



North Ayrshire Council
Comhairle Siorrachd Àir a Tuath

Planning Committee

A Meeting of the **Planning Committee** of North Ayrshire Council will be held in the **Council Chambers, Ground Floor, Cunninghame House, Irvine, KA12 8EE** on **Wednesday, 22 January 2025 at 14:00** to consider the undernoted business.

Meeting Arrangements - Hybrid Meetings

This meeting will be held on a predominantly physical basis but with provision, by prior notification, for remote attendance by Elected Members in accordance with the provisions of the Local Government (Scotland) Act 2003. Where possible, the meeting will be live-streamed and available to view at <https://north-ayrshire.public-i.tv/core/portal/home>.

1 Declarations of Interest

Members are requested to give notice of any declarations of interest in respect of items of business on the Agenda.

2 Minutes

The accuracy of the Minutes of the meeting held on 27 November 2024 will be confirmed and the Minutes signed in accordance with Paragraph 7 (1) of Schedule 7 of the Local Government (Scotland) Act 1973 (copy enclosed).

3 Supplementary Street Development Guide

Submit a report by the Executive Director (Communities and Housing) seeking approval of the proposed Supplementary Street Development Guide (copy enclosed).

4 23/00061/PPM: South Of Nethermain's Community Centre, Nethermain's Road, Kilwinning

Erection of 115 dwelling houses to include the formation of associated site access, roads, footpaths, landscaping, drainage and ancillary works South Of Nethermain's Community Centre, Nethermain's Road, Kilwinning (copy enclosed).

- 5 24/00888/PP: 5 Crompton Way, Irvine**
Removal of condition 7 of planning permission 22/00094/PPM and the amendment of access arrangements for the development (copy enclosed).
- 6 24/00505/PP: 4 Hawkhill Retail Park, Kilwinning Road, Stevenston**
Change of use of Unit 4 from a restaurant and drive-thru (Class 3/Sui Generis) to shops, financial professional and other services (Class 1A) and erection of drive-thru restaurant (Class 3/Sui Generis) with associated access, servicing car parking and other associated works at McDonalds Restaurants Ltd, 4 Hawkhill Retail Park, Kilwinning Road, Stevenston, North Ayrshire KA20 3DE (copy enclosed).
- 7 Largs Local Place Plan**
Submit a report by the Executive Director (Communities and Housing) to advise on the preparation and submission of a Local Place Plan by Largs Community Council (copy enclosed).
- 8 Cumbrae Local Place Plan**
Submit a report by the Executive Director (Communities and Housing) to advise on the preparation and submission of a Local Place Plan by Cumbrae Community Council (copy enclosed).
- 9 Urgent Items**
Any other items which the Chair considers to be urgent.

Webcasting

Please note: this meeting may be filmed/recorded/live-streamed to the Council's internet site and available to view at <https://north-ayrshire.public-i.tv/core/portal/home>, where it will be capable of repeated viewing. At the start of the meeting, the Provost/Chair will confirm if all or part of the meeting is being filmed/recorded/live-streamed.

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Generally, the press and public will not be filmed. However, by entering the Council Chambers and using the press or public seating area, you acknowledge that you may be filmed and that any information pertaining to you contained in the video and oral recording of the meeting will be used for webcasting or training purposes and for the purpose of keeping historical records and making those records available to the public. In making this use of your information the Council is processing data which is necessary for the performance of a task carried out in the public interest.

If you have any queries regarding this and, in particular, if you believe that use and/or storage of any particular information would cause, or be likely to cause, substantial damage or distress to any individual, please contact dataprotectionofficer@north-ayrshire.gov.uk

Planning Committee Sederunt

Robert Foster (Chair)
Cameron Inglis (Vice-Chair)
Scott Davidson
Stewart Ferguson
Amanda Kerr
Davina McTiernan
Jim Montgomerie
Ian Murdoch
Chloe Robertson
Ronnie Stalker

Chair:

Apologies:

Attending:

At a Meeting of the Planning Committee of North Ayrshire Council at 2.00 p.m. involving a combination of participation by remote electronic means and physical attendance within the Council Chambers, Irvine.

Present (Physical Participation)

Robert Foster, Stewart Ferguson, Cameron Inglis, Davina McTiernan, Chloé Robertson, and Ronnie Stalker.

Present (Remote Participation)

Scott Davidson, Amanda Kerr and Ian Murdoch.

In Attendance (Physical Participation)

A. Finlayson, Chief Planning Officer and A. Gemmell, Strategic Planning Manager (Communities and Housing); R. Lynch, Senior Manager and C. Leslie, Solicitor (Legal Services); S. Wilson, Committee Services Officer; and C. Cheung, Digital, Media and Marketing Analyst (Communications) (Democratic Services) (Corporate Services).

Apologies

Jim Montgomerie.

Chair

Councillor Foster in the Chair.

1. Declarations of Interest

There were no declarations of interest by Members in terms of Standing Order 11 and Section 5 of the Code of Conduct for Councillors.

2. Minutes

The Minutes of the Meeting held on 28 August 2024 were confirmed and signed in accordance with Paragraph 7 (1) of Schedule 7 of the Local Government (Scotland) Act 1973.

3. Development Plan Scheme

Submitted a report by the Executive Director (Communities and Housing) to provide an update on the preparation of the Council's next Local Development Plan (LDP3) and seeking approval of a revised Development Plan Scheme attached at Appendix 1 to the report.

The Committee agreed to adopt the Development Plan Scheme attached at Appendix 1 to the report.

4. 24/00444/PPM: Hunterston Construction Yard, Fairlie

Submitted a report by the Chief Planning Officer seeking planning permission for construction of new quay wall, infilling of dry dock basin to upgrade existing marine construction yard, together with ancillary works, to include, site security fencing, lighting, removal of existing bund and sections of stone revetment, and surface water drainage work.

The Committee noted no deputation requests were received for this application.

Officers responded to Members' questions on various aspects of the report and the Committee agreed to approve the application subject to the following conditions:

1. Prior to any works commencing on site a Phase II Intertidal Survey will be completed and provided to North Ayrshire Council, as Planning Authority, and NatureScot. The Construction Environment Management Plan (CEMP) will be updated to reflect the findings of this survey including details of the approach to ongoing assessment of the 35 identified PMFs during and post works. Following completion of the works a Project Completion report will be provided detailing the PMF condition recorded during and post work completion. This report will also detail any remedial work required to be carried out on the basis of the monitoring results, to be agreed with the Council, as Planning Authority, in consultation with NatureScot. Thereafter all works are to be carried out in accordance with any CEMP as may be approved, to the satisfaction of the Council, as Planning Authority.
2. Prior to commencement of the development an independent ecological clerk of works (ECoW) shall be appointed. The contact details, credentials and terms of reference shall be submitted to the Council, as Planning Authority, for approval. For the avoidance of doubt, the ECoW will audit the CEMP, and the construction practices contained therein. The ECoW will have the authority to halt any works not in accordance with the CEMP and report such incidences to the Council, as Planning Authority.
3. Prior to commencement of the development a Construction Traffic Management Plan (CTMP) shall be submitted to the Council, as Planning Authority, for approval in consultation with Transport Scotland. Such a plan should include measures to facilitate the continuous operation of the Ayrshire Coastal Path. Thereafter all works are to be carried out in accordance with any CTMP as may be approved, to the satisfaction of the Council, as Planning Authority.
4. That no infill material shall be brought to the site by road.
5. Prior to the commencement of the development, a Construction Noise Management Plan (CNMP) shall be submitted to the Council, as North Ayrshire Council, for approval in consultation with NAC Environmental Health. Any CNMP shall include details of proposed monitoring for any possible work outwith the hours 7am to 7pm and details of procedures to be undertaken should NAC Environmental Health receive a valid complaint relating to noise disturbance. Thereafter all works shall be carried out in accordance with any CNMP as may be approved, to the satisfaction of the Council, as Planning Authority.

6. Prior to the commencement of the development, a Dust Management Plan (DMP) shall be submitted to the Council, as North Ayrshire Council, for approval in consultation with NAC Environmental Health. Thereafter all works shall be carried out in accordance with any DMP as may be approved, to the satisfaction of the Council, as Planning Authority.
7. The works shall be carried out in accordance with the recommendations set out in Section 5.2 of the Phase 1 Geo-Environmental Risk Assessment, prepared by Envirocentre dated March 2024. Any unsuspected contamination become evident during the works shall be brought to the attention of NAC Environmental Health. Thereafter a suitable investigation strategy as agreed with North Ayrshire Council, as Planning Authority, shall be implemented and any necessary remediation works carried out prior to any further works taking place on the site, all to the satisfaction of North Ayrshire Council, as Planning Authority.

5. 24/00547/PPM: Tennox Farm, Kilbirnie

Submitted a report by the Executive Director (Communities and Housing) seeking planning permission for tourist accommodation development to include: - change of use of agricultural land, erection of buildings for holiday lets, ancillary outbuildings, hunting lodge and alterations/extension to existing stable building for manager's accommodation (in retrospect); - the erection of a storage/agricultural/activity building with link corridor to existing shed, erection of holiday cabins and all associated parking, footpaths, landscaping, parking and upgraded drainage infrastructure (proposed).

The Committee noted no deputation requests were received for this application.

Officers responded to Members' questions on various aspects of the report and following discussions, a motion proposed by Cllr Foster, seconded by Cllr McTiernan was agreed to approve planning permission, subject to a review in six months, inclusive of the following conditions:

1. That the development hereby approved shall be implemented in accordance with the submitted plans, drawings and recommendations contained in the application (inclusive of all associated supporting documentation) unless otherwise indicated below, all to the satisfaction of North Ayrshire Council as Planning Authority.
2. That, prior to the commencement of the development hereby approved, the applicant shall submit for the written approval of North Ayrshire Council as Planning Authority documents which confirm that:
 - (a) a scheme of intrusive site investigations has been carried out on site to establish the risks posed to the development (inclusive of existing developments on the site) by past coal and ironstone mining activity;
 - (b) any remediation works and/or mitigation measures to address land instability arising from coal and ironstone mining legacy, as may be necessary, have been implemented on site in full in order to ensure that the site is made safe and stable for the development proposed; and
 - (c) an assessment of the likelihood of any ground gases.

The intrusive site investigations and remedial works shall be carried out in accordance with authoritative Scottish and UK guidance. Remediation proposals shall also be presented in relation to any significant findings. All documentation shall be verified by a suitably qualified Environmental Consultant and submitted to the satisfaction of North Ayrshire Council as Planning Authority.

