the NPPF (see Appendix B) assesses the flood risk vulnerability of a site based on its site operations.

Based on this assessment and the proposed site operations it has been concluded that the site falls within the category of 'Water-compatible development' (**amenity open space**, nature conservation and biodiversity, **outdoor sports and recreation** and essential facilities such as changing rooms).

Following the Sequential Test as set out in the NPPF (Table: Flood risk vulnerability and flood zone compatibility), 'Water Compatible' development uses are permitted in Flood Zone 2, and therefore the development proposal at the site location will comply with planning policy and pass the Sequential Test.

Flood Zone	Flood Risk Vulnerability Classification				
	Essential Infrastructure	Highly Vulnerable	More Vulnerable	Less Vulnerable	Water Compatible
Zone 1	✓	✓	✓	✓	✓
Zone 2	✓	Exception Test required	✓	✓	✓
Zone 3a	Exception Test required	✘	Exception Test required	✓	✓
Zone 3b	Exception Test required	✘	✘	✘	✓
Key:					
✓	Development is appropriate				
✘	Development should not be permitted				

Based upon NPPF Table: Flood risk vulnerability and flood zone compatibility

Exception Test

The development proposal is compliant with planning policy having applied the Sequential Test and therefore the Exception Test is not required.

Identification and Definition of Potential Flood Hazards

The following flood mechanisms have been identified as potential flood hazards:

- Flooding from seas and rivers (fluvial flooding)
- Flooding from land (pluvial flooding)
- Flooding from groundwater
- Flooding from sewers

Fluvial Flooding

River flooding mainly occurs when the river's catchment area receives larger volumes of water (for example through rainfall) than the river channel can cope with. This results in water levels rising causing flooding outside of the primary channel.

The closest river to the site location is the River Bourne watercourse which flows north-south approximately 65m to the east of the site location, feeding the River Avon to the south of Salisbury, which in turn continues to flow south before joining with the River Stour and out to sea via Christchurch Harbour into the English Channel.

The EA Statutory Main River Map identifies the River Bourne as a Main River, however the site location is not within 20 m of the nearest Main River, flood defence or flow control structure and does not directly affect a watercourse that is not a Main River. Therefore the development proposal does not require EA flood risk permit or consent.

The EA flood map for planning (see Appendix A) shows the site to be in flood zone 2, an area with a medium probability of flooding from the River Bourne to the east.

Pluvial Flooding

Intense rainfall, which can often be of short duration and which is unable to soak into the ground or enter drainage systems, can run quickly off the land and result in local flooding. In developed areas, this flood water can be polluted with domestic sewage if foul sewers surcharge and overflow.

The proximity of the site location to open space and the River Bourne indicates that the probability of pluvial flood events are low and any such events are more likely to manifest as fluvial flooding. Localised spot flooding is not a significant risk at the site location because the geography in the wider area is predominantly level.

Flooding from Groundwater

Groundwater flooding occurs when the water levels in the ground rise above surface elevations. It is most likely to occur in low lying areas underlain by permeable rocks (aquifers) or may be localised gravels in valley bottoms underlain by less permeable rocks. Water levels below the ground can rise during wet winter months and fall again in the summer as water flows out into the rivers. Groundwater flooding may take weeks or months to dissipate because groundwater flow is much slower than surface water flow and water levels therefore take much longer to fall.

Veolia Water operate a water abstraction borehole at a location approximately 80 m from the site location and there is no history of that borehole surcharging or operating under artesian conditions. The risk of groundwater flooding affecting the site location is therefore considered low.

Flooding from Sewers

Flooding of surface water or combined sewers can result when the sewer is overwhelmed by heavy rainfall, becomes blocked or is of inadequate capacity, and will continue until the water drains away. There are no sewers in the immediate vicinity of the site and all surface water, including highways drainage, run-off in the surrounding area is believed to discharge to soakaways or direct to the River Boune.

The probability of flooding from sewers is therefore considered negligible at the site location.

Existing Drainage

The majority of the area immediately surrounding the site location is grassed or other natural environment and surface water arising naturally soaks away at these locations.

Surface water from the footpath flows either into the highways drainage network, managed by the Local Highways Authority, or flows from the rear of the tarmac apron into the sports field where natural soakaway is possible. Surface water arising from the public highway similarly flows into the highways drainage network and is managed by the Local Highways Authority.

Surface water from sites surrounding the north and west of the sports field flows via an Oil Water Interceptor, located underground within the sports field, and then flows via a syphon arrangement to discharge to the River Bourne.

