General Environmental Duty

Code of Practice
for
operation of sewage pumping stations and sewerage networks
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1. Introduction

This document describes operation of sewage pumping stations and sewerage networks, their potential impacts on the environment, and how those impacts can be reasonably mitigated to protect environmental values and comply with Section 319 of the *Environmental Protection Act 1994*.

This code of practice provides guidance to Sewerage Service Providers to help them comply with the *Environmental Protection Act 1994* by meeting their general environmental duty. The code also outlines the environmental best management practices of leaders in the industry.

Under section 319 of the *Environmental Protection Act 1994*, all persons in Queensland must fulfil their ‘general environmental duty’. This is defined as follows: ‘A person must not carry out an activity that causes, or is likely to cause, environmental harm unless the person takes all reasonable and practicable measures to prevent or minimise the harm’ (see Appendix 1).

Although this code of practice is a voluntarily adopted standard, complying with this code provides the Sewerage Service Provider with a defence against a charge of wilfully and/or unlawfully causing environmental harm and several other charges to the extent the code is relevant. Sewerage service providers that do not comply with this code may still rely upon the defence of complying with the general environmental duty, but will have to show they fulfilled their duty in another way.

2. Objective of the code

The code of practice aims to:

- describe environmental issues and challenges confronting operators of sewerage networks and sewage pumping stations in Queensland,
- assist Sewerage Service Providers to better consider the environment with which they interact,
- suggest practical measures to minimise environmental and social impacts,
- establish benchmark environmental performance relevant under different conditions, and
- demonstrate to the community the environmental credentials of sewerage service providers which are the entities responsible for designing, operating and maintaining sewage pumping stations and sewerage networks in Queensland.

3. Scope of the code

This code of practice addresses environmental aspects of the operation of sewerage networks and sewage pumping stations that are external to a sewage treatment plant (i.e. it does not cover pipes or pumps located on the same site as a sewage treatment plant which are used to transfer sewage around the site). The code does not cover aspects covered by other legislation such as occupational health and safety.

The code does not override or replace federal, state or local government legislation, regulation, plans or policies.

4. Commencement date

This code of practice commenced on (date) and has effect for seven years. To continue to have effect, the code of practice must be reviewed and approved by the Minister by (date). Industry members are encouraged to provide feedback and to report new initiatives so the code can evolve through each review.

5. Authorisation and amendment of the code

Under section 318E(1) of the *Environmental Protection Act 1994*, the Minister may, by gazette notice, make codes of practice stating ways of achieving compliance with the general environmental duty for an activity that causes, or is likely to cause, environmental harm. Once the code has been gazetted it may also be amended by gazette notice.
6. Acknowledgement

The department acknowledges the work of the following industry associations in the preparation of this code of practice:

- Queensland Water Directorate,
- Local Government Association of Queensland, and
- Institute of Public Works Engineering Australasia.

7. Background to the operation of sewage pumping stations and sewerage networks

Local Government-owned sewerage service providers operate and maintain the majority of urban sewerage networks in Queensland and safely and reliably collect and transfer sewage from private and public premises. Most sewage is collected and transferred to treatment plants using gravity flow. Sewage pumping stations (SPS) are an essential component to maintain flows in such networks. Most Queensland communities rely on pumping in some areas and there are more than 3500 individual SPS of varying sizes operating across the state.

There are a number of environmental risks associated with the operation of sewerage networks and SPS. These may include:

- Environmental harm caused by release of untreated sewage or other contaminants to land or waters,
- noise from SPS causing impacts to a noise sensitive place (noise nuisance) and
- release of odours causing impacts to an odour sensitive place (air nuisance).

Overflows can occur due to equipment breakdowns and power outages. Such overflows can be managed or avoided with careful planning but it is more difficult to eliminate overflows caused by wet weather. During heavy rain, stormwater can enter the sewerage network through sewer pipe connections, manholes, property fittings like gully traps and air vents, illegal sewer connections or damaged pipes. Sewerage networks are built to cope with standard inflows but extreme wet weather events can exceed the hydraulic capacity of the network.

Building sewerage networks (or retrofitting existing networks) to be large enough to contain the entire wet-weather flow in sub-tropical and tropical Queensland is expensive (or impossible) and in undulating terrain there is limited capacity to store sewage in the network regardless of its size. In such cases, overflow sites are provided as safety release points for sewage to avoid overflows on private property or within domestic premises.

