Memorandum of Understanding

between the

Environment Agency

and the

Highways Agency

Annex 1 - Water Environment




ENVIRONMENT AGENCY

HIGHWAYS AGENCY

An Executive Agency of the Department for Transport

November 2009

Contents

The Parties

Introduction

Appendix A

Guidance Notes to Table 1

1 Discharge of Run-off from Highways to Watercourses and Tidal Waters

2 Discharge to Ground from Highways

3 Discharges from HA Depots, Service Areas and Picnic Areas

4 Discharges from Construction Sites

5 Infilling or Piping Roadside Ditches

6 Works On, Near or Affecting a Watercourse (culverts etc)

7 Bridges and Tunnels on and Diversion of Navigable Waters

8 Abstracting Water from Surface or Ground

9 Application of Herbicides as part of Maintenance Activities

10 Application of De-icing Agents as Part of Maintenance Activities

Appendix B

Related Documents under the MoU

Appendix C

The Procurement of Highway Works

Appendix D

Consultation and Information Requirements for the Assessment of Major Highway Proposals

Appendix E

Enforcement

The Parties

Highways Agency (HA)

Environment Agency (EA)

(Together the 'Parties')

Introduction

This Annex is one of the supporting technical documents to the Memorandum of Understanding (MoU) between the Environment Agency and Highways Agency. Its purpose is to set out a framework for effective cooperation between the Parties to minimise the impact of the development, maintenance and operation of the highways network on the water environment.

This Annex sets out commitments made by both Parties on how they will work together to protect and where possible improve the water environment and implement the Water Framework Directive.

The Annex has three chapters:

Chapter 1 describes:

- areas of mutual interest
- primary legislation covering the water environment
- the principal roles and responsibilities for the Parties with respect to the water environment, together with key organisational commitments for how they will work together to protect it.

Chapter 2 details how the development, maintenance and operation of the highways network can affect the water environment.

Chapter 3 identifies the activities, relevant legislation and consent required when building or maintaining a highway.

Chapter 1: Roles, Responsibilities and Commitments

1.1 Areas of Mutual Interest

The principal areas of mutual interest for both Parties, covered by this Annex in relation to the Highways Agency network are:

Legislative requirements

- support the statutory duties of both Parties and ensure compliance with relevant legislation.

Protection of the water environment

- protection and improvement of ground water and surface water quality
- implementation of the Water Framework Directive (WFD)
- design, installation and maintenance of highway drainage and pollution control facilities
- use of herbicides and de-icing materials
- reducing the impact from construction sites and maintenance activities
- the management/operation of highways and highway depots.

Managing flood risk

- prevention of flooding and protection of floodplains
- improvement of flood warning for road users on the network
- bridging and culverting of watercourses
- diversion of watercourses
- accounting for the potential impacts of 'climate change'.

Sustainable development

- promoting sustainable development and construction methods.

Fisheries conservation and recreation

- protection, enhancement and management of fisheries
- conservation of nature in river corridors.

Data sharing

- identification and exchange of data sets in support of any activity covered by this Annex.

1.2 Key Legislation and Policy

The Environment Agency's duties in this Annex fall under the following legislation:

- **The Water Environment (Water Framework Directive) (England and Wales) Regulations 2003** (WFD) - as the competent Authority
- **The Water Resources Act 1991** - for management of water abstractions, flood risk management on main rivers and the control of pollution
- **Environmental Permitting Regulations (England and Wales) 2010** - for permitting of water discharge and the control of groundwater activities
- **Land Drainage Act 1991** - for flood risk management on ordinary watercourses
- **The Water Act 2003** - for the management of water abstractions
- **Planning Policy Statement 23 (PPS23)** - planning and pollution control
- **Planning Policy Statement 25 (PPS25)** - development and flood risk management
- **Flood Defence Byelaws made under the Water Resources Act 1991** - for the protection of flood defences, watercourses and floodplains
- **Town & Country Planning Act 1990** - for flood risk management
- **Planning Policy Guidance 20 (PPG20)** - for flood risk management on the coast.

The Secretary of State for Transport has a duty when exercising its functions to have regard to the River Basin Management Plan prepared and approved under Water Environment (Water Framework Directive) Regulations 2003

The Secretary of State's powers as a highway authority in relation to this Annex are principally derived from:

- **The Highways Act 1980** - powers to create, build, improve and maintain highways.

Specific powers under the Highways Act provide for:

- the purchase of land for the construction or improvement of highways
- the provision of drainage
- mitigating the adverse effect of highways.

Table 1 in Chapter 3 sets out where the legislation above applies to particular activities associated with highway projects.

1.3 Categories of Highway Works

Highway works generally fall into three groups:

- **"Major improvement schemes"** (including new routes and some 'Managed Motorway' schemes) - large schemes exceeding £10m for which an environmental impact assessment (EIA) and the publication of an environmental statement will be required
- **"Small improvement schemes"** - local improvements and safety schemes of value less than £10m for which an environmental impact assessment and an environmental statement may be required in some cases
- **"Maintenance and renewal schemes"** schemes are works to replace damaged or worn out parts of the highway estate and which are funded from the maintenance budget, for which an environmental statement may be required in some cases.

The need for a statutory Environment Impact Assessment and an Environmental Statement depends on whether or not a scheme falls within Annex I, or is a 'relevant project' within Annex II of the EC directive 97/11 - Environmental Impact Assessment.

Appendix B explains the legislative framework for procuring highway schemes. Appendix D describes the key stages associated with assessing major highways proposals.

1.4 Highways Agency Service Providers

In England the HA has to work very closely with a range of partners and contractors to deliver an efficient and sustainable network that meets the needs of its customers. The principal types of service providers used by the HA to undertake its work are:

Major Project Teams:
These contractors are responsible for delivering specific 'Major Improvement Schemes' on behalf of the HA.

Managing Agent Contractors (MACs):
The routine 'day to day' operation and maintenance of the strategic road network is managed through 13 HA Areas. Each HA Area has an appointed MAC responsible for undertaking work on behalf of the HA within that Area. This work includes 'Small Improvement Schemes' and 'Maintenance and Renewals Schemes'.

Design, Build, Finance and Operate Companies:
These sections of the Strategic Road Network are essentially within the private sector. There are a number of DBFO Companies on the HA network and they are responsible for the operation and maintenance of a length of existing road (where relevant) and ensuring that any specified construction scheme(s) along the length

of road are constructed and made available for road users. The private sector is subsequently responsible for the operation and maintenance of the new sections of road. The HA pays the private sector for the road service delivered.

1.5 Key Commitments

The Parties have agreed to work together to develop and implement policy and best practice to protect surface water and groundwater and reduce the risk of flooding on the existing road network and new road projects.

To do so, the Parties will work together (along with Agents and Contractors) in the following areas:

- planning and developing new roads
- programming existing road improvements
- road maintenance schemes.

The Parties have agreed the following commitments:

Highway Schemes

1) The Parties will consult at an early stage about proposals for highway schemes, so that they can agree requirements for:

- managing flood risk (flood risk assessment)
- protecting the environment, including water quality, water resources, hydromorphology, fisheries, conservation and recreation
- navigation.

The Environment Agency will respond to requests for information and comment on submissions within agreed timescales.

2) On major schemes, the Highways Agency will determine the need to carry out an environmental impact assessment (EIA) for all highways schemes, including maintenance schemes, as required under Sections 105A and 105B of the Highways Act 1980 as inserted by the Highways (Assessment of Environmental Effects) Regulations 1999 (SI 1999 No.369) and consider whether it is necessary to publish an environmental statement for which the Environment Agency is a statutory consultee. The Environment Agency will co-operate by providing data that could reasonably be requested by the Highways Agency or its agents engaged in preparation of an EIA, within reasonable timescales. Likely details required for assessing a major highway scheme requiring an Environmental Statement are in Appendix D.

3) On smaller schemes, including maintenance schemes, the Highways Agency will consult the Environment Agency about its proposed protection measures for any works where there is a potential adverse impact on the water environment and the need for any necessary consents or permits (refer to Chapter 3). The Parties will work together to agree protection measures commensurate with identified risks within reasonable timescales.

4) The Highways Agency will, upon request, and where appropriate, include in any contract documents for works it undertakes directly, the "Special Requirements in Relation to the Environment Agency". The Parties will agree in advance the level of detail to be submitted with any proposals.

Surface and Groundwater Protection

5) The Highways Agency will, wherever possible, assist with identifying its assets within any river catchment and will make available to the Environment Agency, wherever possible, drainage plans of the road network in support of WFD related activities.

6) The Environment Agency will consult with the Highways Agency on developing River Basin Management Plans (RBMPs) and the wider programme of implementing the WFD.

7) Environment Agency named contacts in each of its Regions will be responsible for identifying areas that require protection and controls on specific herbicides and/or application methods. These contacts will review these areas each year, removing those that no longer require protection, and/or adding new areas that require protection (e.g. the closure or commissioning of a water supply source). The Highways Agency or its maintaining agents will agree with the contact active ingredients and application methods for herbicides used in each control area.

