

Hornsea Offshore Wind Farm

Project Two

Environmental Statement
Volume 6 – Onshore

Annex 6.2.2 Legislation Summary

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SMart Wind Limited

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Annex 6.2.2 – Legislation Summary

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1 PLANNING POLICY AND LEGISLATION SUMMARY

1.1 National Policy and Legislation

1.1.1 At a national level, the central government strategy document 'A Better Quality of Life – A Strategy for Sustainable Development for the United Kingdom' recognises the fundamental importance of good water quality to health and the environment and identifies the major challenges to water quality which it states are; growing demand for water supplies, pollution pressures from the new development, diffuse pollution inputs, changed weather patterns and loss of habitats.

Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 Establishing a Framework for Community Action in the Field of Water Policy (Water Framework Directive)

1.1.2 The purpose of the European Directive is to establish a framework for the protection of inland waters, transitional waters, coastal waters and groundwater which:

- Prevents further deterioration and protects and enhances the status of aquatic ecosystems and, with regard to their water needs, terrestrial ecosystems and wetlands directly depending on the aquatic ecosystems;
- Promotes sustainable water use based on a long-term protection of available water resources;
- Aims at enhanced protection and improvement of the aquatic environment, inter alia, through specific measures from the progressive reduction of discharges, emissions and losses of priority substances and the cessation or phasing-out of discharges, emissions and losses of the priority hazardous substances;
- Ensures the progressive reduction of pollution of groundwater and prevents its further pollution, and
- Contributes to mitigating the effects of floods and droughts and thereby contributes to:
 - The provision of the sufficient supply of good quality surface water and groundwater as needed for sustainable, balanced and equitable water use,
 - A significant reduction in pollution of groundwater,
 - The protection of territorial and marine waters, and
 - Achieve the objectives of relevant international agreements, including those which aim to prevent and eliminate pollution of the marine environment, by Community action under Article 16(3) to cease or phase out discharges,

emissions and losses of priority hazardous substances with the ultimate aim of achieving concentrations in the marine environment near background values for naturally occurring substances and close to zero for man-made synthetic substances.

Department of Energy & Climate Change, Planning for New Infrastructure, July 2011

Overarching National Policy Statement for Energy (EN-1)

1.1.3 Part 4.8 Climate Change Adaptation notes that Part 2 of the National Policy Statement covers the Government's energy and climate change strategy, including policies for mitigating climate change. It states that applicants must consider the impacts of climate change when planning location design build operation and where appropriate decommissioning of new energy infrastructure. The ES should set out how the proposal will take account of the projected impacts of climate change.

1.1.4 Part 5.5 Coastal Change aims to:

- Ensure that policies and decisions in coastal areas are based on an understanding of coastal change over time;
- Prevent new developments from being put at risk from coastal change by:
 - Avoiding inappropriate development in areas that are vulnerable to coastal change or any development that adds to the impact of physical changes to coast, and;
 - Directing development away from areas vulnerable to coastal change.
- Ensure that the risk to development which is, exceptionally, necessary in coastal change areas because it requires a coastal location and provides substantial economic and social benefits to communities, is managed over its planned lifetime; and
- Ensure that plans are in place to secure the long term sustainability of coastal areas.

1.1.5 Part 5.7 Flood Risk aims to:

- Ensure that flood risk from all sources of flooding is taken into account at all stages in the planning process to avoid inappropriate development in areas at risk of flooding, and to direct developments away from areas at highest risk. Where new energy infrastructure is, exceptionally, necessary in such areas, policy aims to make it safe without increasing flood risk elsewhere and, where possible, by reducing flood risk overall.

National Policy Statement for Renewable Energy Infrastructure (EN-3)

- 1.1.6 Part 2.3 Climate Change Adaption subsection 2.3.4 outlines that, offshore and onshore wind farms are less likely to be affected by flooding, but applicants should particularly set out how the proposal would be resilient to storms, and should take into account Section 4.8 of EN-1, outlined above.

National Policy Statement for Electricity Networks Infrastructure (EN-5)

- 1.1.7 Part 2.4 subsections 2.4.1 and 2.4.2 notes that Part 2 of EN-1 provides information regarding the Government's energy and climate change strategy, outlined above. Part 2.4 specifies that climate change is likely to increase the risks to the resilience of this infrastructure, from flooding for example, or in situations where it is located near coast or an estuary or is underground, applicants should in particular set out to what extent the proposed development is expected to be vulnerable, and, as appropriate how it would be resilient to:
- Flooding, particularly for substations that are vital for the electricity transmission and distribution network; and
 - Earth movement or subsidence caused by flooding or drought (for underground cables).

Department for Communities and Local Government National Planning Policy Framework, March 2012

- 1.1.8 Local Plans should take account of climate change over the longer term, including factors such as flood risk, coastal change, water supply and changes to biodiversity and landscape. New development should be planned to avoid increased vulnerability to the range of impacts arising from climate change. When new development is brought forward in areas which are vulnerable, care should be taken to ensure that risks can be managed through suitable adaptation measures, including through the planning of green infrastructure.
- 1.1.9 Inappropriate development in areas at risk of flooding should be avoided by directing development away from areas at highest risk, but where development is necessary, making it safe without increasing flood risk elsewhere. Local Plans should be supported by Strategic Flood Risk Assessment and develop policies to manage flood risk from all sources, taking account of advice from the Environment Agency and other relevant flood risk management bodies, such as lead local flood authorities and internal drainage boards. Local Plans should apply a sequential, risk-based approach to the location of development to avoid where possible flood risk to people and property and manage any residual risk, taking account of the impacts of climate change, by:

- applying the Sequential Test;
- if necessary, applying the Exception Test;
- safeguarding land from development that is required for current and future flood management;
- using opportunities offered by new development to reduce the causes and impacts of flooding; and
- where climate change is expected to increase flood risk so that some existing development may not be sustainable in the long-term, seeking opportunities to facilitate the relocation of development, including housing, to more sustainable locations.

- 1.1.10 The aim of the Sequential Test is to steer new development to areas with the lowest probability of flooding. Development should not be allocated or permitted if there are reasonably available sites appropriate for the proposed development in areas with a lower probability of flooding. The Strategic Flood Risk Assessment will provide the basis for applying this test. A sequential approach should be used in areas known to be at risk from any form of flooding.