Any release of sewage is a potential risk to public health and safety and to the environment so service providers seek to reduce inflow and infiltration to sewerage networks and manage any overflows to reduce risk. In all cases the aim is to minimise human contact and any environmental risks. Under normal operating conditions, networks and SPS are managed through a range of measures (see e.g. the Control Measures below) but overflows can result from:

- heavy rainfall,
- unavoidable network blockages,
- power failure or supply failure,
- illegal or unauthorised discharges to sewers,
- accidental or deliberate damage to, or failure of SPS or ancillary equipment or
- other emergencies such as floods and storms.

Improvement programs are an ongoing process and careful management can reduce or remove the risks caused by overflows. New sewerage networks and associated SPS are generally designed for resilience and to reduce or eliminate overflows. However, the past half century of sewering Queensland has created a legacy of over $10 billion of public sewerage assets which are subject to changes in use, population pressure and industry standards. This means that some assets may fail to achieve modern design requirements and upgrades and replacement must be made over time.
This document provides examples of practices that, under the majority of situations, achieve these outcomes using the following General Principles:

1. **Management should be risk based.** Given the competing needs provided by sewerage networks and the social and financial trade-offs inherent in any new or modified infrastructure, management is necessarily risk-based. Risks are assessed, avoided where possible and managed in a transparent way when they cannot be eliminated.

2. **Management should be outcomes focussed.** Risks are managed to reduce risks to safety, public health and the environment within social and financial constraints of the publically-owned water sector.

3. **Management must recognise the public good nature of the industry.** As in the majority of other jurisdictions in Australian and internationally, sewage collection is undertaken as a public good by a water sector that is publically owned. This means that the sector must seek to maximise efficiency and effectiveness by balancing social and environmental needs with the community’s willingness to pay.

4. **Overflows may be necessary.** While overflows from sewerage infrastructure are avoided whenever possible they are sometimes necessary to reduce the risk of a release occurring on private property. Elimination of all overflows is prohibitively expensive and physically impossible in some catchments.

5. **Existing codes and industry standards should be referenced for guidance whenever possible.** Existing industry Codes and Standards provide guidance in developing, maintaining and replacing sewerage infrastructure and this Code, and any documents based on it should defer to such documents when possible.

6. **Buffer zones around infrastructure are an essential but insufficient solution:** The most efficient method for avoiding nuisance from noise or odours released from sewerage infrastructure is to maintain adequate spatial buffers. However, land availability, topography, hydraulics and urban development encroaching on established infrastructure act against maintenance of buffers and are beyond the control of the water sector. Additional control measures (as suggested below) may be necessary to manage the risk of nuisance caused by noise and odour. If an activity is located on a site that is likely to be in conflict with adjacent land uses, the reasonable and practicable measures may be limited due to the high financial cost of adopting the measures compared to a better located activity.

8. **Using the code of practice**

There are a number of environmental risks associated with the operation of sewerage networks and SPS. These may include, but are not limited to:

- the release of untreated sewage or other contaminants to land or waters,
- noise from SPS causing impacts to a noise sensitive place (noise nuisance) and
- release of odours from SPS causing impacts to an odour sensitive place (air nuisance).

This code of practice gives practical guidance on appropriate management of sewerage networks and SPS to reduce the risk of environmental harm. The code should be followed unless there is an alternative course of action that achieves the same or a better environmental objective.

8.1. **Performance outcomes**

Performance outcomes are the end result that the operator needs to achieve to meet the ‘general environmental duty’ described under the Environmental Protection Act 1994. There are three performance outcomes in this code of practice:

- any risk of environmental harm or nuisance caused by release of untreated sewage or other contaminants to land or water from a sewerage network or SPS is reduced or eliminated,
- discharge to air of odours that may create a nuisance at an odour sensitive place is prevented or minimised, and
- noise nuisance is prevented or minimised at any nearby noise sensitive place.

There are a number of suggested control measures to achieve the performance outcomes. Sewerage service providers may choose not to use these measures, but will not then be able to
Developing and following written procedures helps demonstrate that all reasonable and practicable measures are being taken to avoid causing environmental harm and allows demonstration of reasonable care, or due diligence, as a defence for compliance purposes.
Performance outcome 1:
Any risk of environmental harm or nuisance caused by release of untreated sewage or other contaminants to land or water from a sewerage network or SPS is reduced as far as is reasonable and practicable or eliminated.