8) The Highways Agency and/or its agents will consult the Environment Agency when using de-icing products other than road salt. De-icing materials containing agricultural by-products need to be assessed for their potential to pollute. Early discussions on their use in certain areas will protect public safety and the environment.

Permits

9) The Parties have reached a common position on which permits are required and under which legislation to make applications. These are set out in Chapter 3, Table 1. The Highways Agency will liaise with the Environment Agency at an early stage of a road project to identify and understand any requirements for consents and/or permits. The Environment Agency will respond within an agreed time limit.

Various permissions may be required for:

- discharges of surface water
- construction of drainage outfalls
- interfering with or impeding watercourses and or floodplains
- works during construction
- abstraction of surface water or groundwater
- impoundment of surface water.

The Highways Agency, (along with its agents, consultants or contractors), will seek advice from the Environment Agency on any activity related to water quality, flooding and abstraction regardless of the need for a consent.

Flood Defences

10) The Parties will work together to identify any Highways Agency assets that provide some/any flood defence function.

11) The Parties will work together to identify areas vulnerable to flooding on the road network and where necessary minimise the impact of flooding in accordance with the principles and commitments set out in Annex 3 *(ref: Incident Management Annex).*

Information Exchange and Research & Development

12) The Parties will continue to explore opportunities for collaborative research to reduce costs, protect the environment and maximise benefits for both Parties, including the exchange of information. The Parties agree to keep confidential any information disclosed by either Party unless either Party is obliged by law to make the information publicly available.

Further details on the agreed arrangements between the Parties when exchanging information are in Annex 4 (ref: Information Exchange).

The use of Sustainable Drainage Systems (SUDS)

13) The Highways Agency is committed to using appropriate SUDS measures on the strategic road network e.g. wetlands, balancing ponds, detention ponds (dry ponds) and filter drains. The Highways Agency will use SUDS, wherever possible and appropriate, in construction sites and within its highway design. Guidance on the use and maintenance of these systems is in the Design Manual for Roads and Bridges, Volume 4 Section 2, Part 1 HA103: Vegetated Drainage Systems for Highway Run-off (many of these drainage systems are referred to elsewhere as SUDS).

Climate Change

14) When required, the Highways Agency will consult with the Environment Agency to identify and confirm the requirements for climate change. The Parties will work together to implement the principles of sustainable development and continually review policy in line with government policy on climate change.

Guidance documents

15) The Parties will consult one another on revisions to key policy and guidance notes on the water environment.

Chapter 2: Protecting the Water Environment from the Effects of Highways.

2.1 Introduction

Highways can have a number of potential impacts on the water environment. They may come from the operation of the existing network, construction of new road projects or highways depots.

Damage to the water environment can result from:

- flooding caused by the uncontrolled discharge of surface water
- pollutants in surface water
- spillages of fuels, chemicals and other polluting substances following:
    - road traffic collisions or
    - accidents during highway maintenance, construction or improvement works
- Hydro-morphological changes of water bodies as a result of diversions or culverting.

The level of impact on the water environment of any particular scheme or programme will be determined by the:

- environmental sensitivity of the location (receiving water bodies and other receptors)
- overall design of the highway
- type of treatment available on the highway drainage systems
- type and number of maintenance programmes
- type of mitigation in place including flow attenuation.

Detailed guidance and assessment techniques are set out in the Design Manual for Roads and Bridges, Volume 11 Section 3, Part 10: HD45/09 - Road Drainage and the Water Environment.

Two key policy documents relate to the management of these impacts:

- **Planning Policy Statement 23 (PPS23)**- considers the impact of development on pollution control
- **Planning Policy Statement 25 (PPS25)** - considers the impact of development on flood risk management
- **The Water Environment (Water Framework Directive) (England and Wales) Regulations 2003** - detailed objectives to improve, protect and prevent the deterioration in surface and groundwater quality.

2.2 Planning Policy Statement 23

PPS23 sets out government guidance on planning and pollution control. It provides advice regarding the quality of land, air or water and potential impacts arising from development and recognises land contamination as a planning issue to ensure the potential for contamination and any risks arising are properly assessed, and that the development incorporates any necessary remediation and subsequent management measures.

In strictly legal terms, PPS23 does not apply to works carried out under a highways order generated by powers set out in the Highways Act. However, the impacts of contamination risk must still be managed according to sound principles. The Highways Agency adopts in principle, the requirements of PPS23.

2.3 Planning Policy Statement 25

PPS25 has strengthened the government's policy on the protection of floodplains and the management of flood risk. While advising primarily on planning and development control, PPS25 sets out the sequential tests to be applied and policy to be followed when transport infrastructure has to be constructed in floodplains. In strictly legal terms, PPS25 does not apply to works carried out under a highways order generated by powers set out in the Highways Act. However, the impacts of flood risk must still be managed according to sound principles. The Highways Agency adopts in principle, the requirements of PPS25. Advice note HD45/09 Road Drainage and the Water Environment includes methods of evaluating the impact of a highway scheme within the context of policy laid down in PPS25.

PPS25 contains extensive guidelines on allowing for climate change in estimates of future rainfall, sea level and river flows. It also describes available sustainable drainage systems.

2.4 Managing Water Resources - The Water Framework Directive

The WFD established a framework for managing water resources throughout the European Union. The Directive came into force in December 2000 and was transposed into UK law in 2003. It will be fully effective by 2015 and its key objectives are to:

- prevent deterioration of the status of all surface and groundwater bodies
- protect, enhance and restore all bodies of surface water and groundwater to achieve good surface water and groundwater status by 2015
- mitigate the effects of floods.

It will do this by establishing a river basin district (RBD) structure within which demanding environmental objectives will be set, including ecological targets for

surface waters. The WFD introduces a six-year cycle of planning and action. For each River Basin District a River Basin Management Plan (RBMP) will be developed which will set out planned improvements affecting the water environment and measures for how to meet them. In the first cycle, the deadline is to publish the first RBMPs by 2009 and to achieve the plan's objectives by 2015. More information about the Water Framework Directive and the River Basin Management Plans can be found at:

http://www.environment-agency.gov.uk/research/planning/33106.aspx

The length of the Highways Agency's motorway and trunk road network within each River Basin District will vary greatly. The Highways Agency has a programme to review any potential risk of pollution from its network and endeavour to ensure its activities do not compromise the objectives set out within a RBD Management Plan, and wherever possible, work towards achieving the desired outcomes.

To assist this process the Parties will regularly consult one another on a regional basis to identify potential issues and solutions within a River Basin District.

Implementation of the WFD is an on-going process and environmental quality standards to be applied to surface water and ground water are currently still under development.

Key Commitments 5 and 6 (ref. section 1.4)

2.5 Effects on the Water Environment from Highways

Highways may affect the water environment in the following key areas:

- water quality in surface water and groundwater as a result of routine highway run-off
- pollution resulting from accidental spillages on the highway
- surface water or groundwater quality as a result of maintenance activities
- hydromorphology of watercourses
- flood risk
- fisheries, recreation and conservation.
- navigation

Key Commitments 1, 2 and 3

2.5.1 Water Quality in Surface Water and Groundwater as a Result of Routine Highway Run-off

The Environmental Permitting Regulations 2010 cover water discharge and groundwater activities, among other business activities. They require that the Environment Agency protect surface waters and groundwater against pollution

and deterioration. These regulations require both Parties to prevent the entry of hazardous substances to groundwater and limit the input of non-hazardous pollutants to avoid pollution of groundwater. Discharges of polluting matter to surface waters require permitting or prohibition.

The Environmental Damage Regulations (EDR) require people who operate an 'economic' activity to prevent or limit the environmental damage they cause. This includes:

- private businesses
- farming
- manufacturing
- construction and demolition
- waste management
- forestry

The EDRs mean that polluters must prevent and remedy any environmental damage they have caused. They follow the 'polluter pays' principle. If you or your business carries out an activity that causes environmental damage you will have to remedy the damage. If there is a risk of damage from your business activities, you must prevent the damage occurring.

2.5.1.1 Surface Waters

Highway surface run-off discharges may contain soluble and insoluble pollutants that have accumulated on the carriageway following periods of dry weather. In storm events, these pollutants may be transported via the highway surface water drainage system and discharged to a receiving watercourse. In some circumstances, the pollutants in highway run-off may exert an acute and/or chronic impact on the chemical quality and ecological status of the receiving water. Although the Highways Agency has a right to discharge highway run-off, it has no right to pollute. The Environment Agency has a duty under the Water Resources Act 1991 to achieve water quality objectives in waters. There are powers to serve anti-pollution works notices to prevent or remedy pollution of controlled waters.

To prevent pollution, the potential impact of discharges of run-off from the highways network must be properly assessed and appropriate pollution prevention measures put in place where unacceptable risk of pollution is identified.

For existing trunk roads and motorways the Highways Agency has implemented a priority outfalls programme to consider existing discharges where a risk of pollution has been identified and will work with the Environment Agency to agree appropriate pollution prevention measures.

For proposed new highway schemes, the Parties will work together to identify and gain an appreciation of the key constraints and potential consequences on the

quality of surface waters and, where a risk of pollution is identified, agree reasonable mitigation measures which, on major highway schemes, will form part of the Environmental Impact Assessment.