- 1.1.11 If, following application of the Sequential Test, it is not possible, consistent with wider sustainability objectives, for the development to be located in zones with a lower probability of flooding, the Exception Test can be applied if appropriate. For the Exception Test to be passed:

- it must be demonstrated that the development provides wider sustainability benefits to the community that outweigh flood risk, informed by a Strategic Flood Risk Assessment where one has been prepared; and
- a site-specific flood risk assessment must demonstrate that the development will be safe for its lifetime taking account of the vulnerability of its users, without increasing flood risk elsewhere, and, where possible, will reduce flood risk overall.

- 1.1.12 Both elements of the test will have to be passed for development to be allocated or permitted.

1.1.13 When determining planning applications, local planning authorities should ensure flood risk is not increased elsewhere and only consider development appropriate in areas at risk of flooding where, informed by a site-specific flood risk assessment¹ following the Sequential Test, and if required the Exception Test, it can be demonstrated that:

- within the site, the most vulnerable development is located in areas of lowest flood risk unless there are overriding reasons to prefer a different location; and
- development is appropriately flood resilient and resistant, including safe access and escape routes where required, and that any residual risk can be safely managed, including by emergency planning; and it gives priority to the use of sustainable drainage systems².

1.1.14 For individual developments on sites allocated in development plans through the Sequential Test, applicants need not apply the Sequential Test. Applications for minor development and changes of use should not be subject to the Sequential or Exception Tests³ but should still meet the requirements for site-specific flood risk assessments.

1.1.15 In coastal areas, local planning authorities should take account of the UK Marine Policy Statement and marine plans and apply Integrated Coastal Zone Management across local authority and land/sea boundaries, ensuring integration of the terrestrial and marine planning regimes.

1.1.16 Local planning authorities should reduce risk from coastal change by avoiding inappropriate development in vulnerable areas or adding to the impacts of physical changes to the coast. They should identify as a Coastal Change Management Area any area likely to be affected by physical changes to the coast, and:

- be clear as to what development will be appropriate in such areas and in what circumstances; and

- make provision for development and infrastructure that needs to be relocated away from Coastal Change Management Areas.

1.1.17 When assessing applications, authorities should consider development in a Coastal Change Management Area appropriate where it is demonstrated that:

- it will be safe over its planned lifetime and will not have an unacceptable impact on coastal change;
- the character of the coast including designations is not compromised;
- the development provides wider sustainability benefits; and
- the development does not hinder the creation and maintenance of a continuous signed and managed route around the coast.⁴

1.1.18 Local planning authorities should also ensure appropriate development in a Coastal Change Management Area is not impacted by coastal change by limiting the planned life-time of the proposed development through temporary permission and restoration conditions where necessary to reduce the risk to people and the development.

Planning Practice Guidance ID7: Flood Risk and Coastal Change 2014

1.1.19 The Planning Practice Guidance (PPG) is a web-based resource providing important information for any user of the planning system.

1.1.20 PPG ID7 advises on how planning can take account of the risks associated with flooding and coastal change in plan-making and the application process.

1.1.21 The National Planning Policy Framework sets strict tests to protect people and property from flooding which all local planning authorities are expected to follow. Where these tests are not met, national policy is clear that new development should not be allowed. The main steps to be followed are set out below which, in summary, are designed to ensure that if there are better sites in terms of flood risk, or a proposed development cannot be made safe, it should not be permitted.

- Assess flood risk:
 - Local planning authorities undertake a Strategic Flood Risk Assessment to fully understand the flood risk in the area to inform Local Plan preparation
 - In areas at risk of flooding or for sites of 1 hectare or more, developers undertake a site-specific flood risk assessment to accompany applications

¹ A site specific flood risk assessment is required for proposals of 1 hectare or greater in Flood Zone 1: all proposals for new development (including minor development and change of use) in Flood Zones 2 and 3 or in an area within Flood Zone 1 which has critical drainage problems (as notified to the local planning authority by the Environment Agency); and where appropriate development or a change of use to a more vulnerable class may be subject to other sources of flooding.

² The Floods and Water Management Act 2010 establishes a Sustainable Drainage Systems Approving Body in unitary or county councils. This body must approve drainage systems in new developments and re-developments before construction begins.

³ Except for any proposal involving a change of use to a caravan, camping or chalet site, or to a mobile home or park home site, where the Sequential and Exception Tests should be applied as appropriate.

⁴ As required by the Marine and Coastal Access Act 2009.

for planning permission (or prior approval for certain types of permitted development).

- Avoid flood risk:
 - In plan-making, local planning authorities apply a sequential approach to site selection so that development is, as far as reasonably possible, located where the risk of flooding (from all sources) is lowest, taking account of climate change and the vulnerability of future uses to flood risk. In plan-making this involves applying the ‘Sequential Test’ to Local Plans and, if needed, the ‘Exception Test’ to Local Plans.
 - In decision-taking, where necessary, local planning authorities also apply the ‘sequential approach’. In decision-taking this involves applying the Sequential Test for specific development proposals and, if needed, the Exception Test for specific development proposals, to steer development to areas with the lowest probability of flooding.
 - Manage and Mitigate flood risk:
 - Where development needs to be in locations where there is a risk of flooding as alternative sites are not available, local planning authorities and developers ensure development is appropriately flood resilient and resistant, safe for its users for the development’s lifetime, and will not increase flood risk overall.
 - Local planning authorities and developers should seek flood risk management opportunities (e.g. safeguarding land), and to reduce the causes and impacts of flooding (e.g. through the use of sustainable drainage systems in developments).
- 1.1.22 This guidance on flood risk and coastal change will help local planning authorities in the preparation of Local Plans, and neighbourhoods in preparing neighbourhood plans. It will also be relevant to applications for planning permission and applications for prior approval for certain types of permitted development.
- 1.1.23 There is information on the requirements to consult the Environment Agency on applications where there is a risk of flooding. Also information on what should happen if a local planning authority wishes to grant consent for a major development against Environment Agency advice.
- 1.1.24 There is information on the role of lead local flood authorities, and when their advice may need to be sought in considering planning applications
- 1.1.25 There is information on flood risk in relation to minor developments and change of use, whilst information on climate change and flood risk is available from the Environment Agency.