3. That, prior to the commencement of the development hereby approved, the applicant shall submit for the written approval of North Ayrshire Council as Planning Authority a finalised scheme of landscaping and planting. The finalised scheme shall be based on the landscape plan hereby approved (drawing ref. COG493/DRA/006/b) and as per the Biodiversity Enhancement Plan produced in support of the application by EP Ecology Ltd dated 7th February 2024. The scheme shall include details of swift boxes, bat hibernacula, tree and plant species, planting densities, soil treatment, aftercare and a future management plan. All tree and plant species shall be selected to enhance biodiversity and support nature/wildlife, with future management measures designed to minimise the use of chemical pesticides and manufactured fertilisers. The scheme as may be approved shall be implemented prior the development becoming operational and retained/managed permanently thereafter to the satisfaction of North Ayrshire Council as Planning Authority. Any trees or areas of planting which fail shall be replaced until successfully established.
4. That, for the avoidance of doubt, surface water arising from the development of the site, including during construction operations, shall be treated and managed using a SuDS system. Prior to the commencement of the development, hereby approved, confirmation shall be submitted in writing to North Ayrshire Council as Planning Authority and certified by a suitably qualified person that a scheme to treat the surface water arising from the development of the site (during construction and operational phases) has been prepared in accordance with the principles and practices contained in 'The SuDS Manual' (CIRIA report C753, published November 2015). Thereafter, the certified scheme shall be implemented prior to the completion of the development and maintained thereafter to the satisfaction of North Ayrshire Council as Planning Authority.
5. That the presence of any significant unsuspected contamination that becomes evident during the development of the site shall be brought to the attention of Environmental Health. Thereafter a suitable investigation strategy as agreed with North Ayrshire Council shall be implemented and any necessary remediation works carried out prior to any further development taking place on the site, all to the satisfaction of North Ayrshire Council as Planning Authority.
6. That, prior to the occupation of the development, or it being taken into beneficial use, a signed statement or declaration prepared by a suitably competent person confirming that the ground at the site is, or has been made, safe and stable for the approved development shall be submitted for the written approval of North Ayrshire Council as Planning Authority. This document shall confirm the methods and findings of the intrusive site investigations and the completion of any remedial works and/or mitigation necessary to address the risks posed by past coal mining activity.

6. 23/00559/PP: Ardeer Peninsula, Stevenston

Submitted a report by the Executive Director (Communities and Housing) seeking planning permission for the erection of 2 wind turbines of up to 150m to tip, and associated infrastructure.

The Committee noted no deputation requests were received for this application.

Officers responded to Members' questions on various aspects of the report and following discussions the Committee unanimously agreed to refuse planning permission for this application for the following reasons:

1. The proposed development is contrary to Strategic Policy 2 and Policies 15 and 29 of the North Ayrshire Local Development Plan and associated Spatial Framework and Landscape Wind Capacity Study and Policies 11 and 14 of National Planning Framework 4 in terms of unacceptable significant visual impacts on the settlement of Stevenston given the size of the proposed turbines. The proposal is also contrary to Strategic Policy 2 of the LDP and policy 14 of National Planning Framework 4, in terms of preserving the quality of 'distinctive' places.
2. The proposed development is considered to raise unacceptable safety risks to nearby residential areas in Stevenston and the operation of the adjacent Chemring energetics industrial use on the basis of unnecessary proximity.

7. Urgent Items

There were no urgent items.

The meeting ended at 3:25 p.m.

**The full meeting proceedings can be viewed at
<https://north-ayrshire.public-i.tv/core/portal/home>**

NORTH AYRSHIRE COUNCIL

22 January 2025

Planning Committee

Title:	Supplementary Street Development Guide
Purpose	To seek approval of the proposed Supplementary Street Development Guide
Recommendation:	<p>That the Planning Committee:</p> <ul style="list-style-type: none"> a) Approves the proposed Supplementary Street Development Guide (SSDG), provided at Appendix One, to be used alongside the National Roads Development Guide; b) delegates authority to the Executive Director (Place) for any future technical changes to the SSDG as required.

1. Executive Summary

- 1.1 Well-designed streets can be a vital resource in social, economic and cultural terms. They can be the main component of our public realm and a core element of local identity. Given the unique character of North Ayrshire with its coastal towns, rural areas and islands, the need to develop a specific street development guide for North Ayrshire, supplementary to national guidance was identified.
- 1.2 The proposed Supplementary Street Development Guide (SSDG), for which this report seeks approval from the Planning Committee, has been informed by extensive stakeholder engagement and engagement with the Council's Policy Advisory Panel. This will, alongside the National Roads Development Guide (NRDG), replace the previous Strathclyde Regional Council Roads Development Guide (1996) to provide developers with clear guidance on creating new streets in North Ayrshire.

2. Background

- 2.1 The Roads (Scotland) Act 1984 requires that, where a road is not constructed by a Roads Authority, the developer obtains the appropriate consent from the local Roads Authority to undertake this work. This is referred to as a Road Construction Consent (RCC).

- 2.2 The developer is required to design the road in accordance with the guidelines prescribed by the Roads Authority. The guidelines currently used by North Ayrshire Council for development roads are those introduced by Strathclyde Regional Council in 1996. These guidelines are now outdated, as the road layouts are predominantly designed to accommodate vehicles rather than pedestrians, and no longer reflect national policy.
- 2.3 Designing Streets was launched by the Scottish Government in 2010 as part of the Scottish Government's planning and related policy. This policy statement for street design in Scotland marked a change in the emphasis of guidance towards place-making and away from a system focused on the dominance of vehicles. It raises the importance of street design issues from that of guidance and advice, to policy. It considers that roads within certain environments cater for more important functions than just the movement of people and traffic.
- 2.4 Following the introduction of "Designing Streets", SCOTS recognised the implications of such a change and the NRDG was produced in 2015 following consultation with the 32 local authorities. The NRDG reflects and expands on principals in Designing Streets whilst supporting a holistic integrated approach to the planning and approval process. Additionally, SCOTS recognised that due to their geography, some local authorities may require local variations to the information provided in the guide.
- 2.5 Well-designed streets can be a vital resource in social, economic and cultural terms; they can be the main component of our public realm and a core element of local identity. Active Travel and Transport Officers, along with other internal Services, have developed a draft SSDG to be used in conjunction with the NRDG. This approach aims to reflect the unique character of North Ayrshire with its coastal towns, rural areas and islands. It also puts place and people before the movement of vehicles, as attractive and well-connected street networks encourage people to walk and cycle to local destinations, improving their health while reducing traffic, energy use and pollution.
- 2.6 A dedicated website was launched in January 2024 to enable stakeholder consultation on the draft strategy. Council services, consultants, developers and construction companies that work within North Ayrshire were all invited to comment on the draft guide. The consultation process involved an online questionnaire and feedback form which was publicised via e-mail to all previous consultees and stakeholders. A total of 16 responses were received and all, except for one, agreed that the new guide, in conjunction with the NRDG, provides them with sufficient detail to enable streets to be developed in North Ayrshire. Comments provided by stakeholders through the consultation process have been incorporated into the final draft of the SSDG.
- 2.7 The SSDG is primarily a technical guidance document that will replace the existing North Ayrshire Roads Development Guide and should be read in conjunction with the NRDG and Designing Streets. It is aimed at assisting developers to meet the requirements of Designing Streets while considering the local characteristics and geography of North Ayrshire. It is proposed that the SSDG and NRDG will be used for the design of all development streets within North Ayrshire. The NRDG

provides certainty and national consistency for developers when planning new developments.

2.8 The draft SSDG was presented to the Policy Advisory Panel on 10 September 2024. It was subsequently reviewed and updated where required, informed by the feedback received. Key points of note include:

- Planning Policy and SSDG relationship: The SSDG predominately focuses on street design and will inform the planning application determination as a material consideration. Section 2.1 recommends early engagement with the Planning Service prior to the submission of an application for planning consent. Section 2.5 lists supporting documentation required for planning applications. Furthermore, in accordance with the Development Plan (National Planning Framework 4 and the adopted North Ayrshire Local Development Plan), the SSDG recommends that new developments should prioritise walking, wheeling, cycling and public transport for everyday travel and reduce the need to travel unsustainably.
- Designing Streets policy: Designing Streets is a national policy document which puts place and people before the movement of motor vehicles. The Scottish Government is committed to sustainable development that focuses on the creation of quality places and believe that good street design is of critical importance in this effort. The SSDG aims to help developers meet the requirements of Designing Streets.
- Parking provision: The SSDG parking provision levels are comparable with similar sized local authorities. The requirements for social housing are now equivalent to private housing requirements where previously the requirement was lower. Smaller garages are also no longer included in parking provision for dwellings. Furthermore, to clarify the parking levels for North Ayrshire the headings within the parking requirements table has been changed from “Vehicle Maximum” to “Appropriate Provision”. The parking provision for shops has also been clarified.
- Street widths: The SSDG recommends a minimum street width of 4.1m and includes a section to assist developers in identifying and addressing potential over-run areas. Developers are also required to provide a swept path analysis at the planning stage to ensure that any potential issues are identified at an early stage in the process.
- Active travel links: The SSDG puts the movement of people first. It aims to ensure that wherever practical, local connections and active travel links from new developments are provided to the surrounding areas, noting the constraints to such provision including land ownership.

2.9 The introduction of the SSDG and NRDG will ensure that the Council is embracing current Scottish Government policy documents. In summary, together they:

- provide guidance on Road Construction Consents;
- provide a source of guidance on complex infrastructure requirements;
- allow for variances in North Ayrshire; and
- support the Scottish Government Policy Designing Streets which:
 - advocates a re-designation of road hierarchy to user hierarchy;
 - supports a multi-disciplinary approach and early engagement;

- encourages environments that focus on people; and
- supports more integration in the planning process.

2.10 The SSDG will be kept under review, informed by updates in national good practice guidance and local circumstances. The report seeks delegated authority for the Executive Director (Place) to make any future technical changes to the SSDG as required.

3. Proposals

3.1 That the Planning Committee:

- Approves the proposed Supplementary Street Development Guide, provided at Appendix One, to be used alongside the National Roads Development Guide; and
- Delegates authority to the Executive Director (Place) for any future technical

4. Implications/Socio-economic Duty

Financial

4.1 None.

Human Resources

4.2 None.

Legal

4.3 The NRDG and SSDG primarily support the statutory process for Road Construction Consent that is covered under the Roads (Scotland) Act 1984. The NRDG and SSDG are considered to be the technical enabler to the Scottish Planning Policy 'Designing Streets'.

Equality/Socio-economic

4.4 Well-designed streets can be a vital resource in social, economic and cultural terms; they can be the main component of our public realm and a core element of local identity. The NRDG and SSDG aim to provide greater equality of access based on a user hierarchy rather than the standard road types based on traffic flows and/or the number of buildings served. The SSDG applies a user hierarchy to the design process with pedestrians at the top of this process.

Climate Change and Carbon

4.5 The SSDG aligns with the Sustainable North Ayrshire Strategy. Making appropriate provision for road-based public transport, cycling and walking can encourage and support modal shift from the private car, and contribute to the sustainability and health agendas. Enhancing street environments through high

quality public realm incorporating local materials and historic street features, removal of clutter and pedestrian barriers, use of shared space where appropriate and enhanced street lighting can help to stimulate using travel modes other than the car thereby assisting climate change and carbon reduction policies.