Foul water drainage from the residential and business properties in the vicinity of the site location is separate from the surface water drainage and flows to Tidworth Wastewater Treatment Works where it is treated prior to discharge to the River Bourne further downstream.

Proposed Drainage Strategy

There are no changes to the existing drainage proposed in connection with these works.

The area impacted by the development proposal is very small and will have no impact to the management of surface water arising from the creation of the gated entrance to sports field off of Meerut Road, plus associated dropped kerb vehicle access crossing from the public highway. There is no increase to the area of hardstanding and surface water will continue to run off the revised kerb line and footpath into the public highway and highways drainage network, or will run off the rear of the tarmac apron into the sports field where water will naturally soak away.

Flood Risk Management Measures

The site location does not benefit from flood risk management infrastructure and as such no consideration is given to managing the impacts of flood defence failure.

The development proposal does not increase the area of hardstanding and will not reduce the permeability of the site location and so will not alter the site location's response to rainfall. No specific measures are proposed within the development proposal to manage total volume of water that runs off the site or peak run-off flow rates.

This approach to surface water drainage at the site location will not threaten the development itself or increase the risk of flooding to others as a result of the development proposal. Given the small scale of the development proposal, it is not relevant to consider potential increased volumes as a result of climate change.

In general, the original site levels will be maintained, however the development proposal will lower the finished surface level for a small area in creating the dropped kerb vehicle access crossing from the public highway. There are no proposed raised levels within the flood zone and therefore no associated potential to increase flood risk to adjoining site / properties.

Conclusions

The development proposal is not considered likely to put the site location or any adjacent sites at higher risk of flooding, or give rise to any significant flood risk in the future as a result of climate change.

APPENDIX A – ENVIRONMENT AGENCY FLOOD MAP FOR PLANNING

Environment Agency

Flood map for planning

Your reference	Location (easting/northing)	Created
Sports Ground	**423451/148558**	**2 Aug 2023 9:58**

Your selected location is in flood zone 2, an area with a medium probability of flooding.

This means:

- you must complete a flood risk assessment for development in this area
- you should follow the Environment Agency's standing advice for carrying out a flood risk assessment (see www.gov.uk/guidance/flood-risk-assessment-standing-advice)