- 1.1.26 For the purposes of applying the National Planning Policy Framework, “flood risk” is a combination of the probability and the potential consequences of flooding from all sources – including from rivers and the sea, directly from rainfall on the ground surface and rising groundwater, overwhelmed sewers and drainage systems, and from reservoirs, canals and lakes and other artificial sources.

Strategic Flood Risk Assessment

- 1.1.27 A Strategic Flood Risk Assessment is a study carried out by one or more local planning authorities to assess the risk to an area from flooding from all sources, now and in the future, taking account of the impacts of climate change, and to assess the impact that land use changes and development in the area will have on flood risk.
- 1.1.28 The Strategic Flood Risk Assessment will be used to refine information on river and sea flooding risk shown on the Environment Agency’s Flood Map for Panning (Rivers and Seas). Local planning authorities should use the Assessment to:
- determine the variations in risk from all sources of flooding across their areas, and also the risks to and from surrounding areas in the same flood catchment;
 - inform the sustainability appraisal of the Local Plan, so that flood risk is fully taken into account when considering allocation options and in the preparation of plan policies, including policies for flood risk management to ensure that flood risk is not increased;
 - apply the Sequential Test and, where necessary, the Exception Test when determining land use allocations;
 - identify the requirements for site-specific flood risk assessments in particular locations, including those at risk from sources other than river and sea flooding;
 - determine the acceptability of flood risk in relation to emergency planning capability;
 - consider opportunities to reduce flood risk to existing communities and developments through better management of surface water, provision for conveyance and of storage for flood water.

The sequential, risk-based approach to the location of development

- 1.1.29 The sequential approach is designed to ensure that areas at little or no risk of flooding from any source are developed in preference to areas at higher risk. The aim should be to keep development out of medium and high flood risk areas (Flood Zones 2 and 3 defined in Table 1) and other areas affected by other sources of flooding where possible.

1.1.30 Application of the sequential approach in the plan-making process, in particular application of the Sequential Test, will help ensure that development can be safely and sustainably delivered and developers do not waste their time promoting proposals which are inappropriate on flood risk grounds. According to the information available, other forms of flooding should be treated consistently with river flooding in mapping probability and assessing vulnerability to apply the sequential approach across all flood zones.

1.1.31 The Sequential Test ensures that a sequential approach is followed to steer new development to areas with the lowest probability of flooding. The flood zones as refined in the Strategic Flood Risk Assessment for the area provide the basis for applying the Test. The aim is to steer new development to Flood Zone 1 (areas with a low probability of river or sea flooding). Where there are no reasonably available sites in Flood Zone 1, local planning authorities in their decision making should take into account the flood risk vulnerability of land uses and consider reasonably available sites in Flood Zone 2 (areas with a medium probability of river or sea flooding), applying the Exception Test if required. Only where there are no reasonably available sites in Flood Zones 1 or 2 should the suitability of sites in Flood Zone 3 (areas with a high probability of river or sea flooding) be considered, taking into account the flood risk vulnerability of land uses and applying the Exception Test if required.

1.1.32 Table 2 categorises different types of uses and development according to their vulnerability to flood risk. Table 3 maps these vulnerability classes against the flood zones set out in Table 1 to indicate where development is 'appropriate' and where it should not be permitted.

1.1.33 Within each flood zone, surface water and other sources of flooding also need to be taken into account in applying the sequential approach to the location of development.

The Exception Test

1.1.34 The Exception Test, as set out in paragraph 102 of the NPPF, is a method to demonstrate and help ensure that flood risk to people and property will be managed satisfactorily, while allowing necessary development to go ahead in situations where suitable sites at lower risk of flooding are not available.

1.1.35 Essentially, the two parts to the Test require proposed development to show that it will provide wider sustainability benefits to the community that outweigh flood risk, and that it will be safe for its lifetime, without increasing flood risk elsewhere and where possible reduce flood risk overall.

Addressing flood risk in individual planning applications

1.1.36 Developers and applicants need to consider flood risk to and from the development site, and it is likely to be in their own best interests to do this as early as possible, in particular, to reduce the risk of subsequent, significant additional costs being incurred. The broad approach of assessing, avoiding, managing and mitigating flood risk should be followed.

Site-specific flood risk assessment

1.1.37 A site-specific flood risk assessment is carried out by (or on behalf of) a developer to assess the flood risk to and from a development site. Where necessary (see footnote 20 in the National Planning Policy Framework), the assessment should accompany a planning application submitted to the local planning authority. The assessment should demonstrate to the decision-maker how flood risk will be managed now and over the development's lifetime, taking climate change into account, and with regard to the vulnerability of its users (see Table 2 – Flood Risk Vulnerability).

1.1.38 The objectives of a site-specific flood risk assessment are to establish:

- whether a proposed development is likely to be affected by current or future flooding from any source;
- whether it will increase flood risk elsewhere;
- whether the measures proposed to deal with these effects and risks are appropriate;
- the evidence for the local planning authority to apply (if necessary) the Sequential Test, and;
- whether the development will be safe and pass the Exception Test, if applicable.

1.1.39 The information provided in the flood risk assessment should be credible and fit for purpose. Site-specific flood risk assessments should always be proportionate to the degree of flood risk and make optimum use of information already available, including information in a Strategic Flood Risk Assessment for the area, and the interactive flood risk maps available on the Environment Agency's web site.

1.1.40 A flood risk assessment should also be appropriate to the scale, nature and location of the development. For example, where the development is an extension to an existing house (for which planning permission is required) which would not significantly increase the number of people present in an area at risk of flooding, the local planning authority would generally need a less detailed assessment to be able to reach an informed decision on the planning application. For a new development comprising a greater number of houses in a similar location, or one where the flood risk is greater, the local planning authority would need a more detailed assessment.

1.1.41 To assist the developer, the local planning authority should set out and agree the scope of the flood risk assessment, using the Environment Agency Standing Advice on flood risk, or in direct consultation with the Agency and/or any other relevant flood risk management bodies. Applicants for planning permission (or prior approval in the case of certain permitted development rights) will find the Agency's Standing Advice helpful when preparing a site-specific flood risk assessment for, and before designing, a development that raises lower risk concerns.

Reducing the causes and impacts of flooding

1.1.42 Local authorities and developers should seek opportunities to reduce the overall level of flood risk in the area and beyond. This can be achieved, for instance, through the layout and form of development, including green infrastructure and the appropriate application of sustainable drainage systems (further information here and here), through safeguarding land for flood risk management, or where appropriate, through designing off-site works required to protect and support development in ways that benefit the area more generally.