<table>
<thead>
<tr>
<th>Releases to land and water</th>
<th>Potential risks and impacts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sewage overflows can be caused by:</td>
<td>Untreated sewage or other contaminants can enter waterways or land and pose a risk to public safety and to the environment.</td>
</tr>
<tr>
<td>• Heavy rainfall,</td>
<td></td>
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<tr>
<td>• Unavoidable network blockages,</td>
<td></td>
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<tr>
<td>• Power failure or supply failure,</td>
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<tr>
<td>• Illegal or unauthorised discharges to sewers,</td>
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<tr>
<td>• Accidental or deliberate damage to, or failure of SPS, sewer mains, or ancillary equipment or</td>
<td></td>
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<tr>
<td>• Other emergencies</td>
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<tr>
<td>Release of contaminants can be caused by:</td>
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<tr>
<td>• Inappropriate storage of chemicals and other liquids such as fuels, solvents or oils.</td>
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</tbody>
</table>

Suggested control measures are listed below under the following headings:

1.1. Design and construction of new sewerage networks or new sewage pumping stations
1.2. Operation and Maintenance
1.3. Monitoring and Assessment
1.4. Contingency planning
1.5. Managing overflows
1.6. Notification of the Environmental Regulator
1.7. Record keeping

The optimal risk-management approach will vary for each network and associated SPS. Risk assessments (see Section 8.2) should be documented (see Section 9) and the appropriate control measure(s) implemented for the sections below where appropriate.

1.1 Design and construction of sewerage networks or SPS
Design and construction of infrastructure should minimise risks arising from overflows where reasonable and practicable

Suggested control measures

a. Evidence of an adopted design and construction standard for new sewerage networks and new SPS consistent with relevant codes and/or industry standards such as:
recommendations at Table 5.15, p. 129).
iii. Other recognised codes adopted by operators (e.g. the SEQ Water Supply and Sewerage Design and Construction Code).

b. New sewerage networks are planned, designed and constructed to ensure to the greatest practicable extent, that the infrastructure can deal with the service requirements of all premises in the service area (as required by section 164 of the Water Supply (Safety and Reliability) Act 2008).
c. When designing new sewerage networks, siting of SPS takes into account minimisation of the environmental risks from overflows, as well as the constraints of topography, hydraulic requirements, land availability and public costs.
d. New sewerage networks in low-lying areas subject to flooding are designed so that environmental risks from overflows are minimised where reasonable and practicable.
e. Appropriate processes are in place for approving new connections to an existing sewerage network to ensure it will not be overloaded.
f. Essential components of new SPS are located above the one in 100 year flood level and consider potential local flooding events identified at the time of construction.
g. Major upgrades of existing SPS in a flood prone area trigger an upgrade review to consider improvements that will protect essential components in floods up to at least a one in 100 year flood level.
h. Where SPS cannot be fully protected from floodwaters (e.g. due to design constraints, low-lying sewers, or during extreme floods), stations are designed so that risks are minimised and the pumping station can be reinstated as soon as possible following flooding.
i. SPS have alarm systems (if an overflow is possible between routine visits) that provides sufficient warning to allow an operator to reach the station and conduct basic repairs.
j. Designs for chemical storage are compliant with relevant Australian Standards (e.g. AS3780:2008, AS1940:2004 or equivalent).

1.2 Operation and Maintenance

Sewerage networks and SPS should be maintained and operated so that risks from overflows or from the release of other contaminants is minimised.

Suggested control measures
a. All measures, plant and equipment are operated and maintained in an effective condition in accordance with the design capacity.

b. Routine operations and maintenance activities (which may include: cleaning, root removal, mains flushing, manhole inspection, pumping station inspection (mechanical and electrical), network CCTV inspections, smoke testing and third-party inspection) are undertaken with a frequency appropriate to the age of the asset, location (and consequence of failure), likelihood of an overflow and the adequacy of the maintenance program.

c. Replacement, relining and repair (e.g. grouting and boundary trap replacement) are undertaken on a schedule appropriate to risk (e.g. taking into account recent condition assessment(s), the initial risk assessment and the age and material of the network).

d. Trade waste management is appropriate for the size of the network.

e. All maintenance and operations are carried out by a person with appropriate qualifications and/or experience.

f. Any chemicals or noxious liquids are stored within a storage area that complies with relevant Australian standards (e.g. AS3780:2008, AS1940:2004 or equivalent).

