9.3.21 Service station code

9.3.21.1 Application

1. This code applies to assessing a material change of use if:
2. assessable development where this code is an applicable code identified in the assessment benchmarks column of a table of assessment for a material change of use (section 5.5) or a neighbourhood plan (section 5.9); or
3. impact assessable development, for a service station or a use of a similar nature.
4. When using this code, reference should be made to section 1.5 and section 5.3.3.

Note—The following purpose, overall outcomes, performance outcomes and acceptable outcomes comprise the assessment benchmarks of this code.

Note—Where this code includes performance outcomes or acceptable outcomes that relate to:

* air quality assessment, guidance is provided in the Air quality planning scheme policy;
* crime prevention through environmental design, guidance is provided in the Crime prevention through environmental design planning scheme policy;
* design for the reduction of graffiti, guidance is provided in the Graffiti prevention guidelines planning scheme policy;
* hazard analysis, guidance is provided in the Industrial hazard and risk assessment planning scheme policy;
* noise impact assessment, guidance is provided in the Noise impact assessment planning scheme policy;
* refuse and recycling, guidance is provided in the Refuse planning scheme policy;
* storage and dispensing of petroleum products, guidance is provided in the Storage and dispensing of petroleum products planning scheme policy.

Editor’s note—The design, layout and operational management of a service station is to comply with the *Environmental Protection Act 1994.*

9.3.21.2 Purpose

1. The purpose of the Service station code is to assess the suitability of development to which this code applies.
2. The purpose of the code will be achieved through the following overall outcomes:
3. Development is in an appropriate location.
4. Development maintains health, safety and amenity near the service station and around the site.
5. Development is designed to effectively manage adverse impacts and hazards to adjacent or adjoining sites.
6. Development supports the supply of a range of automotive fuels and an emerging range of alternative fuels.