Making development safe from flood risk

1.1.43 After applying a sequential approach so that, as far as possible, development is located to where there is the lowest risk of flooding, new development can be made safe by:

- designing buildings to avoid flooding by, for example, raising floor levels;
- providing adequate flood risk management infrastructure which will be maintained for the lifetime of the development, for example, using Community Infrastructure Levy or planning obligations, or Partnership Funding (further information on this funding mechanism is available on the Environment Agency's website [□](#)) where appropriate;
- leaving space in developments for flood risk management infrastructure to be maintained and enhanced, and;
- mitigating the potential impacts of flooding through design and flood resilient and resistant construction.

1.1.44 When considering safety, specific local circumstances need to be taken into account, including:

- the characteristics of a possible flood event, e.g. the type and source of flooding and frequency, depth, velocity and speed of onset;
- the safety of people within a building if it floods and also the safety of people around a building and in adjacent areas, including people who are less mobile or who have a physical impairment. This includes the ability of residents and users

to safely access and exit a building during a design flood and to evacuate before an extreme flood;

- the structural safety of buildings, and;
- the impact of a flood on the essential services provided to a development.

1.1.45 While safety considerations are always very important, local planning authorities should seek to ensure that communities are sustainable, including ensuring that certain sections of society, such as the elderly and those with less mobility, are not unnecessarily excluded from areas where there is a risk of flooding.

1.1.46 A flood design event is given an annual flood probability, which is generally taken as:

- fluvial (river) flooding likely to occur with a 1% annual probability (a 1 in 100 chance each year), or;
- tidal flooding with a 0.5 per cent annual probability (1 in 200 chance each year),

1.1.47 against which the suitability of a proposed development is assessed and mitigation measures, if any, are designed.

1.1.48 Flood warning and evacuation plans will need to take account of the likely impacts of climate change, e.g. increased water depths and the impact on how people can be evacuated. In consultation with the authority's emergency planning staff, the local planning authority will need to ensure that evacuation plans are suitable through appropriate planning conditions or planning agreements.

1.1.49 In advising the local planning authority, the emergency services are unlikely to regard developments that increase the scale of any rescue that might be required as being safe. Even with defences in place, if the probability of inundation is high, safe access and egress should be maintained for the lifetime of the development. The practicality of safe evacuation from an area will depend on:

- the type of flood risk present, and the extent to which advance warning can be given in a flood event;
- the number of people that would require evacuation from the area potentially at risk;
- the adequacy of both evacuation routes and identified places that people could be evacuated to (and taking into account the length of time that the evacuation may need to last), and;
- sufficiently detailed and up to date evacuation plans being in place for the locality that address these and related issues.

Flood resilience and flood resistance

1.1.50 Flood resistance, or dry-proofing, stops water entering a building. Flood resilience, or wet-proofing, accepts that water will enter the building, but through careful design will minimise damage and allow the re-occupancy of the building quickly. Flood resistance and resilience measures should not be used to justify development in inappropriate locations;

- Flood resilient: Flood-resilient buildings are designed and constructed to reduce the impact of flood water entering the building so that no permanent damage is caused, structural integrity is maintained and drying and cleaning is easier. The Department for Communities and Local Government has published Improving the Flood Performance of New Buildings: flood resilient construction (2007)□ This provides guidance on how to improve the resilience of new properties in low or residual flood risk areas by the use of suitable materials and construction details.
- Flood resistance: Flood-resistant construction can prevent entry of water or minimise the amount that may enter a building where there is short duration flooding outside with water depths of 0.6 metres or less. This form of construction should be used with caution and accompanied by resilience measures, as effective flood exclusion may depend on occupiers ensuring some elements, such as barriers to doorways, are put in place and maintained in a good state. Buildings may also be damaged by water pressure or debris being transported by flood water. This may breach flood-excluding elements of the building and permit rapid inundation. Temporary and demountable defences are not appropriate for new developments.

1.1.51 The first preference should be to avoid flood risk. Where it is not possible, a building and its surrounds (at site level) may be constructed to avoid it being flooded (e.g. by raising it above the design flood level).

1.1.52 Since any flood management measures only manage the risk of flooding rather than remove it, flood resistance and flood resilience may need to be incorporated into the design of buildings and other infrastructure behind flood defence systems. Resistance and resilience measures are unlikely to be suitable as the only mitigation measure to manage flood risk, but they may be suitable in some circumstances, such as:

- water-compatible and less vulnerable uses where temporary disruption is acceptable and an appropriate flood warning is provided;
- in some instances where the use of an existing building is to be changed and it can be demonstrated that no other measure is practicable;
- as a measure to manage residual flood risk

Flood Zone and Flood Risk Tables

Table 1 Flood Zones

(Note: These flood Zones refer to the probability of river and sea flooding, ignoring the presence of defences)

Zone 1 - low probability

Definition

Land having a less than 1 in 1,000 annual probability of river or sea flooding. (Shown as 'clear' on the Flood Map – all land outside Zones 2 and 3).

Zone 2 - medium probability

Definition

Land having between a 1 in 100 and 1 in 1,000 annual probability of river flooding; or Land having between a 1 in 200 and 1 in 1,000 annual probability of sea flooding. (Land shown in light blue on the Flood Map).

Zone 3a - high probability

Definition

Land having a 1 in 100 or greater annual probability of river flooding; or Land having a 1 in 200 or greater annual probability of sea flooding (Land shown in dark blue on the Flood Map).

Zone 3b - the functional floodplain

Definition

This zone comprises land where water has to flow or be stored in times of flood.

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 Flood Map)

Table 2 Flood risk vulnerability classification

Essential infrastructure

Essential transport infrastructure (including mass evacuation routes) which has to cross the area at risk.

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.

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 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 to the Environmental Permitting (England and Wales) Regulations 2010.

Table 3 Flood risk vulnerability and flood zone ‘compatibility’

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

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

Notes to Table 3:

- This table does not show the application of the Sequential Test which should be applied first to guide development to Flood Zone 1, then Zone 2, and then Zone 3; nor does it reflect the need to avoid flood risk from sources other than rivers and the sea;
- The Sequential and Exception Tests do not need to be applied to minor developments and changes of use, except for a change of use to a caravan, camping or chalet site, or to a mobile home or park home site;
- Some developments may contain different elements of vulnerability and the highest vulnerability category should be used, unless the development is considered in its component parts.