1.3 Monitoring and Assessment
The sewerage network and SPS should be routinely monitored and assessed.

Suggested control measures

a. Appropriate activities to assess and monitor the risk of overflows are in place, e.g.:

i. Collation and maintenance of available information on potential contaminants, release points, potential impacts, sensitivity of receiving environment and the likelihood of overflow or release.

ii. Evaluation of measures in place to reduce the incidence of overflows or release of contaminants.

iii. Identification of any additional actions or improvements that can be taken where reasonable and practicable to prevent an overflow or release.

b. Appropriate monitoring and communication systems are in place at SPS (e.g. alarms for pump failure, sewage levels in the well or storage, appropriate telemetry) to anticipate and, where possible, prevent an overflow.

c. All instruments, equipment and measuring devices are routinely tested, and maintained in accordance with appropriate specifications.

d. The adequacy of the scheduled maintenance program is
1.4 Contingency Planning
Contingency planning should be in place to reduce environmental risks in the event of an overflow and any impacts on continuity of service.

Suggested control measures
a. Provision is made, where appropriate, for:
   i. alternative pumping mechanisms and associated controls,
   ii. alternative power supplies,
   iii. standard connections for emergency by-pass pumping,
   iv. standard connections for mobile generators, or a backup power source that automatically starts in the event of power failure,
   v. identification of critical components and a system to ensure adequate and timely access to spare parts,
   vi. access for maintenance and emergency activities,
   vii. allowing for flows to adjoining areas of the network to accommodate high flows in one catchment.

b. Notification of stakeholders including the Environmental Regulator (see Section 1.6) that should be notified in the event of an overflow (see EM467 – Duty to Notify of Environmental Harm or equivalent).

c. Appropriate signage, barriers and notification methods prepared for use at designated areas subject to primary or secondary recreation or other risks (e.g. sports grounds, children’s playgrounds).

d. Processes that can be safely and practically implemented to mitigate risks from an overflow.

e. Timing and appropriate implementation of clean-up and remediation procedures.

f. Incident investigation, monitoring and reporting procedures.

g. Review and improvement processes to be implemented following incidents of different size/impact.

1.5 Managing overflows
The operator should, where reasonable and practicable, respond to overflows to prevent or minimise risks to the environment and public health.

Suggested control measures
a. Appropriate protocols are developed and implemented to reduce risks to safety, public health and the environment and written procedures (Section 9).

b. Response to overflows is undertaken according to risk (see Section 8) and may include:
   i. Preventing, containing or minimising the overflow where it is feasible and safe to do so.

reviewed at appropriate intervals to ensure its effectiveness.
ii. Protecting SPS components from flood damage where it is feasible and safe to do so (e.g. protecting components from rising flood water so that they will be more rapidly reinstated following a flood),

iii. Notification of stakeholders (including the Environmental Regulator, see Section 1.6)

iv. Clean up, monitoring, remediation following planned incident response protocols,

v. Recording details of the incident including the cause and informing subsequent improvements, planning and response management.

e. Monitoring, sampling and analysis is conducted by a person with appropriate qualifications and/or experience in accordance with the environmental regulator’s *Monitoring and Sampling Manual 2009* and other relevant standards.

### 1.6 Notifications to the Environmental Regulator

The operator should notify the relevant administering authority after becoming aware of an overflow that has the potential to cause environmental harm.

**Suggested control measures**

a. Adhering to notification procedures developed to meet *Guidelines EM671 – Notification Criteria* for sewage releases to the environment and *EM467 – Duty to Notify of Environmental Harm* and any communication processes determined in consultation with the appropriate office of the environmental regulator.

b. Notifications of ongoing overflows during wet weather are repeated only if there is increased risk to public health or the environment.

c. A final report is provided within 14 days of the conclusion of a dry weather overflow or wet-weather ongoing overflows, to the appropriate District Office of the environmental regulator, describing the event, the incident response, remediation measures and any ongoing response.

### 1.7 Record Keeping

All maintenance and monitoring results, plans and documents should be collated and retained.

**Suggested control measures**

a. Records of all overflows, monitoring, incidents responses and the actions taken to prevent, mitigate, remediate and improve system performance are maintained in an appropriate data management system and provided to the Regulator on request.

b. Records are retained for the minimum number of years required by the *Public Records Act 2002*.)
Performance outcome 2:
Discharge to air of odours that may create a nuisance at an odour sensitive place is prevented or minimised.

### Release of odours.

Nuisance can be caused at an odour sensitive place when odours are released from a network or sewage pumping station.