Key Commitments 1, 2, 3 and 14

Key Reference:

- *HD45/09: Road Drainage and the Water Environment*
- *PPG 1: General guide to the prevention of pollution - A basic introduction to pollution prevention*
- *PPG 2: Above ground oil storage tanks*
- *PPG 3: Use and design of oil separators in surface water drainage systems - To help you decide if you need an oil separator*
- *PPG 5: Works and maintenance in or near water - If you are planning works near, in or over water*
- *PPG 6: Working at construction and demolition sites - Pollution prevention information for the construction and demolition industry*
- *PPG 7: Refuelling facilities - To help you prevent pollution from refuelling facilities of all sizes*
- *PPG 8: Safe storage and disposal of used oils - To help you prevent pollution when storing and disposing of used oils*

2.5.1.2 Groundwater

Pollution of an aquifer may result in closing groundwater water abstraction points, putting drinking water supplies at risk. It can also pollute surface waters and harm or threaten groundwater dependant wetlands.

Groundwater moves relatively slowly and impacts on its quality may last for many years. It can also be more difficult to prevent pollution of groundwater and it may only be apparent some time after a polluting incident. Remediation of the aquifer is likely to be difficult and very costly. It is important also to preserve and protect any potential linkages between groundwater and surface waters and any potential relationships affecting a surface waters' ecological status.

As with surface waters, the Highways Agency has a duty to ensure that its discharges do not pollute groundwater. To prevent pollution, the potential impact of discharges of run-off from the highways network must be properly assessed and appropriate pollution prevention measures put in place where an unacceptable risk of pollution is identified.

For existing trunk roads and motorways the Highways Agency has implemented a priority outfalls programme to consider existing discharges where a risk of pollution has been identified and will work with the Environment Agency to agree appropriate pollution prevention measures.

For proposed new highway schemes the Parties will work together to identify and gain an appreciation of the key constraints and potential consequences on the quality of groundwater discharges and agree reasonable mitigation measures where a pollution risk has been identified which, on major highway schemes, will form part of the Environmental Impact Assessment.

Key Commitments 1, 2, 3 and 7

Key Reference:

- *HD45/09: Road Drainage and the Water Environment*
- *Groundwater Protection Documents (GP 1 to GP 4)*
- *Underground Under Threat – Groundwater Policy and Practice Part 3 – Tools*
- *Policy and Practice for the Protection of Groundwater, Environment Agency (1998)*
- *Groundwater Source Protection Zones Maps (Environment Agency)*

2.5.2 Pollution Resulting from Accidental Spillages on the Highway

In many cases the greatest potential impact on water bodies from the highway network is from spillages of vehicle fuel and substances carried on the roads following Road Traffic Collisions. It can also occur on construction sites and in the operation of Highway Depots. The Highways Agency will ensure that where an unacceptable risk of pollution from an accidental spillage (as defined in Design Manual for Roads and Bridges HD45/09: Road Drainage and the Water Environment) has been identified, appropriate pollution control measures are put in place.

For existing trunk roads and motorways, the Highways Agency has implemented priority outfall and soakaway programmes to consider existing discharges and where a risk of pollution has been identified, will work with the Environment Agency to agree appropriate pollution prevention measures.

For proposed new highway schemes The Parties will work together to identify and gain an appreciation of the key constraints and potential consequences for the environment from spillages and seek to agree reasonable mitigation measures for such effects to ensure that the water environment is adequately protected from the risk of pollution from spillages.

Key Commitment 7

Key Reference:

- *Incident Management Annex 3 - Guidance on how the Parties will work together when responding to Road Traffic Collisions*
- *HD45/09: Road Drainage and the Water Environment - techniques for the assessment of spillage risk*

2.5.3 Maintenance Activities

2.5.3.1 Herbicides

Herbicides are used on motorway and trunk road verges and central reservations to control vegetation that, if left unchecked, would result in health and safety risks on the road network. This use of herbicides could present a threat to the quality of groundwater and surface waters such that it adversely affects:

- water abstracted near the road network and used for drinking water supply
- the ecological status of surface waters.

The Highways Agency will minimise the use of herbicides close to water abstraction points and sensitive ecosystems to where there is a justifiable need and no alternative cost effective method available to control vegetation. Active ingredients and mode of application at these locations should be agreed with the Environment Agency and annual records of herbicide applications recorded.

Key Commitment 8

Key Reference:

- *Use of Herbicides to Control Weeds in or Near Water, Environment Agency (1998)*
- *Policy and Guidance Manual for Highways, Good Practice Guide, Environment Agency (1998)*
- *Highways Agency Network Maintenance Manual and Routine and Winter Service Code*

2.5.3.2 De-icing Activity

The use of de-icing agents on motorways and trunk roads is essential for the safety of the travelling public but this can threaten the quality of groundwater and surface waters.

Use of alternative de-icing materials should be assessed for their potential to pollute. Where proposed, the Parties will agree application trials and their locations in advance.

Key Commitment 9

Key Reference:

- *Highways Agency Network Maintenance Manual and Routine and Winter Service Code*

2.5.4 Hydromorphology of Watercourses

Hydromorphology is a term used in the Water Framework Directive to describe, in combination, the hydrologic and geomorphological processes and attributes of rivers, lakes, estuaries and coastal waters. The Directive requires surface waters to be managed in such a way as to safeguard their hydrology and geomorphology so that ecology is protected.

The inclusion of hydromorphology within the Directive has implications for Highways Agency construction and maintenance activities around watercourses (e.g. culvert building, bank modifications). The WFD requires an assessment of the impacts of all new physical modifications to ensure that they do not cause either deterioration in the ecological status of a water body, or failure to meet ecological targets.

Where Highways Agency activities are likely to impact hydromorphological features, the Parties will work together to identify and gain an appreciation of the key constraints and potential consequences of hydromorphological change on the ecological status of the watercourse. They will seek to agree reasonable mitigation measures for such effects which, on major highway schemes, will form part of the Environmental Impact Assessment.

2.5.5 Flood Risk

Highway works may increase the volume of surface water entering a watercourse and affect the natural drainage of an area. Highways can potentially increase water levels in watercourses because of the effects of bridges, embankments and cuttings. Cuttings may affect the level of groundwater. Often, proposals for new roads or bypasses involve works within a floodplain and/or new river crossings.

Highways Agency construction and maintenance activities in or near water have the potential to affect the bed and banks of a watercourse and the quantity of the water by:

- repairs, maintenance or improvements to any structure in, over or above a watercourse
- erection or construction of any structure, permanent or temporary, in, over or above a watercourse
- diversion of flows along a watercourse
- works within a channel of a watercourse or lake
- works within the vicinity of a river or wetland
- any works likely to increase the risk of flooding.

Highway works can also affect the ability of the Drainage Authority to undertake maintenance by building within the maintenance margin next to a river or watercourse (commonly 10 metres from a main river watercourse or flood defence, but there may be local variations in this).

For proposed new highway schemes construction and maintenance activities, the Parties will work together to identify and gain an appreciation of the key constraints and potential consequences for the environment from flooding. The Parties will seek to avoid risks where possible or agree reasonable mitigation measures for such effects to ensure that the receiving environment is adequately protected from the risk of flooding which, on major highway schemes, will form part of an Environmental Impact Assessment.

The vulnerability of the existing trunk road and motorway network to flooding (i.e. fluvial, pluvial, groundwater or coastal) should be properly assessed and appropriate mitigation or contingency measures put in place where a risk of flooding is identified. The Parties will work together to implement a programme to identify and effectively manage flooding hotspots on the network.

Every flood defence asset has a programmed inspection. Information collected by the Environment Agency is collated and recorded on the National Flood and Coastal Defence Dataset (NFCDD). These inspections are carried out to comply with the Environment Agency corporate targets agreed with the Department of Food and Rural Affairs (Defra). The Environment Agency employs dedicated flood defence asset inspectors. These inspectors may from time to time require access to Highways

Agency land. Environment Agency staff should never enter Highways Agency land without first speaking to the specific local contact for advice and permission.

The Environment Agency is currently considering how to implement the abandonment of certain flood defence assets where there is no economic benefit in maintaining them. Where the abandonment may affect Highways Agency land the Environment Agency will undertake consultation with the Highways Agency.

Both Parties recognise that whilst not intentionally designed to do so some highway embankments may act as a flood retaining structure within a floodplain. In these cases highway embankments were primarily designed to undertake highway loading and may not have been designed or constructed from material that took flood loading into consideration. As such these assets may not be robust enough to act as permanent flood defences. The Highways Agency and Environment Agency will work together to identify those Highways Agency assets that may inadvertently provide some flood defence function and decide on further actions, as identified. The scale of this work is presently unknown.

Where repetitive maintenance operations are being carried out by the Highways Agency to their assets on or adjacent to flood defence assets the Highways Agency should notify the local Environment Agency Office (Asset System Management team leader) if such works are required. The local office will advise on whether a consent is required or not.