† In Flood Zone 3a essential infrastructure should be designed and constructed to remain operational and safe in times of flood.

* In Flood Zone 3b (functional floodplain) essential infrastructure that has to be there and has passed the Exception Test, and water-compatible uses, should be designed and constructed to:

- remain operational and safe for users in times of flood;
- result in no net loss of floodplain storage; and
- not impede water flows and not increase flood risk elsewhere.

Site-Specific Flood Risk Assessment : CHECKLIST

1 Development description and location
a. What type of development is proposed (e.g., new development, an extension to existing development, a change of use etc.) and where will it be located?
b. What is its flood risk vulnerability classification?
c. Is the proposed development consistent with the Local Plan for the area? (Seek advice from the local planning authority if you are unsure about this).
d. What evidence can be provided that the Sequential Test and where necessary the Exception Test has/have been applied in the selection of this site for this development type?
e. Will your proposal increase overall the number of occupants and/or users of the

1 Development description and location
building/land, or the nature or times of occupation or use, such that it may affect the degree of flood risk to these people? (Particularly relevant to minor developments (alterations & extensions) & changes of use).
2. Definition of the flood hazard
a. What sources of flooding could affect the site?
b. For each identified source in box 2a above, can you describe how flooding would occur, with reference to any historic records where these are available?
c. What are the existing surface water drainage arrangements for the site?
3. Probability
a. Which flood zone is the site within? (As a first step, check the Flood Map for Planning (Rivers and Sea) on the Environment Agency's web site)
b. If there is a Strategic Flood Risk Assessment covering this site (check with the local planning authority). Does this show the same or a different flood zone compared with the Environment Agency's flood map? (If different you should seek advice from the local planning authority and, if necessary, the Environment Agency).
c. What is the probability of the site flooding, taking account of the maps of flood risk from rivers and the sea and from surface water, on the Environment Agency's web site and the Strategic Flood Risk Assessment, and of any further flood risk information for the site?
d. If known, what (approximately) are the existing rates and volumes of surface water run-off generated by the site?
4. Climate change
How is flood risk at the site likely to be affected by climate change? (The local planning authority's Strategic Flood Risk Assessment should have taken this into account. Further information on climate change and development and flood risk is available on the Environment Agency's web site.
5. Detailed development proposals

1 Development description and location
Where appropriate, are you able to demonstrate how land uses most sensitive to flood damage have been placed in areas within the site that are at least risk of flooding (including providing details of the development layout)?
6. Flood risk management measures
How will the site/building be protected from flooding, including the potential impacts of climate change, over the development's lifetime?
7. Off site impacts
a. How will you ensure that your proposed development and the measures to protect your site from flooding will not increase flood risk elsewhere?
b. How will you prevent run-off from the completed development causing an impact elsewhere?
c. Are there any opportunities offered by the development to reduce flood risk elsewhere?
8. Residual risks
a. What flood-related risks will remain after you have implemented the measures to protect the site from flooding?
b. How, and by whom, will these risks be managed over the lifetime of the development? (E.g., flood warning and evacuation procedures).

Planning and Coastal Change

- 1.1.53 The aim of the policy on coastal change, as set out in paragraphs 105-108 of the National Planning Policy Framework, is to reduce risk from coastal change by avoiding inappropriate development in vulnerable areas or adding to the impacts of physical changes to the coast. The general approach can be summarised as follows:
- Local planning authorities apply Integrated Coastal Zone Management to integrate terrestrial and marine planning regimes;
 - Local planning authorities identify Coastal Change Management Areas (further information here and here) likely to be affected by physical changes to the coast;

- Local planning authorities are expected to be clear what development will be appropriate in Coastal Change Management Areas and make provision for development and infrastructure that needs to be relocated away from Coastal Change Management Areas.

1.1.54 Integrated Coastal Zone Management is a process which requires the adoption of a joined-up and participative approach towards the planning and management of the many different elements in coastal areas (land and marine). The recognised key principles which should guide all partners in implementing an integrated approach to the management of coastal areas are:

- a long term view;
- a broad holistic approach;
- adaptive management;
- working with natural processes;
- support and involvement of all relevant administrative bodies;
- use of a combination of instruments;
- participatory planning; and
- reflecting local characteristics

1.1.55 In coastal areas, local planning authorities should collaborate with the Marine Management Organisation to ensure that plans and policies across the land/sea boundary are coordinated.

Considering climate change in planning decisions

1.1.56 EA produce guidance which explains how climate change can affect flooding and how this should be considered by planners, developers and advisors when making planning decisions.

1.1.57 This guidance will help planners, developers and advisors implement the National Planning Policy Framework (NPPF)'s policies and practice guidance on flood risk. You can use it to help prepare flood risk assessments for Local Plans and planning applications.

1.1.58 Use the allowances for the rates of relative sea level rise shown in Table 4 and the sensitivity ranges for wave height and wind speed in Table 5 as the starting point for considering flooding.

1.1.59 The impact of climate change on flooding

1.1.60 Global sea level will continue to rise which will change the frequency of high water levels relative to today's sea levels, assuming no change in storminess.

1.1.61 There may be other changes in:

- wave heights due to increased water depths
- the frequency, duration and severity of storms

Table 4 Recommended contingency allowances for net sea level rises

	Net sea level rise (mm per year) relative to 1990			
	1990 to 2025	2025 to 2055	2055 to 2085	2085 - 2115
East of England, east midlands, London, South east England (south of Flamborough Head)	4.0	8.5	12.0	15.0
South West England	3.5	8.0	11.5	14.5
North West England, North east England (north of Flamborough Head)	2.5	7.0	10.0	13.0

Notes to Table 4:

- You can derive sea level rise up to 2025 by applying the 4mm per year, 3mm per year and 2.5mm per year rates (covering the three geographical groups respectively) back to the 1990 base sea level year. You can derive sea level rise from 2026 to 2055 by adding the number of years on from 2025 (to 2055), multiplied by the rate shown in the table. Time periods 2056 to 2085 and 2086 to 2115 are treated similarly.
 - Vertical movement of the land is incorporated in the table and you don't need to calculate it separately.
- 1.1.62 Climate change may increase peak rainfall intensity and river flow, which could result in more frequent and severe flood events.
- 1.1.63 Changes in the spatial extent of flooding are likely to be negligible in narrower floodplains, but can be dramatic in very flat areas.
- 1.1.64 This means that a site currently in a lower risk zone (for example Zone 2 - as defined in the Table 1 of the NPPF's Practice Guidance on flooding) could in future be in a higher risk zone (for example Zone 3a). This could affect the type of development that is appropriate according to its vulnerability to flooding (see Table 3 in NPPF Practice Guidance on flooding which refers to flood zones and types of development). You should refer to the current flood map and the Strategic Flood Risk Assessment when preparing and considering proposals.