Key Priorities

- 4.6 The SSDG has been informed by and contributes to the priorities and key priorities of the Council Plan. In particular it contributes to the key activities to ensure our places and spaces where we live, work and visit are well maintained and accessible. It also contributes to the development of infrastructure to support business growth.

Community Wealth Building

- 4.7 New developments can provide a range of Community Wealth Building benefits. The SSDG seeks to put place and people before the movement of motor vehicles, as attractive and well-connected street networks encourage more people to walk and cycle to local destinations, improving their health while reducing motor traffic, energy use and pollution.

5. Consultation

- 5.1 The development of the SSDG included extensive internal and external consultation at the initial development and draft guide stages, including the Council's Policy Advisory Panel. The stakeholder consultation exercises included online surveys, and a dedicated website as detailed at Section 2.6.

RUSSELL McCUTCHEON
Executive Director (Place)

For further information please contact **Claire Fitzsimmons, Interim Senior Manager – Regeneration** on **01294 315305**.

Background Papers

Scottish Government, Designing Streets (2010)
Society for Chief Officers of Transport in Scotland (SCOTS), National Roads Development Guide (2015)



North Ayrshire Council
Comhairle Siorrachd Àir a Tuath

North Ayrshire Supplementary Street Design Guide

Version 1: 2024



Version Control

Issue	Date	Nature of Change/Pages Affected
Version 1	xxxxxxx	Issue of Supplementary Street Development Guide

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1. Introduction



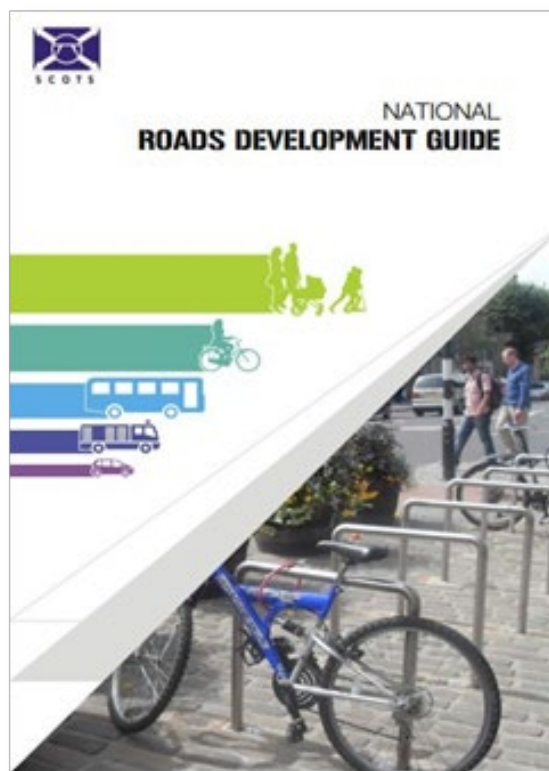
1.1 Background

In 2010 the Scottish Government introduced the Designing Streets policy that puts place and people before the movement of motor vehicles. Subsequently the National Roads Development Guide (NRDG) was created to assist developers with the technical aspect of street design. However, given the unique character of North Ayrshire with its coastal towns, rural areas and islands this document is intended to develop a unique street development guide for North Ayrshire that will be supplementary to the National Roads Development Guide.

1.2 Purpose of the Guide

The replacement of the existing development guide is driven by government policy and opportunity to deliver safe high quality street design. Well-designed streets can be a vital resource in social, economic and cultural terms; they can be the main component of our public realm and a core element of local identity. The new guide will put place and people before the movement of motor vehicles, as attractive and well-connected street networks encourage more people to walk and cycle to local destinations, improving their health while reducing motor traffic, energy use and pollution.

National Roads Development Guide



The key aims of the guide are to:

- Provide a developer with the relevant technical information to enable streets and connections to be created.
- Help developers meet the requirements of North Ayrshire Council and the Scottish Government's Designing Streets policy.
- Set out 'how to develop a street' methodology that provides guidance on street design.
- Establish the dos and don'ts of street design through detailed technical guidance on speed reduction measures, street lighting, materials, construction standards, utilities, drainage and parking standards etc.
- Ensure that no excessive speeds occur and infrastructure to suit the level of use is provided.

1.3 Using the Guide

The guide is designed to be used by developers as a reference document when producing designs and embarking on the planning process. It is essential that liaison between the designers, waste, roads, planning and building control authorities, and access officers, takes place at an early stage.

This street design guide will replace the existing North Ayrshire Roads Development Guide and should be read in conjunction with the NRDG and the government's Designing Streets. It is aimed at assisting developers to meet the requirements of designing streets within North Ayrshire.

Where the documents vary this guidance should be followed for developments in North Ayrshire.

It is intended to be used to supplement other guidance by North Ayrshire Council, Scottish Government, and other design guidance:

- Designing Streets.
- National Roads Development Guide (NRDG).
- Cycling by Design.
- Local Development Plan (LDP).
- Supplementary Planning Policies.
- National Planning Framework 4 (NPF4).

2. Policy and Procedure



2.1 Introduction

It is important that developers consult the appropriate Council officials at an early stage in their preparations. The information contained in these guidelines and the NRDG refers principally to Local Roads Authority requirements. The requirements of the Council’s Planning, Building Standards, Waste Operations, Statutory Undertakers, Strathclyde Partnership for Transport, Fire Brigade and Police and Scottish Ambulance Services will be extra to these requirements and should be checked out individually at an early stage. It is important that the policy and procedures are read in conjunction with the NRDG.

Main procedures/ policies required to construct new road and streets include:

- Pre-Planning Consultation.
- Planning Consent.
- Road Construction Consent (RCC).
- Adoption of Footpaths and Cycleways.
- Inspection Procedures during Construction.
- Adoption and Maintenance.

Before undertaking any new road construction, the developer must obtain both detailed Planning Consent and Construction Consent. It should be noted that the granting of one does not necessarily imply the granting of the other. Early engagement with the Planning Service is recommended prior to the submission of an application for planning consent. In accordance with the Development Plan (National Planning Framework 4 and the adopted North Ayrshire Local Development Plan), a new development should prioritise walking, wheeling, cycling and public transport for everyday travel and reduce the need to travel unsustainably. The SSDG will inform the planning application determination as a material consideration.

In accordance with Section 21 of the Roads (Scotland) Act 1984, anyone proposing to construct a new road or extend an existing road must obtain Road Construction Consent (RCC) from the local roads authority. Construction works on existing roads do not require RCC but will normally require other consents, including a permit. Appendix B details the procedure for applying for a Road Construction Consent and further information is available in the NRDG.

Where the development is for residential use, security in accordance with the current Security for Private Road Works (Scotland) Regulations must be lodged with the council prior to house building operations commencing. No security is required for industrial/ office/ retail development or for residential developments carried out by a recognised Housing Association. The Security for Private Road Works (Scotland) Regulations provide further information on the exemptions.

2.2 Adoptable Streets

A road/street requires to be built to an adoptable standard and offered for adoption, unless clearly indicated at planning stage that it will remain a private road/private access. Table 1 indicates at which point a road built to an adoptable standard will be required.

The number of dwellings in the following Table 1 are defined as after completion of the development including existing dwellings on a private road.

Table 1 – When an Adoptable Street is Required (No. of dwellings)

Development Type Designed to Adoptable Standard	Within Settlement*	Outwith Settlement*
Development with new streets	More than two	More than five
Development on a brownfield site	More than five	More than five
Development on an existing private road	More than five	More than 10
Development of a courtyard	More than 20	More than 20

* As defined by NAC Planning Services

2.3 Private Access/Road

A private access/ road – which will not require a Road Construction Consent and will not be available for adoption - can be provided in certain circumstances, with the agreement of North Ayrshire Council. Such accesses should be of a suitable width, provide adequate turning facilities, have suitable lighting infrastructure installed where directed by the Roads Authority, have suitable intervisible passing places, have a satisfactory junction with a public road and appropriate road drainage and, provision of layby adjacent to public road for service vehicles and bin collection area adjacent to public road (Refer to Section 1.4 of Appendix I) The provision of a ‘private access’ **must be indicated clearly at the planning application stage**, otherwise it will be considered that an adoptable ‘street’ is being provided.

Examples of when a private road **may** be acceptable:

- One additional dwelling on a private access that currently serves numerous properties, and the access is of an acceptable standard. Will require confirmation that the road owner(s) and the majority of existing users are agreeable to the additional property using the access road.
- Accesses which lead to a car parking area.
- Where the building of an adoptable street makes the development site financially unviable.

Further details can be found in Appendix I – Parking Standards.

2.4 Factoring

Either at planning, Construction Consent stages or prior to the end of RCC maintenance period, developers should provide the Authority with written details and contacts of future factoring arrangements in place for all private open space, play areas or other shared areas that are not being adopted or otherwise maintained by the Local Authority. Factoring responsibility details will include and identify where appropriate, but not be restricted to, the following asset types; landscaped areas; boundary structures; property or other open space lighting; play equipment; drainage etc.

2.5 Supporting Documentation for Planning Application

Development proposals may require to be accompanied by the supporting documentation below, as required by North Ayrshire Council's Planning Services; details of which are contained within the NRDG.

- Transport Assessment.
- Transport Statement.
- Travel Plan.
- Safety Audit.
- "B" Plan.
- Vehicle Flow Assessment.
- Sweep Path Analysis.
- SuDs Management Plan.
- Quality Audit.

3. Street Design Guide



3.1 Introduction

Streets fulfil a complex variety of functions to meet people's needs as a place to live, work and move around, streets are places. Streets are distinct from roads in that they have important public realm functions beyond those relating to motor traffic. Designing Streets also states that there is a clear distinction in function between streets and roads.

Designers should aim to create streets that control vehicle speeds naturally by well-crafted design from the outset rather than through unsympathetic traffic-calming measures added at the end of the design process. *Designing Streets*

This SSDG sets out advice for the design of new streets within residential areas which can be applied to urban, rural, coastal and island locations. The following four street types make up the network of streets in a residential area in urban, rural, coastal and island contexts are:

- Type 1 — Connector Streets (Primary).
- Type 2 — Local Residential Streets (Secondary).
- Type 3 — Residential Link Street.
- Type 4 — Shared Surface Streets.

Key aims of new developments should be to provide structural design features such as:

- Incorporate speed reduction into street design from the offset.
- Make safer residential streets for people with speeds no higher than 20mph.
- Prevent the use of unsympathetic traffic calming measures being utilised in the proposed development.
- Ensure that the level of infrastructure is appropriate for the volume of vehicles, pedestrians and cyclists.
- Ensure green infrastructure is integral to design to provide placemaking and active travel opportunities.
- Incorporate SuDS into placemaking and street design to provide sustainable water management opportunities.