Key Commitments 1, 10, 11 and 12

Key Reference:

- *HD45/09: Road Drainage and the Water Environment*
- *HD 33/06 - Surface and Sub-surface Drainage Systems for Highways*
- *HA 103/06 - Vegetative Treatment Systems for Highway Run-off*
- *HA 106/04 - Drainage of Run-off from Natural Catchments*
- *HA107/04 - Design of Outfall and Culvert Details*
- *HA 118/06 - Design of Soakaways*
- *HA 119/06 - Grassed Surface Water Channels for Highway Run-off*
- *Policy and Practice for the Protection of Floodplains, Environment Agency (1998)*
- *Environment Agency Policy Regarding Culverts (policy statement, policy explanation, and technical guidance), Environment Agency (2010)*

2.5.6 Fisheries, Recreation and Conservation

Highway schemes can affect fisheries, recreation or conservation, for example by the construction of a new culvert in a watercourse that reduces river habitat and influences the free passage of fish along a watercourse.

For proposed new highway schemes, the Parties will work together to identify and gain an appreciation of the key constraints and potential consequences for fisheries, recreation and conservation and seek to agree reasonable mitigation measures for such effects which, on major highway schemes, will form part of the Environmental Impact Assessment.

2.5.7 Navigation

Highway schemes can affect navigation, for example, during construction of culverts or watercourse diversions.

For proposed new highway schemes, the Parties will work together to identify and gain an appreciation of the key constraints and potential consequences on navigation and seek to agree reasonable mitigation measures for such effects which, on major highway schemes, will form part of the Environmental Impact Assessment.

Chapter 3 - Authorisations and Consents for Highway Works

3.1 Introduction

This chapter:

- identifies the activities likely to be encountered when constructing, improving or maintaining a highway
- explains the relevant legislation that applies to those activities
- sets down what consents are required to meet the requirements of the legislation and the process that should be followed to obtain the necessary consent.

3.2 Key Activities Associated with Constructing, Improving and Maintaining Highways

Many highway related activities do not require consent, licence or permit from the Environment Agency, as a result of the exemptions within the legislation.

A number of Highways Agency activities, under the legislation, will require a permit, licence or consent from the Environment Agency before carrying out any work or activity.

The responsibility for ensuring that highway works comply with relevant legislation rests with the Highways Agency based on advice provided by their agents, consultants, contractors and/or the Environment Agency.

Activities associated with highways and highway projects for which consents from the Environment Agency **may** be necessary are:

- discharge of run-off from highways to watercourses
- discharge to ground from highways
- discharges from Highways Agency depots, service areas and picnic areas
- discharges from construction sites
- infilling or piping roadside ditches
- works near or affecting a watercourse (bridges and culverts etc)
- bridges / tunnels on, and diversion of, navigable waters
- abstracting water from surface or ground
- application of herbicides as part of maintenance activities
- application of alternative de-icing agents.

Table 1 summarises those activities where a consent, licence or permit is required from the Environment Agency or another Authority, and where consents are not required.

If a member of staff from either Party is uncertain whether a consent, permit or licence applies, they should contact the other Party using any agreed contact arrangement detailed under the Memorandum of Understanding (See Annex 5 - Contacts). Where consents are required, it should be recognised that applications can take up to four months to process from receipt of application. If there is any doubt on the need for consent then the Environment Agency should be consulted early in order to avoid any delays to programmes of work.

Table 1 - Summary of Consenting/Licensing Requirements for Highways Agency Activities

Note: Major highway works are usually carried out under a 'Highway Order' created under powers provided by the Highways Act 1980. The presence of an 'Order' overrules normal consenting requirements. If a road scheme is covered by an Order it is not a requirement to obtain any consents.

The Environment Agency is a statutory consultee on publication of the Draft Orders. The Highways Agency agrees to consult the Environment Agency at an early stage in preparing draft orders and agree with the Environment Agency:

- acceptable flood risk management requirements
- acceptable requirements to maintain navigation on a waterway
- acceptable pollution control/treatment facilities.

Activity	Note (see Appendix A)	Description	Watercourse vested with Environment Agency (Main River)	Permit Required from EA	Relevant legislation
Discharge of highway run-off to surface water-courses	1	Discharges of highway run-off to surface waters	Yes	Yes *	Environmental Permitting Regulations (England and Wales) 2010 Section 109 & 110 Water Resources Act 1991 re. main river and flood defence consents EA Local Byelaws
			No	No	
*A discharge permit is **not** required. A consent **is** required for a structure on a vested watercourse and the Environment Agency may impose particular constraints on a structure, for example volumetric run-off allowances associated with a headwall or other structure forming part of a surface water outfall. This consent may not be unreasonably withheld by the Environment Agency.					
Discharge to ground from highways	2	Discharges of highway run-off to ground waters	N/A	No	Section 100 Highways Act 1980 Environmental Permitting Regulations (England and Wales) 2010
Discharges from HA depots, service areas, picnic areas	3	Discharges of surface water run-off to surface waters	Yes	Yes	Environmental Permitting Regulations (England and Wales) 2010 EA Local Byelaws
			No	No	

Activity	Note (see Appendix A)	Description	Watercourse vested with Environment Agency (Main River)	Permit Required from EA	Relevant legislation
Discharges from construction sites	4	Temporary discharges to surface or ground water to construct a highway	Yes	Yes	Environmental Permitting Regulations (England and Wales) 2010
			No	Yes	
Infilling or piping roadside ditches	5	Infilling a road-side watercourse on the basis that it presents a danger to road users	Yes	Yes	Section 100 & 339 Highways Act 1980 Environmental Permitting Regulations (England and Wales) 2010 Land Drainage Act 1991 S23
			No	No	
Works on, near or affecting a watercourse (culverts, bridges etc)	6 See also Appendix C	Erection or construction of any structure, culvert, mill dam, weir or like obstruction, permanent or temporary, in, over or above a watercourse; diversion of flows in a watercourse, repairs, maintenance or improvements to any structure in, over or above a watercourse	Yes	Yes	Section 110 & 339 Highways Act 1980 Section 109 Water Resources Act 1991 Section 23 Land Drainage Act EA Regional Byelaws
			No	No	
		For works that will not impede flows and routine maintenance activities	Yes	No	
			No	No	
Bridges and tunnels on and diversion of navigable waters	7	Erection or construction of any structure, permanent or temporary, in, over or above a navigable watercourse; diversion of a navigable watercourse on a highway scheme subject to a 'Highway Order'	Yes	No	Section 106, 108, 109 & 339 Highways Act 1980 Section 109 Water Resources Act 1991 Section 23 Land Drainage Act EA Local Byelaws
			No	No	
		Erection or construction of any structure, permanent or temporary, in, over or above a navigable watercourse; diversion of a navigable watercourse on a highway scheme NOT subject to a 'Highway Order'	Follow the requirements under: Works on, near or affecting a watercourse (culverts, bridges etc)		

Activity	Note (see Appendix A)	Description	Watercourse vested with Environment Agency (Main River)	Permit Required from EA	Relevant legislation
Abstracting water from surface or ground	8	Abstraction of water for a period of less than 28 days	N/A	Temporary Licence	Environmental Permitting Regulations (England and Wales) 2010
		Abstraction of water for a period in excess of 28 days	N/A	Full Licence	
		Transfer of water from one source to another e.g. from excavation to a watercourse	N/A	Transfer Licence	
		Abstraction of water for any purpose of less than 20m^3/day, abstraction exceeding 20m^3/day to test for the presence, quantity or quality of water in underground strata, water used for fire fighting, emergency abstractions.	N/A	No	
Application of herbicides as part of maintenance activities	9	Routine maintenance operations	N/A	No See Notes a and b	
		Non-routine or special operations	N/A	Yes	
Application of de-icing agents as part of maintenance activities	10	De-icing activities during freezing weather	N/A	No See Note c	

- Note a: The Environment Agency will identify areas close to portable water abstraction points where specific controls on the application of specific herbicides must be agreed in advance. In such areas it may advise using alternative herbicides, other methods of application or other forms of weed control.
- Note b: Consent is required if the Highways Agency and/or its contractors wishes to spray directly into a watercourse to control aquatic weeds.
- Note c: Prior to the use of de-icing agents other than rock salt the Highways Agency should consult with the Environment Agency.

3.3 Applying for Permits/Licenses

Permits to discharge to the water environment – surface waters and groundwater – are granted by the Environment Agency's National Permitting Service. Permit applications are initially dealt with by the National Customer Contact Centre (NCCC) on 08708 506 506 or e mail: **enquires@environment-agency.gov.uk**

'Surface waters' include most inland fresh waters, coastal waters out to 3 nautical miles and also ditches or streams that at times may be dry. They do not usually include waters in features such as enclosed ponds, ditches and soakaways that form part of a highway drainage network and are located in land within the highway boundary.

Full details of this process are in WQP1 - Guidance note on permits to discharge can be found at:

http://www.environment-agency.gov.uk/static/documents/Business/wqp1_guidance_1755710.pdf

Key Commitment 10

Key Reference:

- *Table 1 (Page 21)*

3.3.1 Byelaw Consent

Byelaws are prepared by a particular drainage authority to cover issues associated with watercourses for which they have regulatory control e.g. main river (Environment Agency) or ordinary watercourse (Local Authority or Internal Drainage Board).