<table>
<thead>
<tr>
<th>2. Potential risks and impacts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Odours can be released that may impact adjacent odour sensitive places causing an odour nuisance.</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>2.1 Design and Planning</th>
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<tbody>
<tr>
<td>New SPS and new sewerage networks should be designed to avoid release of odours to an odour sensitive place.</td>
</tr>
</tbody>
</table>

**Suggested control measures**

a. Design of new SPS includes adequate buffer zones where appropriate.

b. Design of new sewerage networks and new SPS include, where appropriate, adequate venting, sealing/enclosing infrastructure or installation of odour control units.

c. Odour control units for new sewerage networks and new SPS are appropriately designed and sized to treat the odour type, level (including peak and mean concentrations) and emission rate.

<table>
<thead>
<tr>
<th>2.2 Operation and Maintenance</th>
</tr>
</thead>
<tbody>
<tr>
<td>The network and SPS should be operated to prevent the risk of odour nuisance at an odour sensitive place.</td>
</tr>
</tbody>
</table>

**Suggested control measures** *(in addition to general measures described in Section 1.2)*


b. Odour control units are routinely inspected and maintained with the frequency based on age of the asset, location (and consequence of failure), and appropriate technical specifications.

<table>
<thead>
<tr>
<th>2.3 Responding to complaints</th>
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<tbody>
<tr>
<td>Appropriate procedures are in place for capturing and responding to odour complaints.</td>
</tr>
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</table>

**Suggested control measures**

a. Processes are developed and implemented to capture and respond to odour complaints such as:
   1. Publication of operator’s complaints process.
   2. Call-out arrangements and response times.
   3. Investigation processes.
   4. Third party notification.

b. Where appropriate, logging and monitoring are undertaken (by an appropriately qualified person) in response to a complaint to quantify any amenity issue and identify any other possible sources.

c. Review acceptable levels (including extent and regularity...
of discharge) given the nature of the sensitive place and the emergent complaint(s).

d. Develop and implement alternative operations or maintenance procedures that will reduce the risks of nuisance at the sensitive place where reasonable and practicable.

e. Retrofitting odour controls (e.g. venting, sealing/enclosing infrastructure, adding substances to reduce septicity or installation of odour control units) is considered where reasonable and practicable.

<table>
<thead>
<tr>
<th>2.4 Record Keeping</th>
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<tbody>
<tr>
<td>a. See Section 1.7 (above).</td>
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</table>
## Performance outcome 3:
Noise nuisance is prevented or minimised at a noise sensitive place.

### Noise

Sewage pumping stations may be sources of noise nuisance at nearby noise sensitive places.

<table>
<thead>
<tr>
<th>3. Potential risks and impacts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Noise from SPS can create a nuisance to a nearby noise sensitive place.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>3.1 Design and Planning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design of new SPS reduces noise at a noise sensitive place.</td>
</tr>
</tbody>
</table>

#### Suggested control measures

- Processes to ensure design of new SPS considers the impact of noise generated by the activity and potential controls which may include:
  - Location of sensitive receptors and appropriate buffer zones,
  - Fencing or acoustic enclosures for noise-generating components such as pumps/generators, and
  - Selection of appropriate pumping assets.

<table>
<thead>
<tr>
<th>3.2 Operations and Maintenance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sewerage networks and SPS should be operated and maintained so that noise does not cause environmental nuisance at a noise sensitive place.</td>
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</tbody>
</table>

#### Suggested control measures in addition to general measures suggested in Section 1.2 above

- Pumps are routinely inspected and maintained at a frequency based on age of the asset, location (and consequence of failure), and appropriate technical specifications.

<table>
<thead>
<tr>
<th>3.3 Responding to Noise issues</th>
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<tbody>
<tr>
<td>Appropriate procedures are in place for capturing and responding to noise complaints.</td>
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</table>

#### Suggested control measures in addition to those in Section 2.3 above

- Noise monitoring (by an appropriately trained person in line with the department’s Noise Measurement Manual) in response to a complaint (or at the request of the environmental regulator) to quantify any amenity issue and identify any other possible sources.
- Retrofitting noise controls (e.g. fencing, acoustic enclosures) at existing SPS is considered where reasonable and practicable.

<table>
<thead>
<tr>
<th>3.4 Record Keeping</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. See Section 1.7 (above).</td>
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</table>
## Definitions

**major upgrades**  
Major upgrades means civil/structural upgrades that will involve expenditure in excess of whichever is greater of either:

- 70% of the replacement value of the sewage pumping station; or
- $164,000 (Note: this figure is relevant as of 1 January 2015 and will increase by three per cent as of 1 January thereafter, until this code is reviewed).

**new sewerage networks / new sewage pumping stations**  
Networks or SPS designed and built following the date of release of this code.