New developments are therefore recommended not to use vertical traffic calming features such as speed cushions and humps as these may have detrimental effects on disabled and infirm road users. Junction tables may be permitted if they add to the sense of place and form part of a feature.

3.2 Placemaking and Street Network

Developments and streets should generally be structured around a compact and walkable layout. Connected or 'permeable' networks encourage walking and cycling and make navigation through places easier. They also lead to a more even spread of motor traffic throughout an area and so avoid the need for distributor roads with less desirable place characteristics.

Evidence should be gathered in the early stages to demonstrate a complete understanding of the site's context and character and to ensure a design is appropriate for the place avoiding a development which could be in any location and follows the use of 'pattern book' design or pastiche.

This hierarchy is important for understanding sense of place, character, wayfinding and where motor vehicle use changes along the routes.

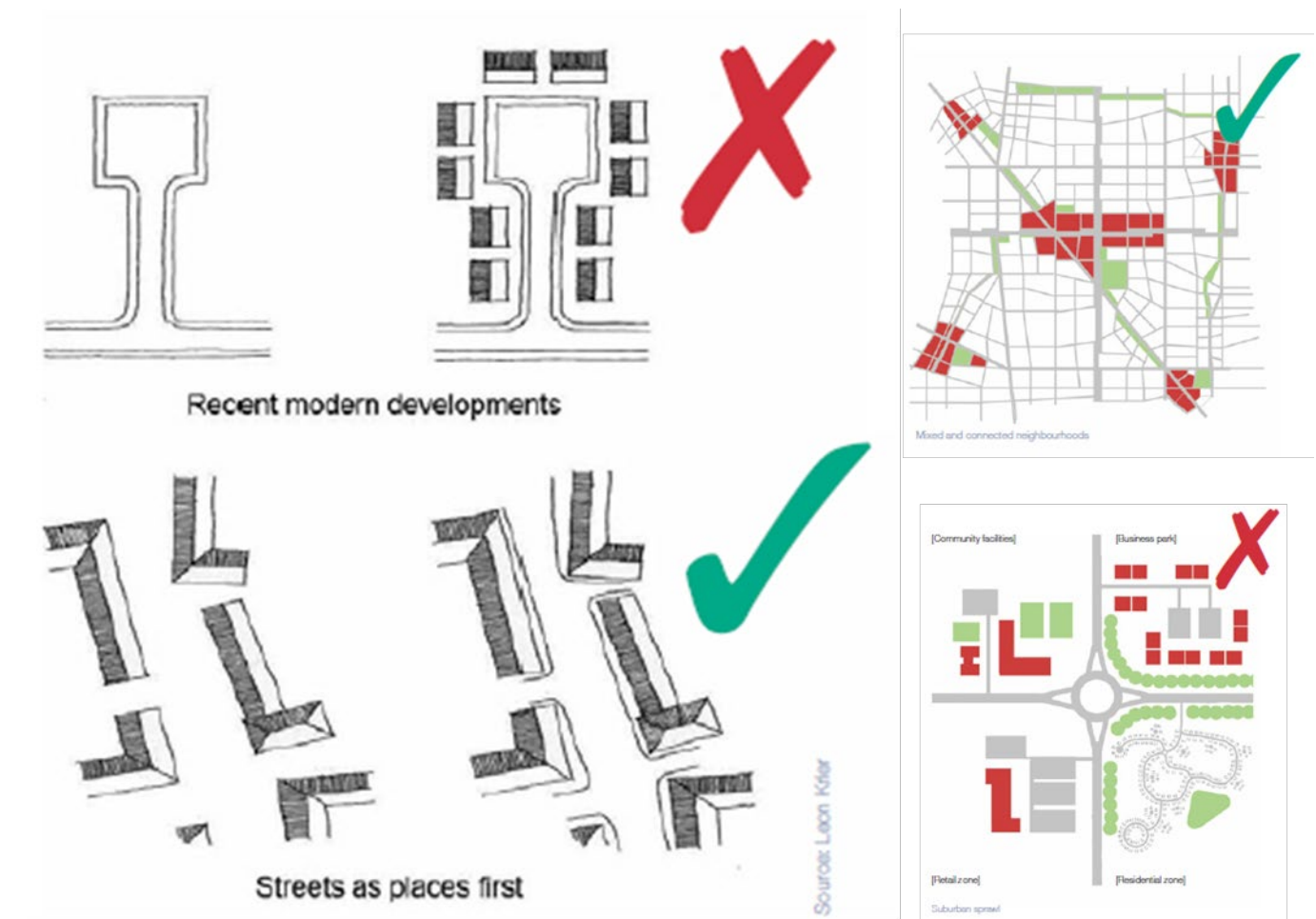


Figure 1 - Examples of Street Design | *Designing Streets*

3.3 Street Design Principles

The following principles are applicable to all street types and should guide the development of new residential design. The six qualities of successful places' set out in Designing Streets policy should also be referenced.

- Apply Place/Movement hierarchy (refer to NRDG and Designing Streets).
- Street design should be distinctive and respond to the local context, setting and character.
- Streets should be designed to be safe and pleasant with appropriate traffic speeds and prioritisation of pedestrian.
- Streets should be easy to move around for all users and connect well to existing movement and public transport networks.
- Streets should be designed to be welcoming and inclusive.
- Street networks should be adaptable to accommodate service and emergency vehicles.
- Delivering street design which is sustainable, and which creates opportunities to meet carbon zero and environmental objectives.
- Include opportunities for greening of streets through landscape design objectives.

Good street design can promote a better quality of living for everyone. Sustainable patterns of behaviour can be influenced greatly by the intelligent design of streets. Creating good streets is not principally about creating successful traffic movement: it is about creating successful places. All thoroughfares within urban settings and rural boundaries should normally be treated as streets.

The Six Qualities of Successful Places from Designing Streets describes the fundamental qualities expected of successful places, it highlights principles of design which can be applied to new developments in North Ayrshire:

1. **Healthy** – Supporting the prioritisation of women’s safety and improving physical and mental health.
2. **Pleasant** – Supporting attractive natural and built spaces.
3. **Connected** – Supporting well connected networks that make moving around easy and reduce car dependency.
4. **Distinctive** – Supporting attention to detail of local architectural styles and natural landscapes to be interpreted into designs to reinforce identity.
5. **Sustainable** – Supporting the efficient use of resources that will allow people to live, play, work and stay in their area, ensuring climate resilience and integrating nature positive biodiversity solutions.

6. **Adaptable** – Supporting commitment to investing in the long-term value of buildings, streets and different uses over time.

Design is a material consideration when determining a planning application/ any application may be refused on design and placemaking grounds.

distinctive	safe and pleasant	easy to move around	welcoming	adaptable	resources efficient
Street design should respond to local context to deliver places that are distinctive	Streets should be designed to be safe and attractive places	Streets should be easy to move around for all users and connect well to existing movement networks	Street layout and detail should encourage positive interaction for all members of the community	Street networks should be designed to accommodate future adaptation	Street design should consider orientation, the integration of sustainable drainage and use attractive, durable materials that can be easily maintained
Block structure Context and character	Pedestrians and cyclists Achieving appropriate traffic speed Reducing clutter	Connections within a place Public transport Junction types and arrangements	Walkable neighbourhoods Streets for people	Connections to wider networks Integrating parking Service and emergency vehicles	Orientation Drainage Utilities Planting Materials

Figure 2 - The Six Qualities of Successful Places: Key Considerations for Street Design | Designing Streets



Figure 3 – Cairnhouse – Arran, Successful Design in North Ayrshire

3.4 Key Considerations to Develop a Successful Street

As described in *Designing Streets* (2010), it is important to consider the relevant issues in a hierarchical way, working from issues of structure through to layout and geometry and on to matters of detail. Further information can be found in Section 3.7 but is based on the principals below:

Design Consideration Hierarchy

Street Structure

- Pedestrian and Cyclists
- Connections to the Wider Network
- Connections within a place
- Block structure
- Walkable Neighbourhoods
- Accessible Neighbourhoods
- Public Transport
- Context and Character
- Orientation

Street Layout

- Achieving appropriate traffic speed
- Vehicle flow and volume
- Junction types and arrangements
- Streets for People
- Integrating Parking
- Emergency and service vehicles

Street Detail

- Drainage
- Utilities
- Lighting
- Planting
- Materials and Construction
- Reducing Clutter



Figure 4 – Hope Homes Development – North Ayrshire



Figure 5 – Local Housing Development – North Ayrshire

3.5 Context and Character

When assessing the potential visual impact of new developments, designers should work within the context of broad urban design aims, taking cognisance of aspects such as the existing character and qualities of urban design, architecture and landscape of the area, historical patterns of development and social and cultural factors which impact on the environment of North Ayrshire.

National planning policy contained in Designing Streets and Designing Places illustrates how these issues may be addressed in a comprehensive way to help create development which contributes to local identity and enhances the sense of place. Additionally, specific urban design guidance has been included in the following documents and should be considered for design of the streets in various contexts specifically for North Ayrshire Council:

- Local Development Plan
- Supplementary Planning Guidance

Street Design for new developments in North Ayrshire should seek to integrate and enhance the existing place and develop a 'North Ayrshire-Specific' proposal to provide a legible network of streets. The developments should provide high-quality spaces in the following areas:

Rural developments – should be sympathetic additions and provide sensitive infilling of gap sites in the rural setting. Where possible, proposals should provide easy access to greenspace and the countryside, expanding the green infrastructure and increasing connectivity thus making wider connections to integrate into the rural setting.

Coastal Developments – should have successful public realm which includes integrated public and pedestrian movement and increased connectivity and where possible improve areas which are anonymous or disconnected to provide a legible network of streets. High quality public realm leads the way for characterful development for the unique waterfront location and provide an opportunity for development to repair often fragmented places.

Island developments – should have island community led approvals, provide small scale developments and filling of gap sites in village fabric. The designs should be distinctive and should respond to local context to create places.

Town Centre – Street designs should respond to local setting and provide safe and pleasant places with naturally reduced vehicle speeds for pedestrian movement. Local settlement pattern alternatives to standard road layouts should be used to create characterful places.

Conservation Areas and Listed Buildings – Consideration must be given to street design within Conservation Areas and Listed Buildings in terms of appropriate street pattern, form, density, design and materials that complement the historic environment. Lighting and street furniture should also be designed with the historic character in mind. Standard design lighting columns, street furniture and materials may not be appropriate within a historic setting.

Advice should be sought from the Planning Authority at the early stages to discuss appropriate solutions.



Figure 6 – Historic Signing



Figure 7 – Coastal Development, Hope Homes – North Ayrshire

3.6 Hierarchy of Streets

In the design of new residential developments, it is important that a natural hierarchy is established that is clear and legible to all users who share the same space and where pedestrians are considered the priority. However, the street types should not be fixed; street design must consider place before function. Achieving balance between place and movement is crucial.