1.1.65 Flooding in estuaries can be increased by combined effects from rivers and the sea. If you are preparing a flood risk assessment covering tidal estuaries, you should use the allowances for sea level rise and peak flow, wave height and wind speed.

Table 5 Recommended national precautionary sensitivity ranges for peak rainfall intensities, peak river flows, offshore wind speeds and wave heights.

Parameter	1990 to 2025	2025 to 2055	2055 to 2085	2085 to 2115
Peak rainfall intensity	+5%	+10%	+20%	+30%
Peak river flow	+10%	+20%		
Offshore wind speed	+5%		+10%	
Extreme wave height	+5%		+10%	

Notes to table 5:

You can derive peak rainfall between 2025 and 2055 by multiplying the rainfall measurement (in mm per hour) by 10 per cent and between 2055 and 2085 by 20 per cent. So, if there's a 10mm per hour event, for the 2025 to 2055 period this would be 11mm per hour; and for the 2055 to 2085 period, this would be 12mm per hour. Other parameters in table 2 are treated similarly.

Land Drainage Act 1991

1.1.66 The Land Drainage Act 1991 requires that a watercourse be maintained by its owner in such a condition that the free flow of water is not impeded. The riparian owner must accept the natural flow from upstream but need not carry out work to cater for increased flows resulting from some types of works carried out upstream, for example a new housing development.

1.1.67 The Land Drainage Act 1991 underpins ordinary watercourse regulation undertaken by Local Authorities. This will occur following commencement of paragraphs 32-34 of Schedule 2 of the Flood and Water Management Act 2010 outlines separately.

1.1.68 The Land Drainage Act outlines the responsibility of the Internal Drainage Boards. The main sections are noted below:

Section 23 and 24

- 23.(1) No person shall

- (a) erect any mill dam, weir or other like obstruction to the flow of any ordinary watercourse or raise or otherwise any such obstruction; or
- (b) erect any culvert that would be likely to affect the flow of any ordinary watercourse or alter any culvert in a manner that would be likely to affect any such flow, without the consent in writing of the drainage board concerned.
- (2) The drainage board concerned may require the payment of an application fee by a person who applies to them for their consent under this section; and the amount of that fee shall be £50 or such other sum as may be specified by order made by the Ministers.
- (3) Where an application is made to the drainage board concerned for their consent under this section
 - (a) the consent is not to be unreasonably withheld; and
 - (b) if the board fail within two months after the relevant day to notify the applicant in writing of their determination with respect to the application, they shall be deemed to have consented.
- (4) In subsection (3) above "the relevant day", in relation to an application for a consent under this section, means whichever is the later of
 - (a) the day on which the application is made; and
 - (b) if at the time when the application is made an application fee is required to be paid, the day on which the liability to pay that fee is discharged.
- (5) If any question arises under this section whether the consent of the drainage board concerned is unreasonably withheld, that question shall be referred to a single arbitrator to be agreed between the parties or, failing such agreement, to be appointed by the President of the Institution of Civil Engineers on the application of either party.
- (6) Nothing in this section shall apply
 - (a) to any works under the control of a navigation authority, harbour authority or conservancy authority; or
 - (b) to any works carried out or maintained under or in pursuance of any Act or any order having the force of an Act.
- (7) The power of the Ministers to make an order under subsection (2) above shall be exercisable by statutory instrument subject to annulment in pursuance of a resolution of either House of Parliament.
- (8) Subject to section 8 above, references in this section and section 24 below to the drainage board concerned.

- (a) in relation to a watercourse in an internal drainage district, are references to the drainage board for that district; and
- (b) in relation to any other watercourse, are references to the NRA.
- 24. (1) If any obstruction is erected or raised or otherwise altered, or any culvert is erected or altered, in contravention of section 23 above, it shall constitute a nuisance in respect of which the drainage board concerned may serve upon such person as is specified in subsection (2) below a notice requiring him to abate the nuisance within a period to be specified in the notice.
- (2) The person upon whom a notice may be served under subsection (1) above is
 - (a) in a case where the person by whom the obstruction has been erected or raised or otherwise altered has, at the time when the notice is served, power to remove the obstruction, that person; and
 - (b) in any other case, any person having power to remove the obstruction.
- (3) If any person acts in contravention of, or fails to comply with, any notice served under subsection (1) above he shall be guilty of an offence and liable, on summary conviction
 - (a) to a fine not exceeding level 5 on the standard scale; and
 - (b) if the contravention or failure is continued after conviction, to a further fine not exceeding £40 for every day on which the contravention or failure is so continued.
- (4) If any person acts in contravention of, or fails to comply with, any notice served under subsection (1) above, the drainage board concerned may, without prejudice to any proceedings under subsection (3) above
 - (a) take such action as may be necessary to remedy the effect of the contravention or failure; and
 - (b) recover the expenses reasonably incurred by them in doing so from the person in default.

1.1.69 In addition Byelaw 10 states:

"No person without the previous consent of the Board shall erect any building or structure, whether temporary or permanent, or plant any tree, shrub, willow or other similar growth within eight metres of the landward toe of the bank where there is an embankment or wall or within eight metres of the top of the batter where there is no embankment or wall, or where the watercourse is enclosed within eight metres of the enclosing structure."

Water Resources Act 1991

1.1.70 The Water Resources Act (WRA) was introduced in December 1991 along with the Land Drainage Act 1991. The Act governs the quality and quantity of water by outlining the functions of the Environment Agency (EA). The WRA sets out offences relating to water, discharge consents, and possible defences to the offences. The EA has the power to bring criminal charges against people or companies responsible for crimes concerning water.