**ongoing overflows**  
Means overflows that occur after an initial release but caused by continuing surcharge within the sewerage catchment.

**reasonable and practicable**  
Reasonable and practicable measures take into account the risk to staff, the public and the environment and the financial impact of the actions on the community. Section 319 of the Environmental Protection Act requires the consideration of all ‘reasonable and practical’ measures to be taken in trying to prevent or minimise environmental harm considering:

(a) the nature of the harm or potential harm; and  
(b) the sensitivity of the receiving environment; and  
(c) the current state of technical knowledge for the activity; and  
(d) the likelihood of successful application of the different measures that might be taken; and  
(e) the financial implications of the different measures as they would relate to the type of activity.

**sensitive place**  
For noise, a sensitive place is a sensitive receptor as defined under Schedule 1 of the Environmental Protection (Noise) Policy 2008. A sensitive place for odours includes the following and includes a place within the curtilage of such a place reasonably used by persons at that place:

- a dwelling, residential allotment, mobile home or caravan park, residential marina or other residential premises; or
- a motel, hotel or hostel; or
- a kindergarten, school, university or other educational institution; or
- a medical centre or hospital; or
- a protected area under the Nature Conservation Act 1992, the Marine Parks Act 1992 or a World Heritage Area; or
- a public thoroughfare, park sports ground or garden.

**upgrade review**  
Means a high-level risk assessment of financial and social costs and benefits of flood-proofing SPS. If the operator forms the view that flood-proofing is not justified, management options should be demonstrated to reduce any residual risks in the event of an overflow.
Appendix 1: General obligations under the *Environmental Protection Act 1994*

**General environmental duty**
The *Environmental Protection Act 1994* section 319 states that we all have a general environmental duty. This means that we are all responsible for the actions we take that affect the environment. We must not carry out any activity that causes or is likely to cause environmental harm unless we take all reasonable and practicable measures to prevent or minimise the harm. To decide what meets your general environmental duty, you need to think about these issues:

- the nature of the harm or potential harm
- the sensitivity of the receiving environment
- the current state of technical knowledge for the activity
- the likelihood of successful application of the different measures to prevent or minimise environmental harm that might be taken
- the financial implications of the different measures as they would relate to the type of activity.

It is not an offence not to comply with the general environmental duty. However, complying with the general environmental duty is a defence against the following acts:

1. an act that causes serious or material environmental harm or an environmental nuisance
2. an act that contravenes a noise standard
3. a deposit of a contaminant, or release of stormwater run-off, mentioned in section 440ZG.

A person is taken to have complied with the general environmental duty if a code of practice applies to the relevant act and the person complied with the code of practice (see section 493A(5) of the *Environmental Protection Act 1994*).

**Duty to notify**
The duty to notify requires a person or company to give notice where serious or material environmental harm is caused or threatened to occur (see sections (section 320 – 320D of the *Environmental Protection Act 1994*). Notice must be given of the event, its nature and the circumstances in which the event happened. Notification can be verbal, written or by public notice depending on who is notifying and being notified.

For more information on the duty to notify requirements refer to the guideline *EM467 – Duty to Notify of Environmental Harm*.

**Relevant offences under the Environmental Protection Act 1994**

1. Causing serious or material environmental harm (sections 437-439)
   
   Material environmental harm is environmental harm that is not trivial or negligible in nature. It may be great in extent or context or it may cause actual or potential loss or damage to property. The difference between material and serious harm relates to the costs of damages or the costs required to either prevent or minimise the harm or to rehabilitate the environment. Serious environmental harm may have irreversible or widespread effects or it may be caused in an area of high conservation significance. Serious or material environmental harm excludes environmental nuisance.

2. Causing environmental nuisance (section 440)
   
   Environmental nuisance is unreasonable interference with an environmental value caused by aerosols, fumes, light, noise, odour, particles or smoke. It may also include an unhealthy, offensive or unsightly condition because of contamination.
3. Depositing a prescribed water contaminant in waters (section 440ZG)
Prescribed contaminants include a wide variety of contaminants listed in Schedule 9 of the
Environmental Protection Act 1994. It is your responsibility to ensure that prescribed contaminants are
not left in a place where they may or do enter a waterway, the ocean or a stormwater drain. This
includes making sure that stormwater falling on or running across your site does not leave the site
contaminated. Where stormwater contamination occurs you must ensure that it is treated to remove
contaminants. You should also consider where and how you store material used in your processes
onsite to reduce the chance of water contamination.

4. Placing a contaminant where environmental harm or nuisance may be caused (section 443).