Prioritising Sustainable Transport

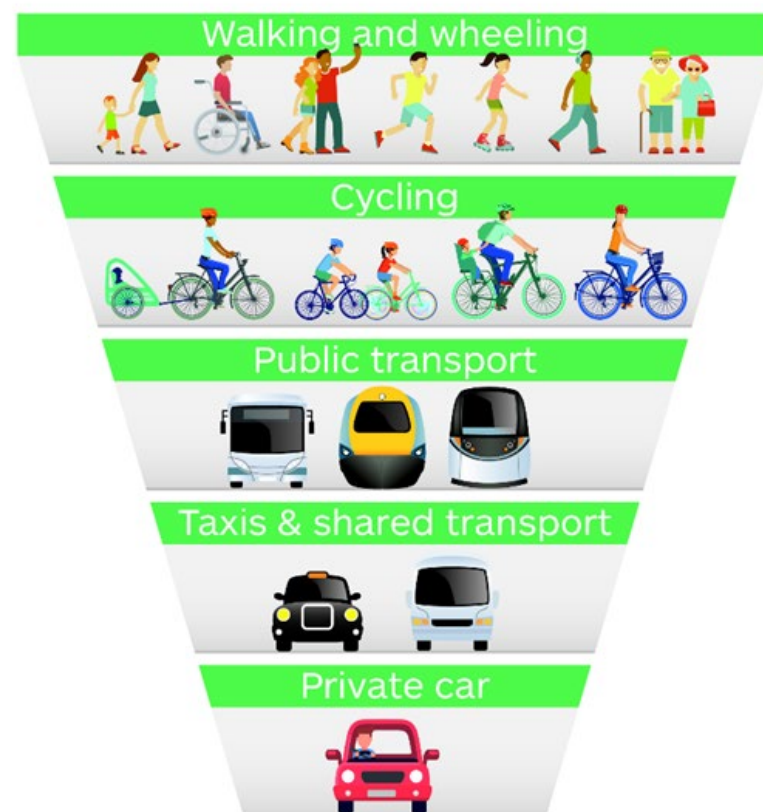


Figure 8 – Sustainable Hierarchy

3.7 River Delta Approach

A River Delta approach to layout should be applied when considering the layout of new developments. The River Delta design establishes a layout with multiple interconnected channels, where the street types changes as it progresses further into the development as flow decreases due to the reduction in the number of dwellings being served. From Type 1 (with the largest flow) to Type 4 (with the lowest flow).

Four street types have been devised to maximise the overall range of design choices which are possible within each category. This enables the overall adopted “corridor” (including carriageways, footways, verges and other areas) to reflect and enhance the overall design, rather than control it (see Section 3.17 for further information on these street types):

- Type 1 — Connector Streets (Primary)
- Type 2 — Local Residential Streets (Secondary)
- Type 3 — Residential Link Street
- Type 4 — Shared Surface Streets

These street types can incorporate a range of streets from High Streets, lanes, mews etc. to narrow rural character streets. However, developer should endeavour to create bespoke street types and hierarchy for each development with more street types where needed.

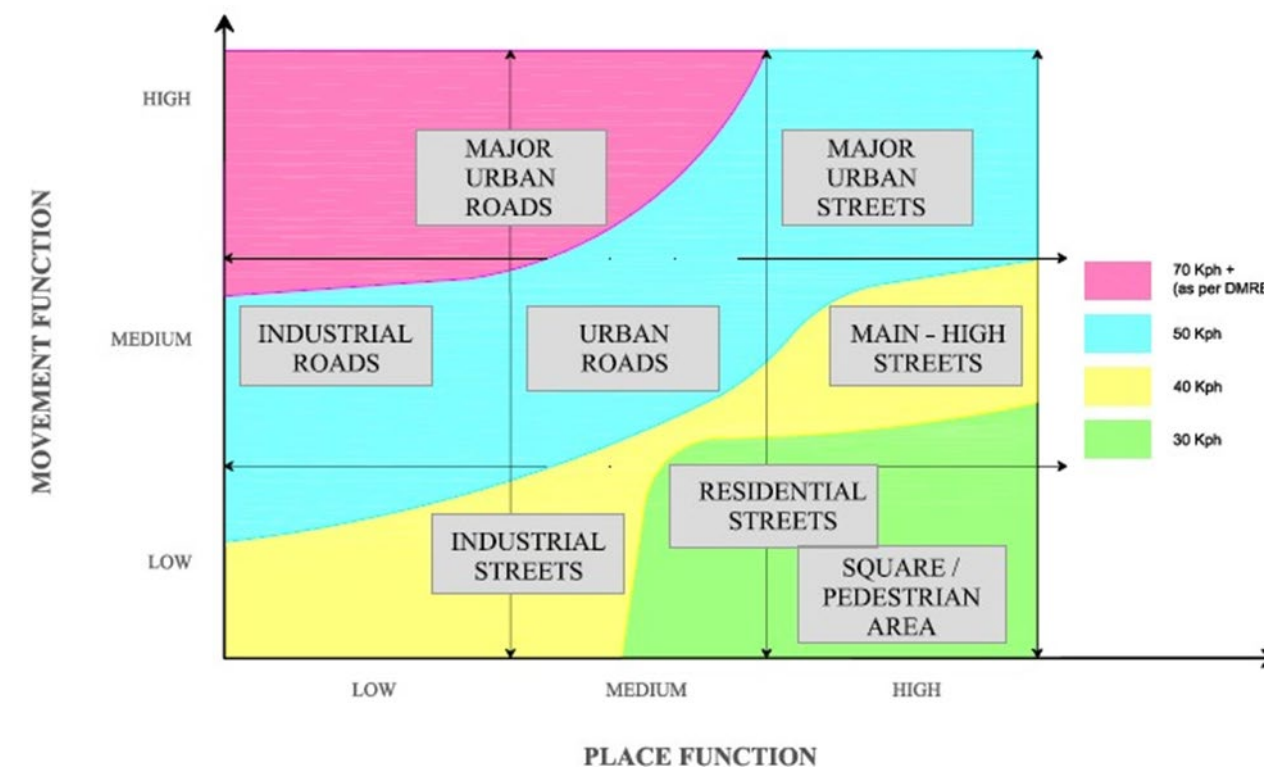


Figure 9 – Place Function Diagram | National Roads Development Guide

3.8 How to Develop a Street?

The below diagram details the process to develop a new street design in North Ayrshire.

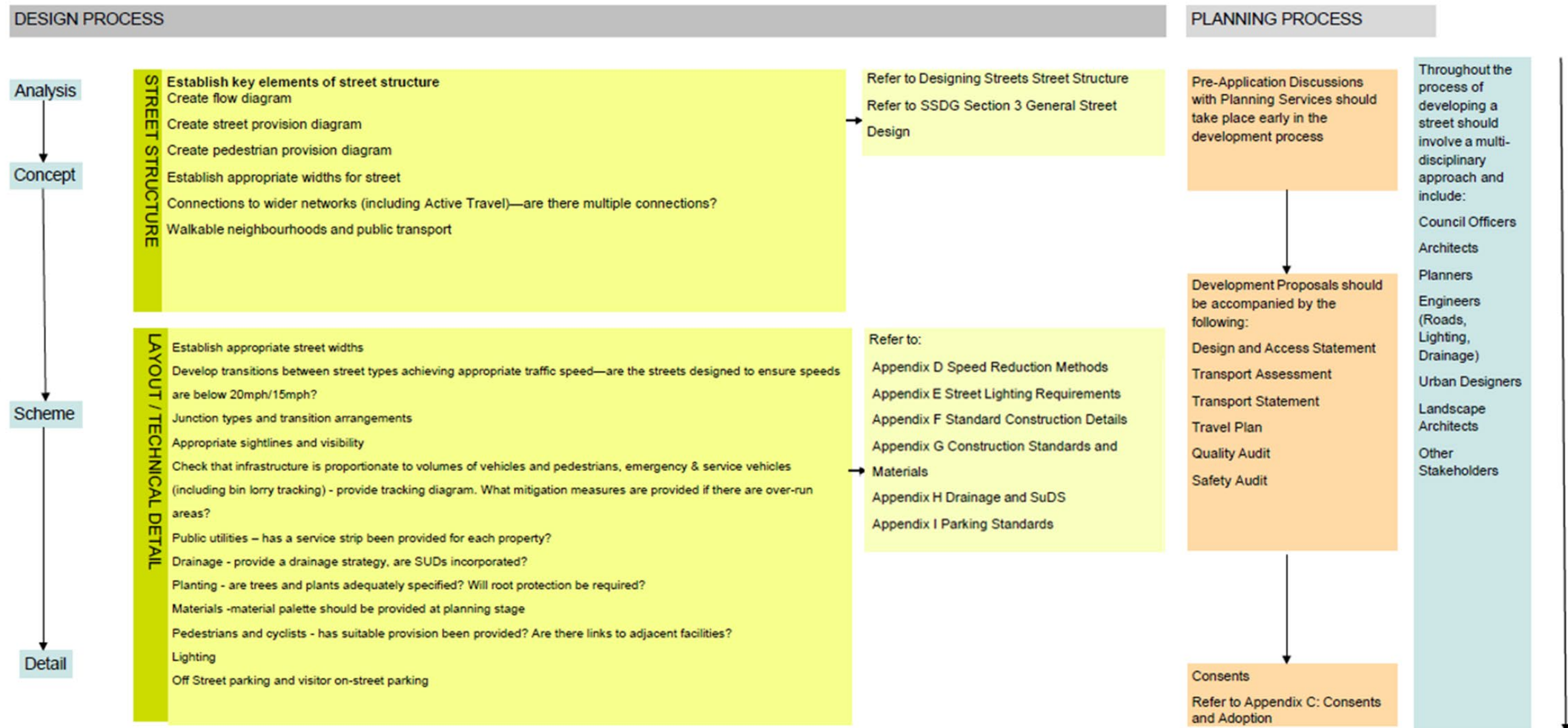


Figure 10 – How to Develop a Street Process Diagram

3.9 Development Traffic Flows

The design of streets is based on the peak flows likely to be encountered. North Ayrshire Council has surveyed a varied selection of housing sites (both private and social housing). It can be seen from Figure 11 that the level of vehicles varies between 0.56 and 1.0 vehicles per dwelling. Based on 2011 figures obtained from TRICS and Census information this is averaged at 0.7vph per dwelling however, agreement with the Active Travel and Transport team is required to determine the figure used and to subsequently create the flow diagram. The figure should be above the AM peak two-way flow.

Using this information, the cumulative two-way flows through the site can then be established for each street as shown on Figures 12 and 13.

3.10 Watershed Points

Where more complex layouts are used the position where the lowest traffic flows are anticipated must be determined. This is designated as the "watershed" point, which is the

point on a street where it can be anticipated that traffic can go in either direction and exit the development in the same journey time. "Watershed" points, being points of potential zero flow, should also be reinforced to ensure that drivers can identify them and to ensure that the expected flow patterns are realised. Figures 12 and 13 show different examples of watershed points.