Different Environment Agency Regions within England have different byelaws which can stipulate consent requirements for particular activities. Generally, this will refer to work affecting:

- flood defences
- erecting structures or raising ground within a floodplain
- erecting structures within a nominated distance (provided for the purposes of maintenance) from a watercourse vested with the drainage authority (e.g. main-river) or the sea.

There is no provision in the Highways Act for work exempting the need for byelaw consent. The Highways Agency must apply for byelaw consent, subject to any regional 'savings'. Regional savings allow other authorities to avoid having to apply for byelaw consent for their lawful activities. Most regional byelaws contain a list of savings at the end, which often, but not always, includes highway authorities. The Highways Agency should always check with the Environment Agency to confirm whether or not savings apply.

3.3.2 Consent for Works Affecting Watercourses Vested with the Environment Agency

The Highways Agency will consult with the Environment Agency at an early stage where works are proposed to watercourses for which the Environment Agency is responsible.

There is no procedure set out in either Section 339 or Schedule 22 of the Highways Act (1980) for how consent applications are to be processed and approved. Additionally, there is no saving within the Water Resources Act 1991 for a highway authority.

In view of this, the Parties agree to follow the same procedure used for consents issued under Section 109/110 of the WRA, however no fee will be required. A joint application for consent is therefore required under Section 339 of Highways Act (1980) and Section 109/110 of WRA (1991). In practice, the Environment Agency will consider them together but the consent document must refer to both Acts.

Application for consent should be accompanied by details of the proposed construction works or activities. The Environment Agency may attach some conditions to consents e.g. when consenting the construction of an outfall, conditions may be included with respect to discharge flow limits from the outfall under specified storm conditions. The Environment Agency cannot unreasonably withhold its consent.

Where watercourses are the responsibility of Internal Drainage Boards (IDB) or navigation authorities, the procedure for consultation and seeking consent will be the same.

The Highways Agency will be responsible for meeting any consent requirements of the other drainage or navigation authorities. Where there is no IDB, the Highways Agency will contact the local authority in the role as drainage authority to comply with any necessary criteria and permissions.

3.3.3 Permits for Discharges from Construction Sites

The Parties agree that permits for discharges from construction sites will be made under Environmental Permitting Regulations (England and Wales) 2010.

3.3.4 Licence to Abstract

The Parties agree that any abstraction licences will be granted under the Water Resources Act 1991 (as amended by the Water Act 2003) by the Environment Agency's Water Resource Section. All applications for licenses should be made initially to the Environment Agency NCCC on **08708 506 506** or by e mail via enquires@environment-agency.gov.uk.

Full details of this process are in the Environment Agency's guidance - Abstracting Water – a guide to getting your licence. More information on the Abstracting Water Guidance pdf document can be found at:

http://www.environment-agency.gov.uk/business/topics/water/32034.[a]spx

Appendix A Guidance Notes to Table 1

Note 1: Discharge of Run-off from Highways to Watercourses and Tidal Waters

The Highways Agency has a right to discharge highway run-off from highways into surface waters, either inland or tidal waters (HA 1980 S.100) without need of a consent. However, Section 339 of the Highways Act 1980 stipulates that a consent is required if the watercourse is vested with a drainage authority e.g. Statutory Main River.

The Highways Agency will be responsible for any damage due to flooding or other implications as a result of discharges to watercourses. Highway run-off has the potential to damage the receiving water. This could occur as a result of pollutants in highway run-off or from accidental spillages. The Highways Agency has no right to pollute; to do so is an offence under Section 85 WRA 1991.

If pollution arises from either a Highways Agency site or from an outfall, the Highways Agency could be the subject of enforcement action by the Environment Agency for causing or knowingly permitting pollution. If pollution is occurring at an outfall, the Environment Agency can control a discharge to surface waters, or groundwaters, by requiring a permit for the discharge from a highway drain under paragraph 4 of Schedule 21 and paragraph 11 of Schedule 22 to Environmental Permitting Regulations (England and Wales) 2010.

Guidance on the assessment of risk from routine run-off and from accidental spillages to receiving surface waters is provided in HD45/09: Road Drainage and the Water Environment, Design Manual for Roads and Bridges – Volume 11.

Note 2: Discharge to Ground from Highways

Groundwater is all water below the surface of the ground in the saturation zone and in direct contact with the ground and subsoil. The Groundwater Directives aim to protect it.

The existing Groundwater Directive (80/68/EEC) aims to protect groundwater from pollution by controlling discharges and disposals of certain dangerous substances to groundwater. In the UK, the directive is implemented through the Environmental Permitting Regulations (England and Wales) 2010.

The Environment Agency protects groundwater under these regulations by preventing or limiting the inputs of polluting substances into groundwater. Substances controlled under these regulations fall into two categories:

- **Hazardous** substances are the most toxic and must be prevented from entering groundwater. Substances in this list may be disposed of to the ground, under a permit, but must not reach groundwater. They include pesticides, sheep dip, solvents, hydrocarbons, mercury, cadmium and cyanide. Hazardous substances replace the previous List 1 substances which came under the 1998 GWR.

- **Non-hazardous** pollutants are less dangerous, and can be discharged to groundwater under a permit, but must not cause pollution. Examples include sewage, trade effluent and most wastes. Non-hazardous pollutants include any substance capable of causing pollution and the list is much wider than the previous List 2 substances. For example, nitrate is included as a pollutant but it was excluded from List 2 in the 1998 GWR.

The Highways Agency has a right to discharge highway run-off from highways into ground waters (HA 1980 S.100 (1), S100 (5)) without an authorisation to discharge to ground under the Environmental Permitting Regulations (England and Wales) 2010 .

The existing Groundwater Directive is to be repealed by the Water Framework Directive 2000/60/EC (WFD) in 2013.

Guidance on the assessment of risk from routine run-off and from accidental spillages to receiving groundwater is in HD45/09: Road Drainage and the Water Environment - Design Manual for Roads and Bridges – Volume 11.

Note 3: Discharges from Highways Agency Depots, Service Areas and Picnic Areas

The Highways Agency has a right to discharge surface water run-off from maintenance compounds, service areas or a trunk road picnic area into surface waters, either inland or tidal waters or groundwater (HA 1980 S.299) without a consent. Section 339 of the Highways Act 1980 stipulates that a consent is required if the watercourse is vested with a drainage authority e.g. Statutory Main River.

It does not have a right to discharge other run-off, such as water from washing or other maintenance activities likely to occur in maintenance compounds or other facilities, without a permit from the Environment Agency or consent from the sewerage undertaker.

These sites and their activities also have the potential to damage the environment as a result of discharging surface water, for example from spillages, accidents, negligence or vandalism. As with highway surface water run-off the same legislative controls apply to water quality and the Highways Agency could be the subject of enforcement action by the Environment Agency for causing or knowingly permitting pollution. If pollution is occurring at an outfall, the Environment Agency can control a discharge to surface waters or groundwater, by requiring a permit for the discharge from a highway drain under paragraph 4 of Schedule 21 and paragraph 11 of Schedule 22 to Environmental Permitting Regulations (England and Wales) 2010.

The Environment Agency has produced a series of Pollution Prevention Guidance that Highways Agency staff and their contractors should follow. (See Appendix B)

Note 4: Permits from Construction Sites

The discharge of any matter to surface or groundwater from a construction site requires written discharge consent for each discharge under the Environmental Permitting Regulations (England and Wales) 2010. If water is being abstracted before any discharge e.g. from an excavation or from de-watering to lower a water table, then a transfer licence may be required. Guidance on managing pollution from construction sites is in:

Control of Water Pollution from Linear Construction Projects (Technical Guidance) CIRIA C648, 2006

Pollution Prevention Guidance for working at construction and demolition sites: PPG6 http://publications.environment- agency.gov.uk/pdf/PMHO0410BSGN-e-e.pdf

Note 5: Infilling or Piping Roadside Ditches

Section 101 of the Highways Act allows a highway authority to infill or pipe a roadside ditch, where it causes a danger to the highway users without consent. Section 339 requires highway authorities to seek consent from the Environment Agency for this type of work where the watercourse is vested with a drainage authority (e.g. Main River).

Section 101(6) recognises that in every case, a highway ditch is classified as a watercourse so is an ordinary watercourse where it is not a main river.

When assessing the need to pipe a ditch the Highways Agency must consider culverting the minimum possible length if the need proves essential. Where a ditch drains more than just a highway, the Highways Agency should consult the Environment Agency over any proposal to pipe a ditch.

The Environment Agency cannot object to such works in principle. It can only object on the grounds that options to keep the watercourse open have not been explored or that the proposed works will increase flood risk.