Part II – resource management

1.1.71 The WRA explains that the duty of the EA is to “so far as is reasonably practicable” maintain, with water undertakers, secure and proper management of any reservoirs, apparatus or other works which belong to and are operated and controlled by them. The EA will alert water undertakers as to any arrangements made by the Secretary of State or the Director General of Water Services, and any such arrangements made by them will be enforceable under section 18 of the Act.

Part III Quality objectives

1.1.72 The legal framework for meeting quality standards for the environment is found within s82 to s84. The duty of the Secretary of State is to ‘prescribe a system of classifying the quality of those waters’. Under s.82, classification regulations provide the standards that must be met for controlled waters to be under a specific classification. In relation to this, the Act provides reference to the purposes of the water, substances within the water or absent from it and requirements as to other characteristics. Under s83, water quality objectives for controlled waters are created by the Secretary of State. Water quality standards provide goals for the EA to exercise its functions under s84 and to further maintain the quality objectives for controlled waters.

1.1.73 Practical evaluation systems known as General Quality Assessments (GQAs) were established by the EA in attempts to monitor inland waters by testing both biological and chemical substances which could affect the overall health of the surrounding ecosystems. In 2009 GQA standards were superseded by the Water Framework Directive.

Section 85 The main water pollution offence

- 1.1.74 Section 85 outlines that discharge consents are required by the EA from companies who, 'discharge sewage or trade effluent directly into surface water, such as rivers, streams, canals, groundwater or the sea. Consents are set and enforced on an individual basis with regard to quality of the water source and the surrounding catchment. Other factors taken into account include the location and abstraction points used for public water supplies. Water companies are now bound by statutory enforcement to produce 25 year water resource management plans.
- 1.1.75 Section 85 of the WRA is concerned with the offence of polluting controlled water. The purpose of the section is to impose criminal liability on those who pollute natural water resources. The main offence states that it is an offence to cause or knowingly permit poisonous, noxious, or polluting matter or any solid waste to enter any controlled waters. Further offences, for example, a breach of conditions in a discharge consent, are also introduced by s.85.

Preventive powers

- 1.1.76 S.92 – Requirements to take precautions against pollution; the Secretary of State has the power to take precautions to make regulations concerning precautionary measures in relation to any poisonous, noxious or polluting matter to prevent it from entering controlled waters. As a result of these powers the Silage, Slurry, Agricultural and Fuel Oil Regulations 1991 were enacted to aid the control and prevention of pollution e.g. through new storage systems for slurry.
- 1.1.77 S.93 – Water Protection Zones; the Secretary of State may designate water protection zones, where appropriate for prohibiting or carrying on in that area of activities which the Secretary of State considers likely to result in water pollution. This enables the EA to exercise control over pesticides and other potential pollutants within the zones.
- 1.1.78 S.94 – 95 – Nitrate Sensitive Areas and Agreements in Nitrate Sensitive Areas Provides control over agricultural activity with the aim of reducing the amount of nitrate from agricultural land in to groundwater sources – targeting areas where nitrate levels breach or are likely to breach the 50 mg per litre set by the EC Drinking Water Directive (80/778/EEC.) Nitrate vulnerable zones from 01/01/09 have risen from 55% and now cover 68% of total UK land.
- 1.1.79 S.97 – Codes of Good Agricultural Practice; encourages and promotes good farming practices via practical guidance, whilst maintain control and reducing pollution.

Part IV – flood defence

- 1.1.80 The EA exercises a general supervision over all matters relating to flood defence. Under s.105 this includes conducting environmental surveys from time to time. Section 106 covers the obligation to carry out flood defence functions through committees. Within each region each committee is empowered to maintain, improve or construct drainage works for the purpose of defence against sea water or tidal water anywhere in their area. They must also provide flood warning systems. Section 107 covers the main river functions under the Land Drainage Act 1991 and this is the power for securing the maintenance of flow of watercourses.

Flood and Water Management Act 2010

- 1.1.81 On 6 April 2012, when a further phase of the Flood and Water Management Act 2010 was implemented, responsibility for regulating activities on ordinary watercourses in most areas of England and Wales transferred from the EA to Lead Local Flood Authorities (LLFA). LLFA are Unitary Authorities where they exist and county councils elsewhere.
- 1.1.82 The Flood and Water Management Act (FWMA) makes provision about water, including provision about the management of risks in connection with flooding and coastal erosion. It provides for better, more comprehensive management of flood risk for people, homes and businesses, building on the existing Land Drainage Act.
- 1.1.83 The FWMA transfers power for the managements of ordinary watercourses from the EA to the LLFA in particular paragraph 32 (principally) of schedule 2 to the FWMA amends section 23 of the Land Drainage Act 1991 (LDA1991).
- 1.1.84 After transfer, LLFAs will lead on ordinary watercourse consenting and enforcement except in Internal Drainage Districts (IDD) where Internal Drainage Boards (IDBs) will retain their existing powers. The LDA1991 will underpin ordinary watercourse regulation undertaken by LLFAs.
- 1.1.85 The FWMA requires that LLFAs undertake ordinary watercourse consenting and enforcement except in Internal Drainage Districts (IDDs). Within an IDD the relevant Internal Drainage Board (IDB) will continue to undertake ordinary watercourse consenting and enforcement after transfer. IDBs can operate as either:
- - “stand alone”
 - - more than one IDB working together as a “consortium”;
 - - IDBs operated by EA.
- 1.1.86 Most IDBs are managed by IDBs, but some are operated by the EA acting as the IDB. Where the EA act as the IDB, they will continue to undertake ordinary watercourse regulation including regulation of works by LLFAs.

1.1.87 Whilst the responsibilities for ordinary watercourse regulation in IDD's will not change as a consequence of the implementation of the FWMA, all other ordinary watercourse regulation undertaken by EA will transfer to LLFAs.

The way that the FWMA will operate

1.1.88 Section 23 of the Land Drainage Act 1991 will be amended by the FWMA 2010 to say:-

- 23 Prohibition on obstructions etc. in watercourses
 - (1) No person shall—
 - (i) erect any mill dam, weir or other like obstruction to the flow of any ordinary watercourse or raise or otherwise alter any such obstruction; or
 - (ii) erect a culvert in an ordinary watercourse, or
 - (iii) alter a culvert in a manner that would be likely to affect the flow of an ordinary watercourse, without the consent in writing of the drainage board concerned.
 - (1A) Consent under this section may be given subject to reasonable conditions.
 - (1B) An internal drainage board or lead local flood authority must consult the EA before carrying out work within subsection (1)(i), (ii) or (iii) if the board or authority is “the drainage board concerned” for the purposes of this section.
 - (1C) The drainage board concerned must have regard to any guidance issued by the EA about the exercise of the board's functions under this section.