9.3.21.3 Performance outcomes and acceptable outcomes

Table 9.3.21.3.A—Performance outcomes and acceptable outcomes

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| Performance outcomes | Acceptable outcomes |
| PO1  Development is located on a site that maintains the purpose and integrity of the zone and ensures that impacts on adjoining, adjacent and surrounding areas are minimised. | AO1.1  Development is not located in a zone in the residential zones category. |
| AO1.2  Development is not located in the Rural zone or the Environmental management zone except where:   1. the site is located on the Gateway Motorway or Ipswich Motorway; 2. the service station is one element of an integrated development that also provides a range of facilities for motorists such as rest areas, toilets and picnic facilities. |
| AO1.3  Development is only located in a zone in the centre zones category where:   1. the site is located on a major road; or 2. the site is at the end of or forms a continuation of a strip shopping centre fronting a major road; or 3. the site is accessed from the internal driveway system of the centre. |
| AO1.4  Development is only located in a zone in the industry zones category where the site is located on a major road. |
| PO2  Development maintains and contributes to the visual amenity of the locality. | AO2  Development ensures:   1. a continuous 3m wide landscape strip containing groundcover and small shrubs is maintained along the frontage of the site; 2. any building or structure is located at least 7m behind the landscape strip; 3. mechanical plant is not visible from: 4. a street or pubic space; 5. an adjacent residential use.   Note—Mechanical plant includes generators, motors, compressors and pumps e.g. air-conditioning, refrigeration and coldroom motors. |
| PO3  Development provides refuse and recycling collection, separation and storage facilities that are located and managed to minimise adverse impacts on neighbouring properties and the public realm. | AO3.1  Development provides for a dedicated area or system to ensure adequate access to and removal of refuse and recycling. |
| AO3.2  Development ensures that refuse and recycling collection and storage location and design do not have any adverse impact (including odour, noise or visual impacts) on the amenity of adjoining land uses and are not visible from:   1. street or public space; 2. an adjacent residential use.   Note—Refer to the Refuse planning scheme policy for guidance. |
| PO4  Development minimises the risk to public safety, property and the environment from technological hazards such as fire, explosion and toxic release and achieves the hazard and risk criteria in  Table 9.3.21.3.F.  Note—A preliminary hazard analysis report prepared in accordance with the Industrial hazard and risk assessment planning scheme policy can assist in demonstrating achievement of this performance outcome. | AO4  Development does not include storage in excess of:   1. an aggregate quantity of Class 3 flammable liquids and combustible liquids, stored or intended to be stored below ground of 385,000L; 2. 16m3 of Class 2.1 LPG either underground or above-ground. |
| PO5  Development minimises opportunities for graffiti and vandalism through access control, canvas reduction and easy maintenance materials.  Note—For guidance on design considerations to reduce graffiti refer to the Graffiti prevention planning scheme policy. | AO5  Development incorporates graffiti and vandalism prevention techniques in its layout, building or structure design and landscaping by:   1. discouraging access to property that is vandal or graffiti-prone using see-through fencing, sprinklers, thorny ground covers and/or noisy path surfaces such as fine gravel; 2. avoiding ‘natural ladders’ that provide access to property that is vandal or graffiti-prone; 3. minimising blank vertical surfaces by reducing building material, or by covering blank areas with vegetation, mesh or latticework not suitable for climbing; 4. maximising opportunities for casual surveillance at all hours by positioning windows, doors and pathways to overlook property that is vandal or graffiti-prone; 5. utilising surface treatments, for example dark colours, legal artwork or graffiti-resistant treatment. |
| PO6  Development is designed and constructed to prevent the release of contaminants to surface water or groundwater, through the incorporation of:   1. spill and leakage prevention measures for underground tanks, above-ground tanks and pipework; 2. leak detection systems for tanks and pipework; 3. pollution prevention measures for fuel dispensing areas and uncovered forecourt areas.   Note—Design and construction in accordance with the Storage and dispensing of petroleum products planning scheme policy can assist in demonstrating achievement of this performance outcome. | AO6  Development complies with the surface water and groundwater protection standards of the Storage and dispensing of petroleum products planning scheme policy. |
| PO7  Development includes spill management and stormwater treatment systems for fuel dispensing areas and uncovered forecourt areas that achieve the stormwater treatment criteria in Table 9.3.21.3.G. | AO7  Development:   1. includes fuel dispensing areas that are drained to a containment vessel having no connection to sewer or stormwater in compliance with the fuel dispensing area standards of the Storage and dispensing of petroleum products planning scheme policy; 2. does not include uncovered forecourt areas, by ensuring the entire forecourt area is covered. |
| PO8  Development:   1. avoids or minimises air emissions through the installation of Stage 1 and Stage 2 vapour recovery systems; 2. is located a sufficient distance from a sensitive zone or a sensitive use in a rural zone to maintain amenity, health and wellbeing, as demonstrated by compliance with the following criteria: 3. air quality planning criteria in Table 9.3.21.3.D; 4. odour criteria in Table 9.3.21.3.E.   Note—The design and installation of vapour recovery systems in accordance with Section 2.3 of the Storage and dispensing of petroleum products planning scheme policy can assist in demonstrating achievement of this performance outcome.  Note—An air quality impact report prepared in accordance with the Air quality planning scheme policy can assist in demonstrating achievement of this performance outcome.  Note—Where a development is located within a sensitive zone, compliance with the air quality (planning) criteria and odour criteria is to be demonstrated at the site boundary and at the perimeter of any sensitive uses where these are part of the same site. | AO8.1  Development that has an annual throughput of motor spirit (including unleaded petrol, premium unleaded petrol and ethanol blends but excluding diesel) that exceeds 520,000L includes the installation of Stage 1 vapour recovery in compliance with the air quality section of the Storage and dispensing of petroleum products planning scheme policy. |
| AO8.2  Development:   1. if the annual throughput does not exceed 1.2ML of fuel ensures fuel-dispensing areas and vents are not located within 10m of a sensitive use or a sensitive zone; 2. if the annual throughput is between 1.2ML and 9ML of fuel, ensures fuel dispensing areas and vents are not located within 50m of a sensitive use or a sensitive zone; 3. if the annual throughput does not exceed 12ML of fuel: 4. is fitted with Stage 1 and Stage 2 vapour recovery equipment in compliance with the air quality section of the Storage and dispensing of petroleum products planning scheme policy; 5. ensures fuel-dispensing areas and vents are not located within 20m of a sensitive use or a sensitive zone; 6. does not exceed an annual throughput of 12ML of fuel; 7. locates the fuel dispensing areas or vents further than 20m from a sensitive use or a sensitive zone.   Editor’s note—“Fuel” means motor spirit, including petrol, premium unleaded petrol and ethanol blend but excluding diesel. |
| If a site is within 150m of land within a sensitive zone | |
| PO9  Development must be compatible in appearance and scale with nearby residential buildings. | AO9  Development ensures that building height is no more than 9.5m. |
| PO10  Development:   1. has hours of operation which are controlled so that the use does not detrimentally impact on the amenity of adjoining residents; 2. ensures that noise generated does not exceed the noise (planning) criteria in Table 9.3.21.3.B and night-time noise criteria in Table 9.3.21.3.C.   Note—A noise management report prepared in accordance with the Noise impact assessment planning scheme policy can assist in demonstrating achievement of this performance outcome 10b. | AO10  Development:   1. is not located within 50m of a sensitive use; or sensitive zone: or 2. ensures mechanical plant or equipment is acoustically screened from adjoining sensitive uses; 3. provides a 2m high acoustic fence along any boundary with a sensitive use; 4. ensures car parking areas are acoustically screened from adjoining residential dwellings; 5. has hours of operation, including for deliveries, which are limited to 6am to 8pm.   Note—Mechanical plant includes generators, motors, compressors and pumps, e.g. air conditioning, refrigeration or coldroom motors. |