Note 6: Works On, Near or Affecting Watercourses (culverts etc)

Types of highway activities include:

- repairs, maintenance or improvements to any structure in, over or above a watercourse
- erection or construction of any structure, permanent or temporary, in, over or above a watercourse
- diversion of flows in a watercourse
- any works within a river channel or lake
- any works near a river or wetland, likely to increase the risk of flooding

- any works within the maintenance margin of a main river watercourse or flood defence (generally 10m but there may be local variations in this i.e. in East Midlands it is 8m). The Highways Agency should always contact the Environment Agency at the planning stage to confirm this.

Highway Works Proposed under an 'Order'

Major works are carried out under a 'Highway Order' created under powers provided by the Highways Act 1980. Orders can be made for the construction of bridges over, and tunnels under, navigable watercourses or to divert a navigable watercourse in connection with construction, improvement or alteration of highways and ancillary facilities. The presence of an Order overrules normal consenting requirements. If a road scheme is covered by an Order there is no need for a consent.

The Environment Agency is a statutory consultee on publication of the draft Orders. The Highways Agency will consult the Environment Agency at an early stage in preparing draft orders about proposals for bridges, tunnels or diversions. In particular they should discuss and agree:

- acceptable flood risk management requirements: design of all structures associated with the highway that have a potential influence on flood risk shall, unless otherwise agreed, be undertaken in accordance with relevant advice in the Design Manual for Roads and Bridges and guidance such as PPS25.

The Environment Agency must ensure that flood risk management requirements are incorporated in the Order. This can be achieved by full design of all relevant structures (such as bridges, culverts, embankments, attenuation and SUDS features).

Alternatively, the Parties can agree to make a provision in the Order to resolve issues at a later date, via a clause in the Highway Order.

Minor Highway Works not Prepared under an 'Order'

The Highways Act 1980 provides powers for the highway authorities to undertake works needed to construct, improve and alter highways and ancillary facilities such as maintenance compounds, service areas and picnic areas that do not require a consent. Under the legislation, some activities will require the consent of the Environment Agency (or relevant authority i.e. Internal Drainage Board or Navigation Authority).

For smaller works Section 110 of the Highways Act 1980 provides powers to carry out all works on any watercourse other than diversion of navigable watercourses (as necessary for the construction, alteration or improvement of highways) including:

- divert a watercourse other than a navigable watercourse
- any other works on a watercourse including bridges, tunnels, that are not on a navigable watercourse.

This includes ancillary facilities such as maintenance compounds and service and picnic areas.

Powers under Section 110 of the Highways Act do not exempt a highway authority from the requirements of the Water Resources Act (WRA) 1991 or other relevant local byelaws. Under section 339 of Highways Act 1980, consent must be obtained from the Environment Agency, relevant land drainage body or navigation authority where the work will interfere with watercourses vested with them e.g. Main Rivers or a navigation canal.

Consent should be sought from the Environment Agency under local byelaws for any constructional details for structures built in the maintenance margin or recorded floodplain of a vested watercourse (e.g. bridges, culverts, headwalls).

If a highway proposal will affect flooding, for example where a road crosses a floodplain, a detailed flood modelling exercise will be undertaken.

Environment Agency consent would normally be required under Section 23 of the Land Drainage Act 1991 for culverts and control structures. However, Section 23(6) includes a saving for works carried out under or pursuant to any other Act or Order having the force of an Act, so the Highways Agency does not have to obtain consent under Section 23 for works on ordinary watercourses done under Highways Act powers.

For repair works that do not involve an obstruction of flow, or other interference with a watercourse, consent is not strictly required.

For repairs to structures at a main river which involve an obstruction of the flow of water, consent must be sought from the Environment Agency under Section 339 of the Highways Act 1980 and Section 109 of the Water Resources Act 1991, or from the Internal Drainage Board or Navigation Authority responsible for the watercourse.

Note 7: Bridges and Tunnels on and Diversion of Navigable Waters

Major works are carried out under a Highway Order under powers provided by the Highways Act 1980.

Section 106 of the Act provides powers to obtain various ‘Orders’ for the construction of bridges over, and tunnels under navigable watercourses. It also provides powers (Section 108) to obtain an ‘Order’ to divert a navigable watercourse in connection with construction, improvement or alteration of highways and ancillary facilities. The presence of an ‘Order’ overrules normal consenting requirements.

The Environment Agency is a statutory consultee on publication of draft Orders. The Highways Agency will consult the Environment Agency at an early stage in preparing draft orders about proposals for bridges, tunnels or diversions on navigable waters. In particular, they should discuss and agree acceptable requirements to maintain navigation on the waterway.

The Highways Act Section 109 requires that a watercourse retain its accustomed navigability.

Alternatively, the Parties can agree to make a provision in the Order to resolve issues at a later date.

Note 8: Abstracting Water from Surface or Ground

Under certain conditions, the Highways Agency may have to dewater or abstract water at a site e.g. for construction operations, dewatering a tunnel, or to prevent damage to any existing buildings/roads. If a highway proposal has a requirement to abstract water then the Highways Agency must examine the potential effects on the environment, and any person that may be affected, and adhere to any consenting requirements.

The Water Resources Act 1991 controls the abstraction and impounding of water and the Environment Agency is the 'Competent Authority' in England and Wales for enforcing requirements and licensing activities. The introduction of the Water Act in 2003 has changed how water abstraction and impoundment of water is regulated. The Water Act is being implemented in phases. Where the Water Act (2003) has not been implemented, transitional arrangements will be put in place. It aims to improve protection of the water environment and provide flexible regulation. If in any doubt about the need for a licence then the Highways Agency should consult the Environment Agency.

The key areas of interest for Highways Agency work relate to 'dewatering operations for engineering works'. Under Section 29 of Water Resources Act (1991), the Highways Agency may be exempt from the need to obtain an abstraction licence. This dewatering exemption will be removed under the Water Act 2003 when it is fully implemented. There will be some transitional arrangements for existing dewatering operations to apply for transfer licences (or full licences), but for new operations starting after the exemption has been removed, there will be a need to apply for a transfer or full licence in the usual manner. The Environment Agency should be consulted at an early stage.

One of three licences may be required for the abstraction (including dewatering) of more than 20m3 per day of water from surface water or groundwater under the Water Act 2003 when fully implemented. These are:

1. temporary licence: required for any abstraction lasting less than 28 days
2. transfer licence: required for abstraction of water for 28 days or more from one source of supply to another without any intervening use e.g. transferring water from an excavation to a watercourse, dewatering to a watercourse to lower groundwater, or over pumping from one watercourse to another
3. full licence: required for any other abstraction for 28 days or more or for any licensable source.

There are a number of exemptions:

- abstraction for any purpose of less than 20m^3/day
- some land drainage operations
- with Environment Agency consent, abstraction exceeding 20m^3/day to test for the presence, quantity or quality of water in underground strata
- water used for fire fighting
- certain emergency abstractions
- those abstractions operating under an exemption order or some other statutory exemption.

Information requirements depend on the type of application being made. As a rule the following information will be required:

- volume
- source and use
- other information as required.

Consent will be subject to certain conditions including:

- volume
- grid reference location of the discharge point.

The issuing of an abstraction licence depends on water resource availability and may not be granted. On receipt of an application, the Environment Agency has up to three months to decide whether to issue a licence in England.

If water is obtained from pumping or dewatering and is then used for any other activity e.g. dust suppression, a licence will be required. A water discharge activity permit is needed to dispose of or transfer any dewatered water, Environmental Permitting Regulations (England and Wales) 2010 – (See 2.2.4 above)

Note 9: Application of Herbicides as Part of Maintenance Activities

The Environment Agency will not require the Highways Agency to apply for consent for normal routine maintenance operations unless the application of herbicide is made direct to a watercourse. These operations include vegetation control to Highways Agency embankments, structures, outfalls and watercourses on Highways Agency land. However, any non routine maintenance works or major works may require consent.

The Highways Agency will consult the Environment Agency or with the relevant Internal Drainage Board about measures for any works where there is a risk of the release of chemicals or particulates that have the potential to pollute the watercourse. In particular, the use of herbicides in areas close to water abstraction points presents a risk to water quality.

The Environment Agency Region will identify areas that require specific controls on specific herbicides. Areas will be reviewed each year to remove those areas that no longer require specific protection and to add any new areas that require it.

Information should be provided in the form of clear maps, indicating the Groundwater Protection Zone (GPZ), the drinking water source and the affected area.

Affected areas may be reviewed individually on a case by case basis by liaison between the Highways Agency or its maintenance contractor and the local Environment Agency office.

Vulnerable ground water resources should only be designated if they are in an area:

- that passes through any source catchment, which has a SPZ1 designation
- that passes through a SPZ2 of any source that has a history of herbicide contamination
- 'close' to a source where there is no SPZ yet defined. The definition of 'close' will vary from source to source, but could be up to 2km or more depending on local aquifer characteristics. In each case a hydrogeological assessment should be carried out
- that passes close to a source where despite the existence of a GPZ that suggests the maintenance contractor should not be contributing to source contamination, there may be evidence to suggest otherwise. The models used to generate GPZs do not take account of geological anomalies or man made structures, which provide by-pass routes. In such cases, routes passing 'close' to a source should be designated accordingly.