Normally, it can be assumed that traffic will leave a development in equal proportions by the different exits. However, in certain circumstances, where one, or more, factors affect only one of these junctions, such that the majority of traffic leaving the development will use another junction, assumptions will require to be made about how this will affect the location of the "watershed" point.

3.11 Traffic Flow Diagrams

Once the proposed traffic flows and watershed points have been established the flow diagram can be developed.

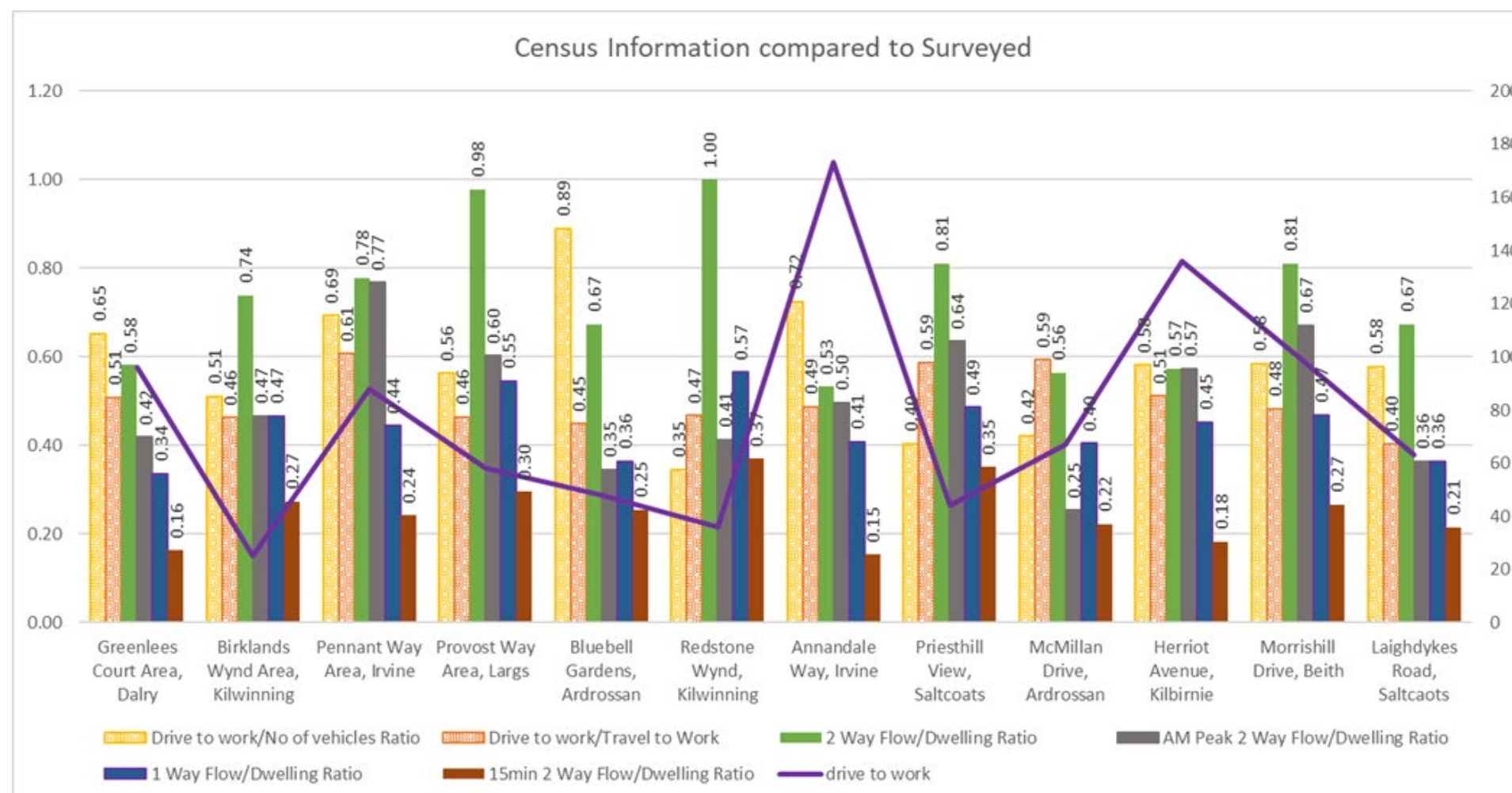


Figure 11 – Census Information compared to Surveyed

Flow diagrams help establish the river delta approach to street hierarchy and design. This enables the provision of infrastructure to be based upon the anticipated levels of use. The number of dwellings that the street serves are assessed, and this figure is added to the cumulative flow at the junction and carried on to the next "downstream" point.

Figures 12 and 13 show a possible layout with the cumulative traffic based on the number of dwellings. The difference between the two diagrams is the number of accesses. Normally it can be assumed that traffic will leave a development in equal proportions by the different exits. However, in certain circumstances, where one, or more factors affect only one of these junctions an unbalanced flow can be created.

If there is the possibility that a street will serve further properties in the future, for instance if there is an adjacent allocated site which is likely to be developed (and accessed through the first site) then the streets should be designed to accommodate future traffic flows or be capable of being altered in the future. No "ransom strip" or other gap should be left between the adopted road and the site boundary to provide a durable and 'future proof' street layout.

The figures below highlight examples of peak vph and street type variation/ position of entrances to highlight demand and better flowing streets.

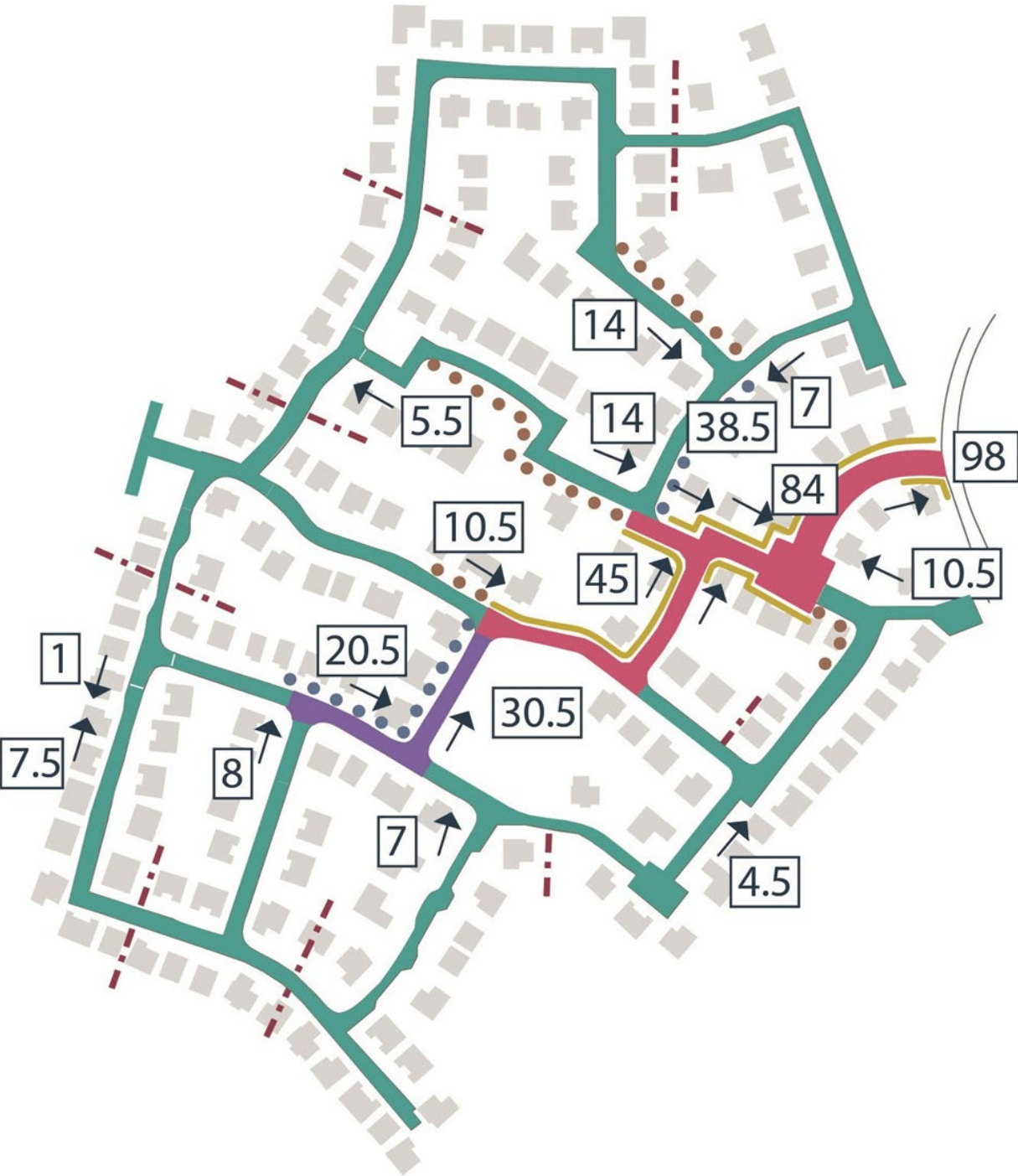
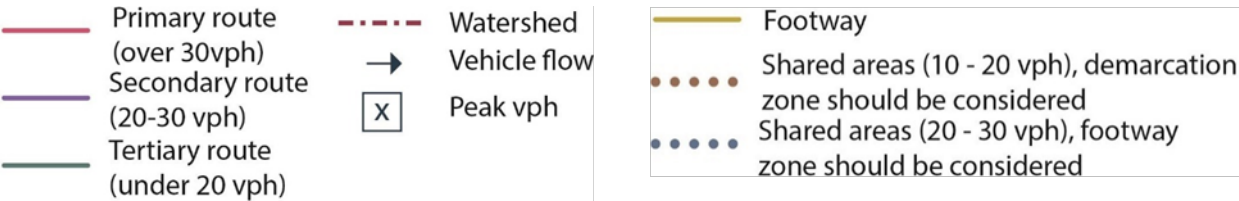