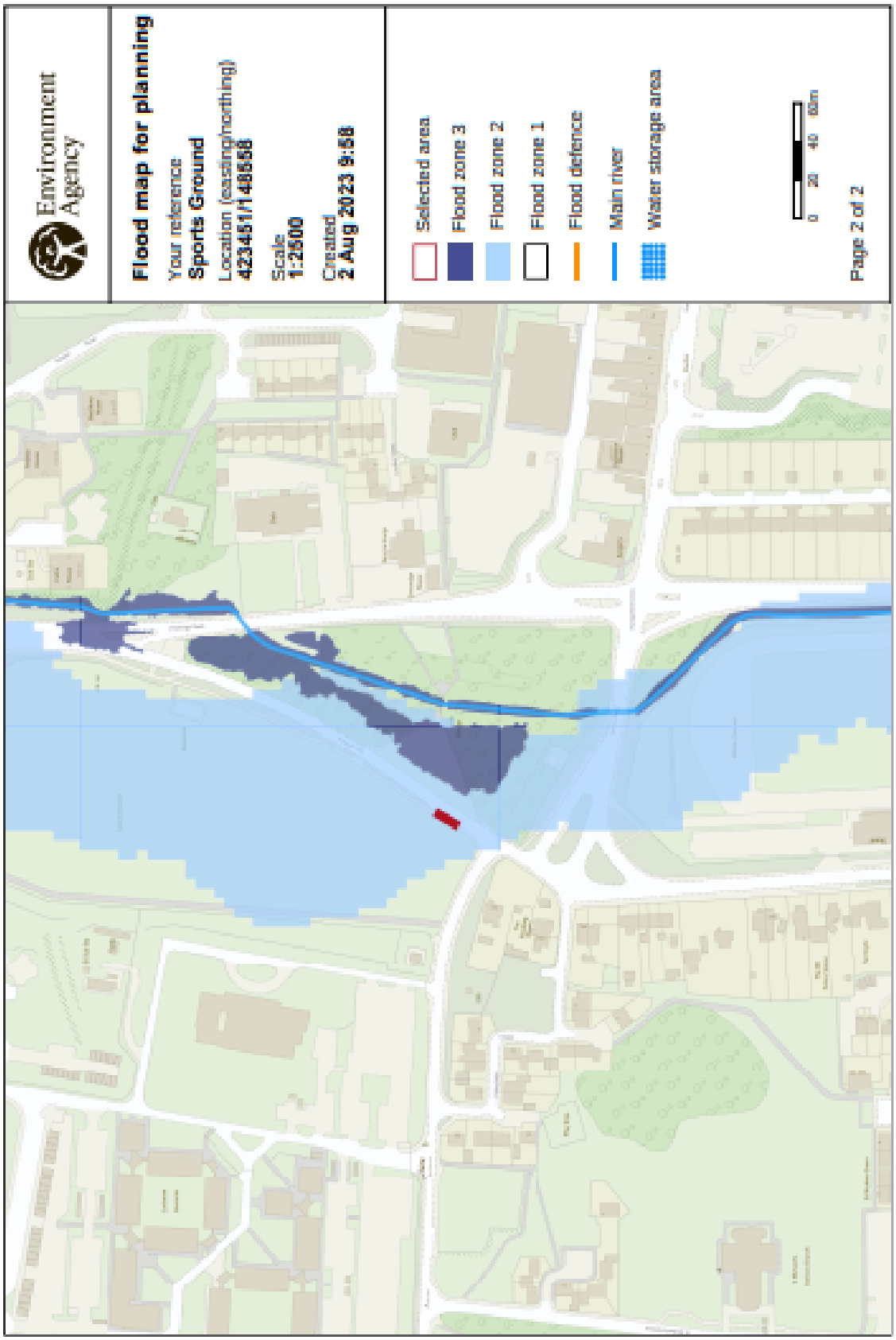
Notes

The flood map for planning shows river and sea flooding data only. It doesn't include other sources of flooding. It is for use in development planning and flood risk assessments.

This information relates to the selected location and is not specific to any property within it. The map is updated regularly and is correct at the time of printing.

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Environment Agency
Flood map for planning
Your reference
Sports Ground
Location (eastingnorthing)
423451/148558
Scale
1:2500
Created
2 Aug 2023 9:58
Selected area
Flood zone 3
Flood zone 2
Flood zone 1
Flood defence
Main river
Water storage area
0
20
40
60m
Page 2 of 2
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APPENDIX B – NPPF ANNEX 3 (FLOOD RISK VULNERABILITY CLASSIFICATION)

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National Planning Policy Framework

From:
Department for Levelling Up, Housing and Communities (/government/organisations/department-for-levelling-up-housing-and-communities)

Published
27 March 2012

Updated:
27 March 2012, see all updates

Contents

Annex 3: Flood risk vulnerability classification

Information on 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 infrastructure for electricity supply including generation, storage and distribution systems; including electricity generating power stations, grid and primary substations storage; and water treatment works that need to remain operational in times of flood.
- Wind turbines.
- Solar farms.

Highly vulnerable

- Police and ambulance stations; fire stations and command centres; telecommunications installations required to be operational during flooding.
- Emergency dispersal points.

- Basement dwellings.
- Caravans, mobile homes and park homes intended for permanent residential use.
- Installations requiring hazardous substances consent. (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'.)

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.
- Sites used for holiday or short-let caravans and camping, subject to a specific warning and evacuation plan.

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; restaurants, cafes and hot food takeaways; offices; general industry, storage and distribution; non-residential institutions not included in the 'more vulnerable' class; and assembly and leisure.
- Land and buildings used for agriculture and forestry.
- Waste treatment (except landfill* and hazardous waste facilities).
- Minerals working and processing (except for sand and gravel working).
- Water treatment works which do not need to remain operational during times of flood.
- Sewage treatment works, if adequate measures to control pollution and manage sewage during flooding events are in place.
- Car parks.

Water-compatible development

- Flood control infrastructure.
- Water transmission infrastructure and pumping stations.
- Sewage transmission infrastructure and pumping stations.
- Sand and gravel working.

- Docks, marinas and wharves.
- Navigation facilities.
- Ministry of Defence installations.
- Ship building, repairing and dismantling, dockside fish processing and refrigeration and compatible activities requiring a waterside location.
- Water-based recreation (excluding sleeping accommodation).
- Lifeguard and coastguard stations.
- Amenity open space, nature conservation and biodiversity, outdoor sports and recreation and essential facilities such as changing rooms.
- Essential ancillary sleeping or residential accommodation for staff required by uses in this category, subject to a specific warning and evacuation plan.

*Landfill is as defined in Schedule 10 of the Environmental Permitting (England and Wales) Regulations 2010 (https://www.legislation.gov.uk/uksi/2010/675/schedule/10).

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