Vulnerable surface water resources should only be designated if the area requiring treatment lies within one kilometre of any surface waters used for public portable water abstraction and which are directly upstream of water abstraction points or storage reservoirs. The distance upstream from an abstraction point will depend on:

- the size of watercourses serving the water abstraction point and hence the dilution available for any contamination
- tributaries entering downstream of any proposed spraying and upstream the abstraction that many help dilute any contamination
- the presence of Advanced Water Treatment that will make the treatment works less vulnerable and may reduce or eliminate the need for designation
- local topography e.g. a treatment area running directly alongside a river.

Note 10: Application of De-icing Agents as part of Maintenance Activities

The Environment Agency does not require the Highways Agency to apply for consent for normal routine maintenance operations, including the application of de-icing agents.

However, the Parties are aware that the application of de-icing agents can have impacts on water quality in receiving watercourses, particularly high levels of Biological Oxygen Demand (BOD) and hence the Parties are committed to investigating alternatives to conventional products currently in use.

The Environment Agency has produced a position statement on the use of ABPTs. When proposing de-icing materials containing agricultural by-products the Highways Agency will consult with the Environment Agency on their use to ensure that public safety and the environment are protected.

Like all de-icing materials, the Environment Agency recommend that treated salt be stored in accordance with PPG10 guidelines.

Appendix B Related Documents under the MoU.

This is a list of useful and relevant documents and links relating to highways.

Environment Agency

- Policy and Practice for the Protection of Floodplains, Environment Agency (1998)
- Environment Agency Policy on Culverts (policy statement, policy explanation, and technical guidance), Environment Agency (2010)
- Groundwater Protection Documents (GP 1 to GP 4)
- Underground under threat - Groundwater Policy and Practice Part 3 – Tools (available from Environment Agency website. Groundwater Vulnerability Maps (Environment Agency).
- Policy and Practice for the Protection of Groundwater, Environment Agency (1998)
- Groundwater Source Protection Maps (Environment Agency)
- Local Environment Agency Plans
- Use of Herbicides to control weeds in or near water, Environment Agency (1998)
- Policy and Guidance Manual for Highways, Good Practice Guide, Environment Agency (1998)
- Enforcement and Prosecution Policy (Environment Agency) http://www.environment-agency.gov.uk/business/regulation/31851.aspx
- Form WQP1 – Guidance notes for application for a consent to discharge (Environment Agency) http://www.environment-agency.gov.uk/business/regulation/32038.aspx
- Draft River Basin Management Plans - http://www.environment-agency.gov.uk/research/planning/33106.aspx
- Environment Agency Positon Statement: Use of agricultural byproducts (ABPs) as alternative de-icing material
- Pollution Prevention Pays - a general guide to pollution prevention - good practice for all industrial and commercial businesses

The Environment Agency publishes Pollution Prevention Guideline Notes (PPGs) to advise various sectors on law and environmental practices. Guidelines particularly relevant to this Annex are:

1. PPG 1: General guide to the prevention of pollution - a basic introduction to pollution prevention.
2. PPG 2: Above ground oil storage tanks.
3. PPG 3: Use and design of oil separators in surface water drainage systems - to help you decide if you need an oil separator.
4. PPG 5: Works and maintenance in or near water - if you are planning works near, in or over water.
5. PPG 6: Working at construction and demolition sites - pollution prevention information for the construction and demolition industry.
6. PPG 7: Refuelling facilities - to help you prevent pollution from refuelling facilities of all sizes.
7. PPG 8: Safe storage and disposal of used oils - to help you prevent pollution when storing and disposing of used oils.
8. PPG 10: Highway depots - how to reduce pollution risk from highway maintenance depots.
9. PPG 13: Vehicle washing and cleaning - to prevent pollution from vehicle washing and cleaning
10. PPG14: Marinas and crafts - preventing pollution when you use waterways, estuaries and coastal waters.
11. PPG15: Pollution Prevention Pays - a general guide to pollution prevention - good practice for all industrial and commercial businesses.
12. PPG20: Dewatering underground ducts and chambers - how to prevent pollution when dewatering underground ducts and inspection chambers.
13. PPG21 : Pollution Incident Response Planning

These are available as downloads from:

http://www.environment-agency.gov.uk/business/topics/pollution/39083.aspx

The Enforcement and Prosecution Policy is available in the following link:

http://www.environment-agency.gov.uk/business/regulation/31851.aspx

Guidance note on consents to discharge:

http://publications.environment-agency.gov.uk/pdfGEHO1108BOYR-E-E.pdf

Highways Agency

The Highways Agency has published guidance on assessing the potential impacts that road projects and maintenance activities may have on the water environment, as well as different types of mitigation. This guidance represents current best practice and should be used by practitioners from both Parties when determining the level of risk and appropriate design solutions for any road project. They are:

1. The Design Manual for Roads and Bridges Volume 11 (Environmental Assessment) Section 3 (Environmental Assessment Techniques) Part 10:
2. HD45/09 - Road Drainage and the Water Environment
3. The Design Manual for Roads and Bridges Volume 4 (Geotechnics and Drainage) Section 2 (Drainage) – Part 1-9 covers various aspects of different drainage treatment systems, their selection, design, construction & maintenance; particularly relevant advice and guidance notes are:
4. HD 33/06 - Surface and Sub-surface Drainage Systems for Highways
5. HA 103/06 - Vegetative Treatment Systems for Highway Run-off
6. HA 106/04 - Drainage of Run-off from Natural Catchments
7. HA107/04 - Design of Outfall and Culvert Details
8. HA 118/06 - Design of Soakaways
9. HA 119/06 - Grassed Surface Water Channels for Highway Run-off.

These guidance notes are available at the following link:

http://www.standardsforhighways.co.uk/dmrb/vol4/section2.htm

Others

- Control of Water Pollution from linear Construction Projects, CIRIA (2006), Report C648
- Management of Gully Pots for Improved Run-off Quality, CIRIA (1998), Report 183
- Control of Pollution from Highway Drainage Discharges, CIRIA (1997), Report 142 (reprint)
- Construction Site Environmental Good Practice Guide, CIRIA (1999), Report 502
- Guidelines for Environmental Risk Assessment and Management, DETR (2000)
- Environmental Protection, Fire and Rescue Manual - Volume 2. TSO ISBN 9780113413164
- CIRIA SUDS Manual

Appendix C The Procurement of Highway Works

Major Improvement Schemes

Major works are carried out under a 'Highway Order' created under the Highways Act 1980. The presence of an Order overrules normal consenting requirements. If a road scheme is covered by an order it is not a requirement to obtain planning consent as well.

The Environment Agency may be consulted on a 'Provisional Order'. It must ensure that its requirements, as far as is possible, are incorporated in the highway scheme i.e. requirements for such things as bridges, culverts, embankments, attenuation and SUDS features. Alternatively, it is common to agree to make a provision in the Order that issues will be resolved at a later date.

The Environment Agency is a statutory consultee on publication of the Draft Orders. The Highways Agency should always consult the Environment Agency at an early stage when preparing draft orders about highway proposals, in particular, for bridges, tunnels or diversions. The Highways Agency should discuss and agree:

- acceptable flood risk management requirements: design of all structures associated with the highway that have a potential influence on flood risk and navigation shall, unless otherwise agreed, be undertaken in line with relevant advice in the Design Manual for Roads and Bridges and PPS25
- acceptable requirements to maintain navigation on a waterway: the Highways Act Section 109 requires that a watercourse retain its accustomed navigability
- acceptable pollution control/treatment facilities: design of such things as wetlands, grass swales, soakaways and facilities to trap spillages in the event of an accident.

Once an Order has been granted by the Secretary of State, no consents are required unless these have been agreed as being required under a clause in the Order.

Appendix D provides a detailed explanation of how a major highway project is prepared, following 7 primary stages.

Small Improvement Schemes

For smaller works, section 110 of the Highways Act 1980 provides powers to carry out without a consent (as necessary for the construction, alteration or improvement of highways):

- works (including diversions) affecting any ordinary watercourse
- works affecting navigable watercourses where bridges, tunnels, or diversions are not involved.

This includes ancillary facilities such as maintenance compounds and service and picnic areas.

Sections 100(1) and 100(5) of Highways Act 1980 give the Highways Agency powers to drain highway run-off from highways into any inland or tidal waters without need of a consent.

Under section 339 of the Highways Act 1980 consent must be obtained from the Environment Agency, relevant land drainage body or navigation authority where the work will interfere with watercourses vested with a drainage authority (e.g. Main River).

Under Section 23 of the Land Drainage Act 1991, the Environment Agency consent works on ordinary watercourses such as culverts and control structures. However, Section 23(6) includes a saving for works carried out under or pursuant to any other Act or Order having the force of an Act, so the Highways Agency does not have to obtain consent under Section 23 for works on ordinary watercourses provided the works are undertaken using Highways Act powers.

Maintenance and Renewal Schemes

For repair works that do not involve an obstruction of flow, or other interference with a watercourse, consent is not strictly required.

For repairs, including works to bridges or culverts or temporary works, on ordinary watercourses, Section 110 of the Highways Act 1980 applies and a consent of the Environment Agency is not required.