Figure 12 – Development Flow Diagram – Single Entrance

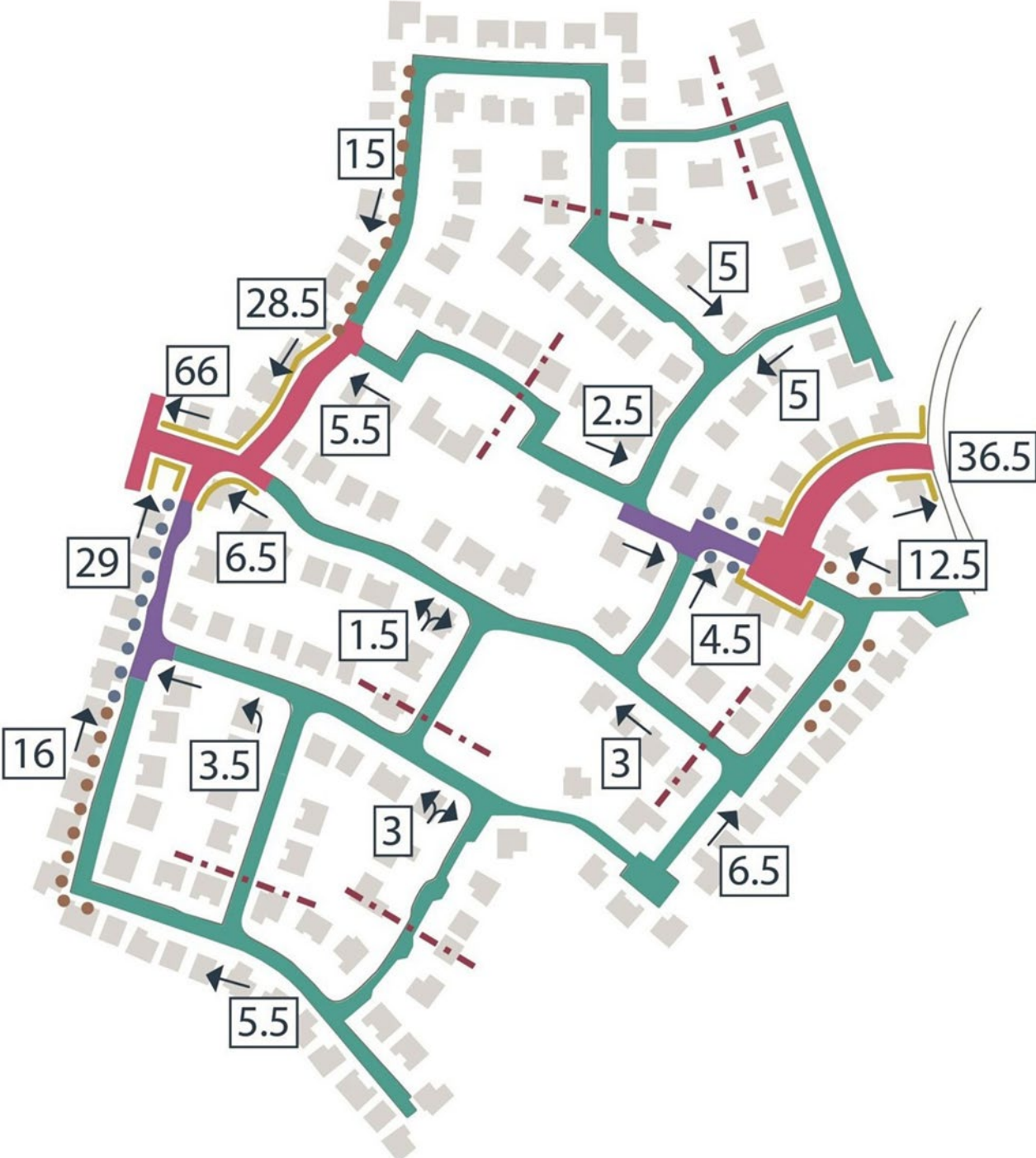


Figure 13 - Development Flow Diagram – Double Entrance

3.12 Street and Pedestrian Hierarchy

Once the flow diagram has been developed then a street hierarchy and pedestrian hierarchy can be established. The table below provides advice on what street types may be appropriate for the expected vehicle and pedestrian flows. Using this information will allow for the creation of a street provision diagram and pedestrian provision diagrams to be created as shown in Figures 15 and 16.

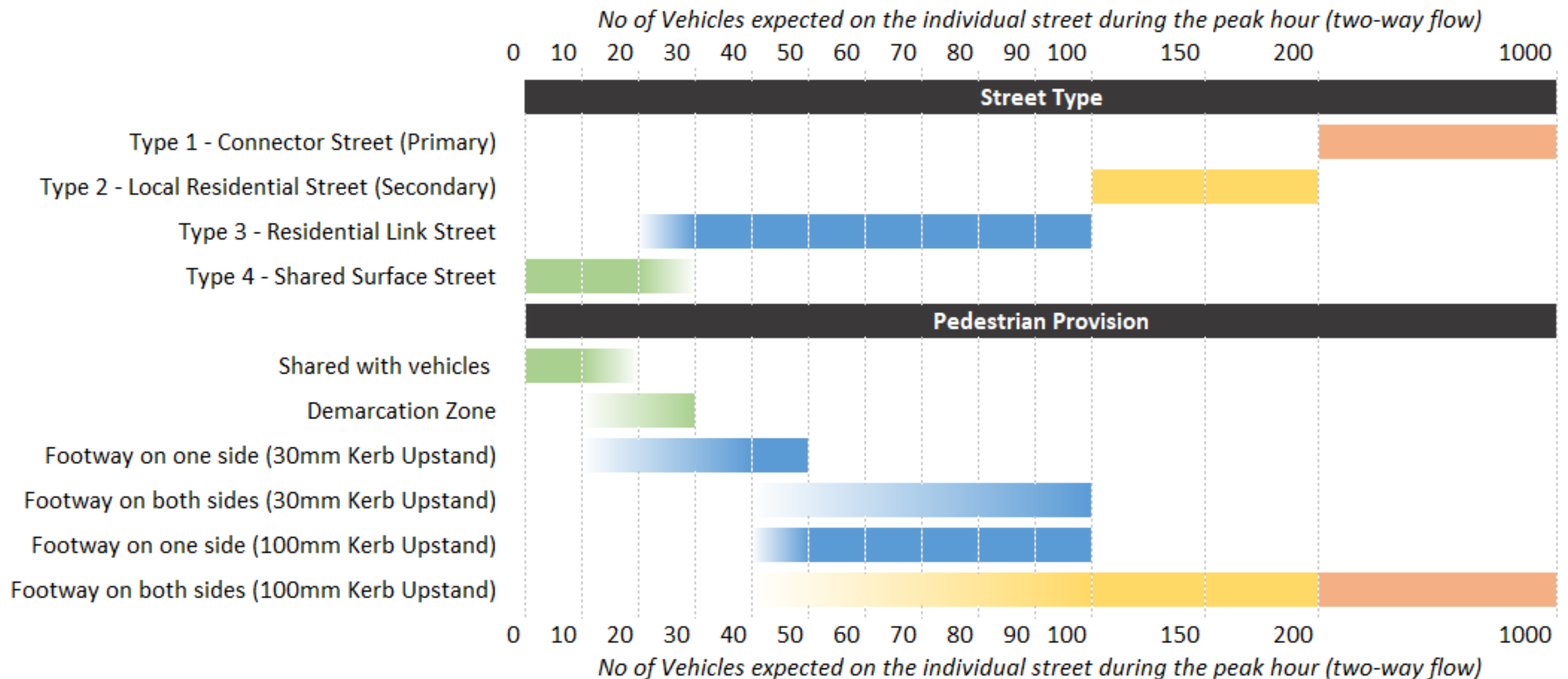
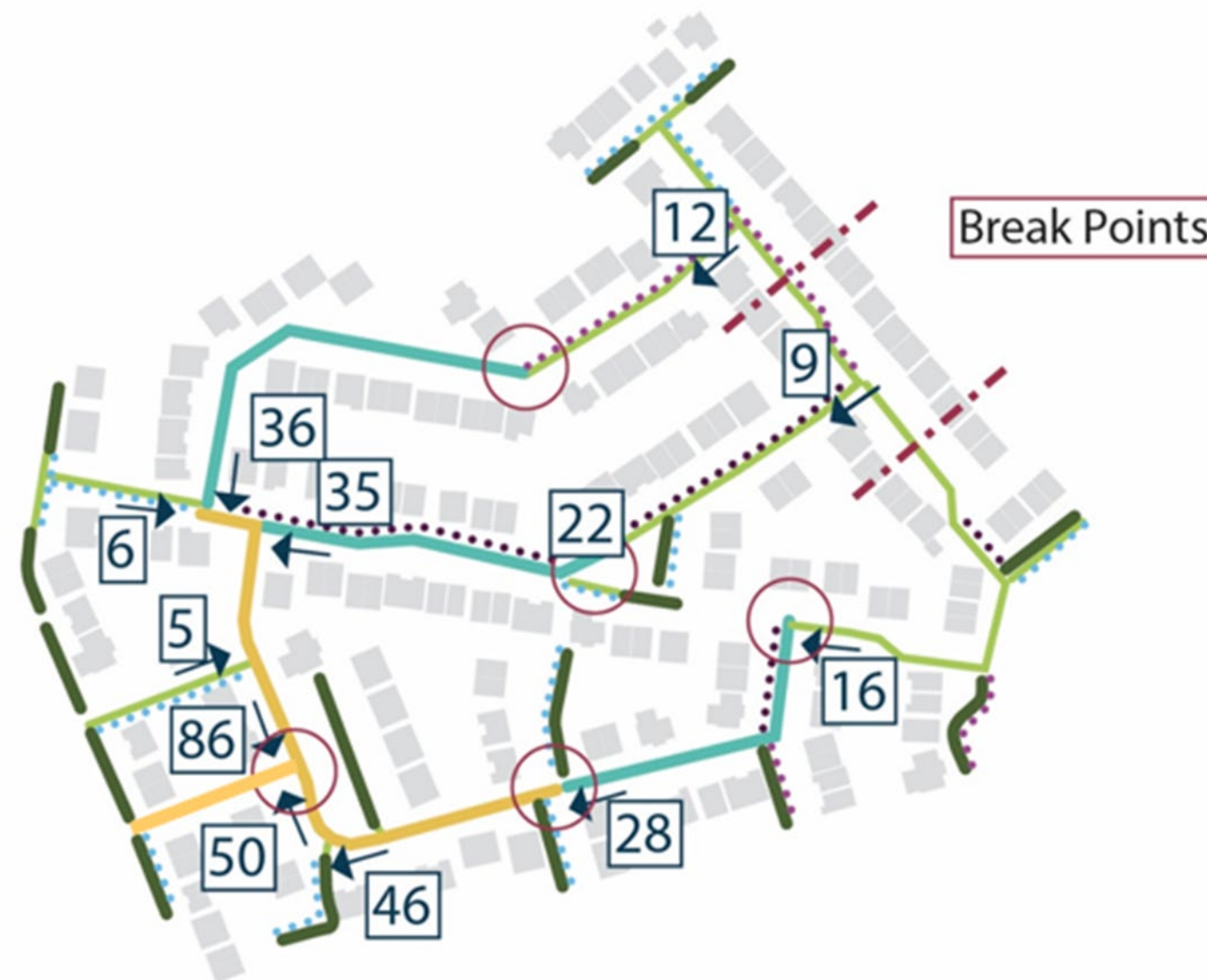


Figure 14 – Number of Vehicles per Hour (two-way flow)



Notes:

- 1) AM peak two-way flow equal to 0.7 per dwelling has been agreed with NAC officers and subsequently used to calculate the vehicle volume for each street through the development site.
- 2) The 'Street Hierarchy' is based on the level of vehicle movements through the site.
- 3) The proposed 'Street Design Strategy' notes the minimum requirements the eventual detailed site plan should be designed to.