Table 9.3.21.3.B—Noise (planning) criteria

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| --- | --- | --- | --- | --- |
| Criteria location | Intrusive noise criteria  Day, evening and night LAeq,adj,T are not greater than the RBL plus the value in this column for the relevant criteria location, where T equals:  Day: 11hr  Evening: 4hr  Night: 9hr | Acoustic amenity criteria  Day, evening and night LAeq,adj,T are not greater than the values in this column for the relevant criteria location, where T equals:  Day: 11hr  Evening: 4hr  Night: 9hr | | |
| Day | Evening | Night |
| Low density residential zone boundary | 3dB(A) | 55dB(A) | 45dB(A) | 40dB(A) |
| Low–medium density residential zone boundary | 3dB(A) | 55dB(A) | 45dB(A) | 40dB(A) |
| Medium density residential zone boundary | 3dB(A) | 55dB(A) | 50dB(A) | 45dB(A) |
| High density residential zone boundary | 3dB(A) | 55dB(A) | 50dB(A) | 50dB(A) |
| Character residential zone boundary | 3dB(A) | 50dB(A) | 45dB(A) | 40dB(A) |
| Tourist accommodation zone boundary | 3dB(A) | 55dB(A) | 50dB(A) | 50dB(A) |
| At a sensitive use in Principal centre zone | 5dB(A) | 60dB(A) | 55dB(A) | 50dB(A) |
| At a sensitive use in Major centre zone | 5dB(A) | 60dB(A) | 55dB(A) | 50dB(A) |
| At a sensitive use in District centre zone | 5dB(A) | 60dB(A) | 55dB(A) | 50dB(A) |
| At a sensitive use in Neighbourhood centre zone | 5dB(A) | 55dB(A) | 50dB(A) | 50dB(A) |
| At a sensitive use in Specialised centre zone | 5dB(A) | 55dB(A) | 50dB(A) | 50dB(A) |
| Emerging community zone boundary | 5dB(A) | 55dB(A) | 50dB(A) | 45dB(A) |
| Environmental management zone boundary | 0dB(A) | 40dB(A) | 40dB(A) | 40dB(A) |
| Conservation zone boundary | 0dB(A) | 40dB(A) | 40dB(A) | 40dB(A) |
| At a sensitive use in Mixed use zone | 5dB(A) | 60dB(A) | 55dB(A) | 50dB(A) |
| At a sensitive use in Rural zone | 5dB(A) | 55dB(A) | 50dB(A) | 45dB(A) |
| At a sensitive use in Rural residential zone | 5dB(A) | 50dB(A) | 45dB(A) | 40dB(A) |
| At a sensitive use in Township zone | 5dB(A) | 55dB(A) | 45dB(A) | 40dB(A) |