1.1.89 Post transfer the following will apply:

- Consent will be required for the erection of any culvert and any alteration likely to affect the flow in an ordinary watercourse; this is more widely drawn than prior to transfer; and
- The LLFA is to become the Sustainable Drainage (SuDS) Approving Body (SAB) under the FWMA and there may be some overlap between SuDS activities and ordinary watercourse consenting.

Enforcement

1.1.90 LLFAs will lead on ordinary watercourse enforcement unless it is in an IDD where IDBs will retain their existing powers. The LDA1991 will underpin the enforcement actions to be undertaken. This will occur following commencement of paragraphs 32-34 of Schedule 2 of the FWMA.

1.1.91 EA will continue to lead enforcement on main rivers and tidal flood defences.

1.2 Regional Policy

Humber Flood Risk Management Strategy, March 2008

1.2.1 The overall aim of the strategy is; “to manage the risk of flooding around the Humber Estuary in ways that are sustainable for the people who live there, the economy and the environment, taking into account: natural estuary processes and future changes in the environment (built and natural), sea levels or the climate.” The is also “to ensure that all proposals are; technically feasible, economically viable, and environmentally appropriate, and socially beneficial”

1.2.2 The overall aim is then broken down into a number of key objectives. The objectives specific to this chapter are listed below:

- To maintain and, where possible, enhance public safety, health and security;
- To protect people and their property from the adverse effects (physical and psychological) of flooding;
- To respond to natural processes and to avoid contamination and erosion;
- To minimise adverse effects on wider estuarine processes; and
- To prevent ‘contaminated sites’ having an adverse effect on the estuary.
- To protect and, where appropriate, provide opportunities for economic development and employment (including protection of existing land uses where appropriate);
- To protect areas of employment from the adverse effects of flooding;
- To provide, where appropriate, a secure environment for economic activity and development; and
- To minimise adverse effects on high quality agricultural land.
- To protect existing transport infrastructure (land and sea);
- To minimise adverse effects on navigation (e.g. on channels, deepwater docks and beacons etc); and
- To minimise adverse impacts on road and rail infrastructure.

- To protect and, where appropriate, enhance flora and fauna (biodiversity);
- To minimise adverse effects on European Site(s) and ensure direct losses are compensated;
- To address the adverse effects of 'coastal squeeze' on European Site(s); and
- To support and, where appropriate, enhance biodiversity, including the delivery of national and local Biological Action Plan (BAP) targets.
- To protect the historic environment; and
- To minimise adverse effects on undiscovered or buried archaeology; and
- To protect designated archaeological and historic features within the floodplain.
- To protect and, where appropriate, enhance landscape, amenity and recreational features.
- To protect and, where appropriate, enhance the characteristics and local distinctiveness of all landscapes; and
- To protect and promote, where appropriate, regional and local recreational and amenity features.

River Basin Management Plan, Humber River Basin District (December 2009)

- 1.2.3 The plan focuses on the protection, improvement and sustainable use of the water environment. Many organisations and individuals help to protect and improve the water environment for the benefit of people and wildlife. River basin management is the approach the EA is using to ensure combined efforts to achieve the improvements needed in the Humber River Basin District (RBD).
- 1.2.4 River basin management is a continuous process of planning and delivery. The Water Framework Directive introduces a formal series of 6 year cycles. The first cycle will end in 2015 when, following further planning and consultation, the plan will be updated and reissued.
- 1.2.5 The Humber River Basin District Liaison Panel has been central to helping us manage this process. The panel includes representatives of businesses, planning authorities, environmental organisations, consumers, navigation, fishing and recreation bodies and central, regional and local government, all with key roles to play in implementing this plan.
- 1.2.6 The EA has also worked extensively with local stakeholders to identify the actions needed to address the main pressures on the water environment.
- 1.2.7 This plan has been prepared under the Water Framework Directive (WFD), which requires all countries throughout the European Union to manage the water environment to consistent standards. Each country has to:

- Prevent deterioration in the status of aquatic ecosystems, protect them and improve the ecological condition of waters;
- Aim to achieve at least good status for all water bodies by 2015. Where this is not possible and subject to the criteria set out in the Directive, aim to achieve good status by 2021 or 2027;
- Meet the requirements of Water Framework Directive Protected Areas;
- Promote sustainable use of water as a natural resource;
- Conserve habitats and species that depend directly on water;
- Progressively reduce or phase out the release of individual pollutants or groups of pollutants that present a significant threat to the aquatic environment;
- Progressively reduce the pollution of groundwater and prevent or limit the entry of pollutants; and
- Contribute to mitigating the effects of floods and droughts.

1.2.8 The plan describes the river basin district, and the pressures that the water environment faces. It shows what this means for the current state of the water environment, and what actions will be taken to address the pressures. It sets out what improvements are possible by 2015 and how the actions will make a difference to the local environment – the catchments, the estuaries and coasts, and the groundwater.

1.3 Guidance

Pollution Prevention Guidelines

- 1.3.1 Produced by the Environment Agency, Pollution Prevention Guidelines (PPGs) give advice on statutory responsibilities and good environmental practice. Each PPG addresses a specific industrial sector or activity. Those of relevance to this assessment are listed below:
- PPG01 – Understanding your environmental responsibilities – good environmental practices;
 - PPG02 - Above ground oil storage tanks;
 - PPG03 – Use and design of oil separators in surface water drainage systems;
 - PPG05 – Works and maintenance in or near water;
 - PPG06 - Working at construction and demolition sites;
 - PPG07 – The safe operation of refuelling facilities;
 - PPG13 – Vehicle washing and cleaning;

- PPG26 - Drums and intermediate bulk containers; and;
- PPG27 – Installation, decommissioning and removal of underground storage tanks.

CIRIA Environmental Good Practice on Site (C502, 1999), CIRIA Control of Water Pollution from Construction Sites (C532, 2001), CIRIA Control of Water Pollution from Linear Construction Projects (C648, 2006)

1.3.2 These provide guidance on hydrology, hydrogeology, and water quality. Furthermore, C502 and C648 provide guidance on how to avoid causing environmental damage during construction.