For repair works to structures, culverts and bridges, including temporary works on watercourses vested with a drainage authority (e.g. main – river), consent must be sought from the Environment Agency under Section 339 of the Highways Act 1980 and Section 109 of the Water Resources Act 1991, or from an Internal Drainage Board responsible for a watercourse under Section 339 of the Highways Act 1980.

The Environment Agency will not require the Highways Agency to apply for consent for normal routine maintenance operations. These operations include vegetation control (see above) to Highways Agency embankments, structures, outfalls and watercourses on Highways Agency land. When considering maintenance works the Highways Agency (local contact) should contact the Environment Agency local office for guidance on consent requirements.

Works that generally don't require consent include resurfacing, road marking and laying or amending services that lie entirely within a bridge structure.

Appendix D Consultation and Information Requirements for the Assessment of Major Highway Proposals

There are four phases and eight stages in the development of a road scheme.

These are:

Pre-options

Stage 0: Strategy, Shaping and Prioritisation

Options

Stage 1: Options Identification

Stage 2: Option Selection

Development

Stage 3: Preliminary Design

Stage 4: Statutory Procedures and Powers

Stage 5: Construction Preparation

Construction

Stage 6: Construction

Stage 7: Handover & Closeout

The general level and scope of information to be exchanged for each stage is set out below:

Pre-options

Stage 0: Strategy, Shaping and Prioritisation.

At this stage the Department for Transport takes responsibility for the identification and prioritisation of potential transport issues. This involves the shaping, investigation and assessment of the viability of transport scheme solutions to a problem, including road network solutions. Major new road projects are initiated at this stage, if identified as the most viable solution to a transport issue

Options

Stage 1: Options Identification

This stage identifies the route options that are to be taken to public consultation. Options are assessed in terms of their environmental impact, traffic forecasts and economic benefits. The Environment Agency should be given the opportunity to comment on proposed routes and project feasibility at an early stage.

This stage aims to identify and gain an appreciation of the key constraints and potential consequences for the environment and for sustainable development within the study area or the route corridor. The Highways Agency will identify and consult the Environment Agency on, amongst other things:

- location of floodplains and other areas particularly at risk of flooding
- groundwater vulnerability and source protection zones
- principal watercourses and their quality classifications and uses
- major abstraction points
- designated fisheries
- areas of special conservation interest
- significant areas of contaminated land.

Where a key constraints map is prepared a copy will be given to the Environment Agency.

Stage 2: Option Selection

Stage 2 identifies the factors which need to be taken into account in the selection of alternative routes. The relative advantages and disadvantages of each alternative route are considered and a preferred route announced. There should be an appropriate exchange of information between the Parties to refine as necessary the information gained in Stage 1.

The Environment Agency will be supplied with plans and elevations, usually at 1:10,000 scale of each route. The following will be identified in accompanying schedules, or by other means:

- Floodplains
    - sections of route liable to have an adverse effect on the floodplain
- Watercourse crossings or diversions
    - name and classification
    - grid reference
    - characteristics that are known (channel type, construction, width, depth, flows)
    - identification of fishery or other leisure use
    - details of any relevant habitat or ecological surveys
- Groundwaters
    - relationship of route to groundwater vulnerability
    - source protection zones
    - any known private groundwater abstraction points
    - excavations or cuttings likely to affect the groundwater regime

- Highway drainage discharges
    - likely discharge points (to surface water or to ground)
    - preliminary estimates of discharge flows and quality
    - preliminary assessment of major spillage probabilities
    - likely effects of each route on water quality, with particular reference to vulnerable areas
- Contaminated land
    - areas of contaminated land crossed by route
    - details of contamination

In stage 2 the Environment Agency will provide 'in confidence' to the Highways Agency, its view on the relative merits of the routes proposed.

Development

Stage 3: Preliminary Design

In this stage an Environmental assessment is completed and Environmental Statement prepared, if required. Following public consultation and the selection of the preferred route, the Parties will agree the following at the beginning of Stage 3:

- contact points and team structures
- key scheme design issues for the Environment Agency
- scope of the relevant environmental surveys and data gathering exercises
- acceptable bridge afflux for floodplain crossings
- scope of Environmental Statement for the Environment Agency's areas of interest
- scope for environmental enhancements within the Environment Agency's areas of interest.

The Highways Agency will provide proposals for the following as relevant to the preferred route for comment and agreement:

- compensation for any loss of floodplain
- details of floodplain crossings
- details of watercourse diversions
- details of any culverts proposed
- any special measures to protect fisheries
- any special measures to protect aquatic ecology

- location of discharges to surface waters, including indicative proposals for flow retention, pollution control and spillage protection and containment
- location of discharge to ground, including indicative proposals for pollution control and spillage protection and containment
- proposals and method statements for crossing contaminated land
- where possible, proposals for use of secondary aggregates or stockpiling of materials
- proposals for importing materials and potential borrow pits.

Stage 4: Statutory Procedures and Powers

In this stage, Draft Orders and an Environmental Statement are published and exhibitions held. If required, a Public Inquiry is held and evidence and rebuttals to objections presented at Inquiry. It is at this stage that the Secretary of State's decision letter is issued confirming whether Orders are to be confirmed as published, rejected or amended.

At this stage in the process the Environment Agency becomes a statutory consultee. It is recommended that a scheme specific understanding be developed with the Highways Agency as well as the Environmental Statement prepared by the design agent, before proceeding to public inquiry.

Where the Scheme Orders cover matters that would otherwise be the subject of consents issued by the Environment Agency, such as structures crossing floodplains and river diversions, details of the measures agreed should be the subject of a formal exchange of letters before public inquiry.

Stage 5: Construction Preparation

Following confirmation of the Scheme Orders (which are sometimes modified) by the Secretary of State's/Welsh Minister's decision letter, the Highways Agency will exchange information with the Environment Agency to ensure that the contract documentation covers adequately the agreements reached, and that application is made for consents for details of the works. Standard forms of "Special Requirements in Relation to the Environment Agency" are to be incorporated in the contract, and contract specific requirements may have to be added. The matters to be addressed include:

- a contract review of the 'Special Requirements in Relation to the Environment Agency'
- applications for consents for outfalls and works to watercourses
- applications for waste management licences or authorisations under the Groundwater Regulations

- need for method statements for particular activities
- notifications required by the Environment Agency for particular operations
- situations where the Environment Agency would want to be represented during specific tasks
- phasing constraints
- protocol for being kept up to date on changes to the work programme
- consent and licence requirements for the contractor's activities, including information provision and timescales.

Construction

Stage 6: Construction

At this stage, the detailed design is completed and the scheme constructed and opened to traffic. For information on procedures and practices to be followed during the construction phase, reference should be made to the 'Special Requirements in Relation to the Environment Agency' and Pollution Prevention Guidance Notes PPG5 'Works in, near or liable to affect watercourses' and PPG 6 'Working at demolition and construction sites'. The contractor may also obtain site specific advice through contact with the local Environment Agency office.

Stage 7: Handover and Closeout

At this stage the highway asset is handed over to the Highways Agency Network Operations Directorate and any outstanding works or reworks completed. A review of the project delivery is also completed. The Highways Agency will keep the Environment Agency informed about the following topics, where they are relevant to the water environment:

- pollution control measures and environmental mitigation measures
- nature conservation and biodiversity mitigation measures
- fisheries.

Appendix E Enforcement

The Environment Agency controls pollution by authorising industrial processes, licensing and permitting waste activities and consenting discharges to controlled waters. The Environment Agency has powers of enforcement and prosecution to protect the environment and will use these powers where necessary.

Many Highways Agency sites and activities have the potential to damage the environment, which could result from spillages, accidents, negligence or vandalism. If pollution occurs, the Environment Agency may take enforcement action. The powers available to the Environment Agency include:

- enforcement notices to ensure compliance with permit, licence or consent
- works notices (where contravention can be prevented or needs to be remedied)
- prohibition notices (where there is an imminent risk of serious environmental damage)
- suspension or revocation of environmental licences
- variation of license conditions
- injunctions
- carrying out of remedial works.

Where the Environment Agency has carried out remedial works, it will seek to recover the full costs incurred from those responsible. Where a criminal offence has been committed, in addition to any other enforcement action, the Environment Agency will consider prosecution, issuing a caution or warning. Fines up to £20,000 could be levied in a Magistrate's Court and custodial sentences up to 3 months. If the case is serious and goes to Crown Court, there is no limit to the fine and custodial sentences are available. The decision to prosecute will be based on a number of factors including the severity of pollution and the actions of the offender. (Ref Enforcement & Prosecution Policy).

Even if a case is not taken to court, the cost of repairing the damage to the environment (clean-up cost) has to be met – these costs can be very large. For example, cleaning up serious groundwater pollution can cost over a million pounds. Such incidents can also affect the reputation of the Highways Agency.

The likelihood and consequence of a pollution incident from Highways Agency sites can be greatly reduced if pollution prevention measures are put in place. Such measures can also help reduce operating costs.

There is a wide range of Pollution Prevention Guidance available from the Environment Agency (See Appendix B).