Notes—

* LAeq,adj,T: The adjusted A-weighted equivalent continuous sound pressure level of the development during the time period T, where T is an 11-hr day (7am–6pm), 4-hr evening (6pm–10pm) and 9-hr night (10pm–7am), determined in accordance with the methodology described in the Noise impact assessment planning scheme policy.
* RBL: Rating background level determined in accordance with the methodology described in the Noise impact assessment planning scheme policy.
* dB(A): A-weighted decibels

Table 9.3.21.3.C—Night-time noise criteria

|  |  |  |  |
| --- | --- | --- | --- |
| Criteria location | Where the existing LAeq,9hr night at the criteria location is: | Average of the highest 15 single LAmax events over a given night (10pm-7am) period is not greater than the following values at the relevant criteria location: | The absolute highest single LAmax event over a given night (10pm-7am) period is not greater than the following values at the relevant criteria location: |
| At the zone boundary of:   * Low density residential zone * Low–medium density residential zone * Medium density residential zone * High density residential zone * Character residential zone * Tourist accommodation zone * Emerging community zone | < 45dB(A) | 50dB(A) | 55dB(A) |
| 45 to 60dB(A) | LAeq,9hr night + 5dB(A) | LAeq,9hr night + 10dB(A) |
| > 60dB(A) | 65dB(A) | 70dB(A) |
| External to a sensitive use  located in a:   * Principal centre zone * Major centre zone * District centre zone * Neighbourhood centre zone * Specialised centre zone * Mixed use zone * Rural zone * Rural residential zone * Township zone | Not applicable | 65dB(A) | 70dB(A) |

Notes—

* LAmax: The A-weighted maximum sound pressure level determined in accordance with the methodology described in the Noise impact assessment planning scheme policy.
* LAeq,9hr: The A-weighted equivalent continuous sound pressure level of the development during the night-time period 10pm to 7am, determined in accordance with the methodology described in the Noise impact assessment planning scheme policy.
* Night: 10pm to 7am
* dB(A): A-weighted decibels

Table 9.3.21.3.D—Air quality planning criteria

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Pollutant | Averaging time | Health outcome protected | Criteria including background (µg/m3) | Criteria including background (ppm) |
| Benzene | 1 hour | Health and wellbeing | 29 | 0.009 |
| Annual | Health and wellbeing | 10 | 0.003 |
| Cyclohexane | 1 hour | Health and wellbeing | 19,000 | 5 |
| Ethylbenzene | 1 hour | Health and wellbeing | 8,000 | 1.8 |
| n-Hexane | 1 hour | Health and wellbeing | 3,200 | 0.9 |
| Styrene | 1 hour | Odour | 65 | 0.014 |
| 7 days | Health and wellbeing | 280 | 0.06 |
| Toluene | 1 hour | Odour | 958 | 0.23 |
| 24 hours | Health and wellbeing | 4,100 | 1 |
| Annual | Health and wellbeing | 410 | 0.1 |
| Xylenes (as a total of ortho, meta and para isomers) | 24 hours | Health and wellbeing | 1,200 | 0.25 |
| Annual | Health and wellbeing | 950 | 0.2 |

Note—

* Criteria that are stated in µg/m3 are to be referenced to 0°C.
* Criteria that are stated in ppm are to be expressed as volume/volume.
* Averaging times of 1 hour or less are to be presented using the 99.9th percentile concentration of the total site impact from dispersion modelling and background concentration for all pollutants in the above table, or the maximum concentration from dispersion modelling if no background concentration is available.
* Averaging times of greater than 1 hour are to be presented using the maximum concentration of the total site impact from dispersion modelling and background concentration.

Table 9.3.21.3.E—Odour criteria

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| --- | --- | --- | --- |
| Pollutant | Averaging time | Health outcome protected | Criteria (odour units – OU) |
| Odour | 1 hour | Odour | 0.5 OU for tall stacks |
| Odour | 1 hour | Odour | 2.5 OU for ground-level and wake-affected plumes from short stacks |

Note—Odour criteria are to be evaluated using the 99.5th percentile concentration from dispersion modelling.

Table 9.3.21.3.F—Hazard and risk criteria

|  |  |  |  |
| --- | --- | --- | --- |
| Fatality risk | | | |
| Land use | | Fatality risk criteria  (risk in a million per year) | |
| Hospital, education establishment, childcare centre, retirement facility, community care centre, health care service, residential care facility | | 0.5 | |
| Dual occupancy, multiple dwellings, short-term accommodation, community residence, dwelling house, rooming accommodation, relocatable home park, tourist park | | 1 | |
| Commercial developments including shops and shopping centres, food and drink outlet, offices, theatres and tourist attractions | | 5 | |
| Indoor sport and recreation, outdoor sport and recreation | | 10 | |
| Industry activities | | 50 | |
| Injury risk | | | |
| Type of risk | | Injury risk criteria | |
| Heat radiation | | Incident heat flux radiation does not exceed 4.7kW/m2 at a frequency of more than 50 chances in a million per year. | |
| Explosion overpressure | | Incident explosion overpressure does not exceed 7kPa at frequencies of more than 50 chances in a million per year | |
| Toxic exposure | | Toxic concentrations do not exceed a level which would be seriously injurious to sensitive members of the community following a relatively short period of exposure at a maximum frequency of 10 in a million per year.  Toxic concentrations will not cause irritation to eyes or throat, coughing or other acute physiological responses in sensitive members of the community over a maximum frequency of 50 in a million per year. | |
| Risk to property damage and accident propagation | | | |
| Type of property damage accident propagation risk | Land use | | Property damage and accident propagation risk criteria |
| Heat radiation | Neighbouring potentially hazardous installations or at land zoned to accommodate such installations | | Incident heat flux radiation not to exceed a risk of 50 in a million per year for the 23kW/m2 heat flux level |
| Explosion overpressure | Neighbouring potentially hazardous installations; at land zoned to accommodate such installations, or  at nearest public buildings | | Incident explosion overpressure not to exceed a risk of 50 in a million per year for the 14kPa explosion overpressure level |

Table 9.3.21.3.G – Stormwater treatment criteria

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| Stormwater treatment criteria for fuel dispensing areas |
| 1. Includes a spill containment compartment having sufficient capacity to hold a volume equivalent to the largest likely spill scenario; 2. Captures and treats 100 percent of stormwater to the following levels: 3. <5ppm (mg/L) total petroleum hydrocarbons (TPH) 4. ≥80% reduction in total suspended solids (TSS) 5. ≥90% reduction in gross pollutants (GP). 6. Includes a fail-safe design so that in the event of failure of any part of the system, power failure, or where the spill compartment or hydrocarbon chamber reaches capacity, no pollutant is released from the system in excess of the levels outlined in (b). |
| Stormwater treatment criteria for uncovered forecourt areas |
| 1. Captures and treats stormwater to the following levels: 2. <5ppm (mg/L) total petroleum hydrocarbons (TPH) 3. ≥80% reduction in total suspended solids (TSS) 4. ≥90% reduction in gross pollutants (GP). 5. Includes a first flush/high-flow bypass system designed to meet the levels outlined in (a) during a storm up to the 3 month ARI-6minute design rainfall event without surcharging or backing up the drainage system; 6. Includes a fail-safe design so that in the event of failure of any part of the system, power failure, or where the spill compartment or hydrocarbon chamber reaches capacity, no pollutant is released from the system in excess of the levels outlined in (a). |