Key

- Vehicle flow
- [x] Peak vph
- Areas where a feature could be provided to indicate a change in street type.
- - - Break point
- Secondary route
- Private drive/courtyard access
- Primary route
- Tertiary route
- Shared areas with vehicles (0 - 10vph)
- Footway on one side (30mm Kerb Upstand, 20 - 50vph)
- Shared areas (20 - 30 vph), footway zone should be considered

Figure 15 – Street Hierarchy Diagram | Street Provision Based on Development Flow

Notes:

1) The 'Pedestrian Street Hierarchy' is based on the level of vehicle movements through the site. See Figure 15.

Key

Key

- Shared areas with vehicles (0-10vph)
- Public footway as links between public roads or within/adjacent to private parking
- Footway on one side (30mm Kerb Upstand, 50 - 60vph)
- Footway on both sides (100mm kerb Upstand, 60 - 1000vph)
- Shared with vehicles where a demarcation zone should be considered (10-20vph)
- Tertiary route
- ... Shared areas with vehicles (0 - 10vph)
- ... Footway on one side (30mm Kerb Upstand, 20 - 50vph)
- ⓧ Peak vph
- - - Break point



Figure 16 – Pedestrian Hierarchy Diagram | Pedestrian Provision Based on Development Flow

3.13 Meeting Design Speeds

Designing Streets (2010) states "Designers should aim to create streets that control vehicle speeds naturally by well-crafted design from the outset rather than through unsympathetic traffic-calming measures added at the end of the design process."

Design should be used to influence driver behaviour to reduce vehicle speed to levels that are appropriate for the local context and deliver safe streets for all. (Designing Streets, Page 32). **Speed reduction by design is essential** to the development, therefore should be integral within the street design and development. Speeds through the development should be in accordance with Section 3.17. Frequent junctions and sudden changes in direction will often be enough to achieve the desired vehicle speed; horizontal features are likely to be more acceptable to all road users. This could be possibly achieved by introducing some horizontal deflection, use of built form, frequent narrowing's, shifts in horizontal plane, street furniture, restricted visibility, reference to external guidance etc. Appendix D provides some guidance on speed reduction measures that could be considered.

Vertical traffic calming measures such as speed cushions and humps may have a detrimental effect on disabled/ infirm road users in new developments. The use of unsympathetic vertical measures is discouraged. However, vertical measures such as raised tables at junctions may be suitable in low use residential developments. Features such as raised tables at junctions to provide continuous footways are acceptable.



Figure 17 – Example of Shared Surface Street

Developers should ensure that "straight line" desire lines are not created through speed restraint features. This is where vehicles could travel for distances greater than 40 to 60 metres with limited deviation.



Figure 18 – Straight Desire Line - Clear Path

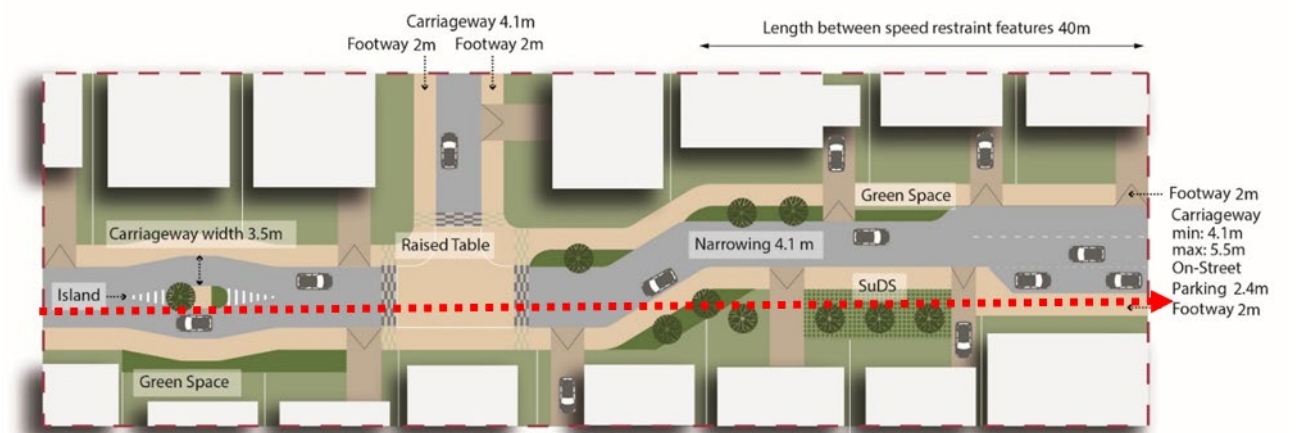


Figure 19 – Straight Desire Line - Path Obstructed

Refer also to the following guidance for speed reduction methods:

- Methods of reducing vehicle speeds (Appendix D – Speed Reduction Measures and Page 37 of National Roads Development Guide)
- Achieving Appropriate Traffic Speeds (Pages 32-35 of Designing Streets)



Figure 20 – Example of Shared Surface Street with Island for Speed Reduction

3.14 Establishing Appropriate Carriageway Widths

A 5.5m width allows all vehicles to pass each other at low speed. Given the infrequency of large vehicles on residential streets, this width will normally be the maximum required to cope with residential traffic, for up to 300 dwellings. Below 5.5m the carriageway will be too narrow for the free movement of large service vehicles such as pantechnicons. Where such vehicles are allowed access, passing places may be required. The carriageway width required between passing places will then depend upon the combinations of vehicle types expected; the frequency with which vehicles may meet each other and the delay which may be caused to traffic movement. These factors may be expected to vary with traffic volumes.

At 4.8m the carriageway will allow a wide car to pass a large service vehicle such as a pantechnicon. At 4.1m the carriageway will be too narrow for large service vehicles such as pantechnicons to pass vehicles other than cyclists. It does however allow wide cars to pass each other. Hence, while being more restrictive on the movement of large vehicles, a width of 4.1m will still provide two-way flow for the majority of residential traffic. Below 4.1m the carriageway will be too narrow for private cars comfortably to pass each other except at very low speed and may be uncomfortable for cyclists in conjunction with large vehicles. Widths of less than 4.1m therefore should be used for single file traffic.

The choice of width below 4.1m will depend largely upon the frequency and ease with which cyclists and cars may need to pass each other. It is suggested that 3.7 metres (4.1 metres preferred) be regarded as the minimum width between passing bays on a single file system. It is suggested that a single file system can be used for flows below 25vph – 30vph peak.

At the very minimum the shared surface streets should be 4.1 metres (3.7metres minimum) wide with intervisible areas of, say, 5.5 metres that would allow vehicles to pass. As traffic increases then the number of widened areas of road should increase to a point where the streets (for example with footways) switch to become predominately, at least, 5.5 metres wide with areas of narrowing.

Passing Areas

Areas where the street width permits two-way vehicle movement, intervisible passing areas must be a minimum of 10 metres in length and spaced no greater than indicated in Section 3.17 (except within the rural environment) apart and be intervisible. The design of visitor parking must be considered to ensure that passing areas do not get occupied by visiting vehicles.

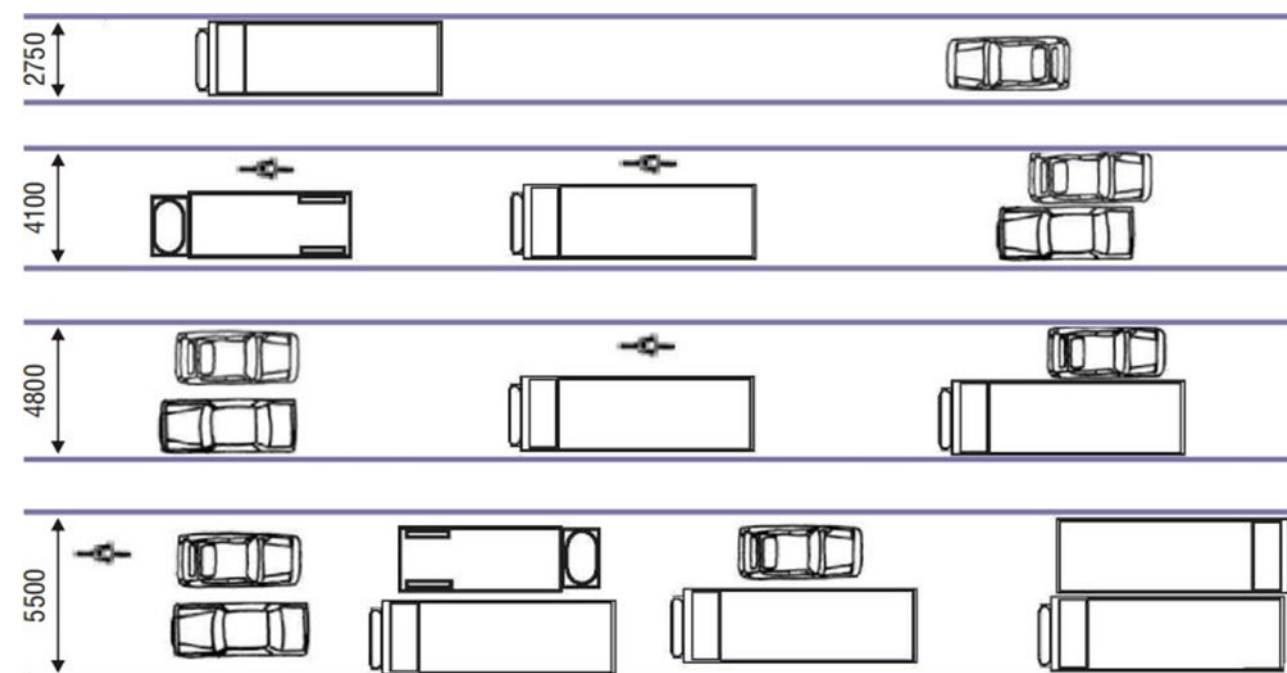


Figure 21 – Carriageway widths Can Accommodate | Manual for Streets



Figure 22 – Minimum Carriageway Street with Speed Reduction Measures

3.15 Industrial Roads

An Industrial Road provides a link to industrial and commercial areas by means of access to servicing yards or allowing frontage development of these premises onto the road.

An Industrial Road may be a cul-de-sac in which case a turning facility should be incorporated. Elsewhere loop roads should be provided to discourage general through traffic movement.

Industrial Roads are transitional in nature between a road and the local industrial/commercial environment and may therefore be constructed to reduced standards of alignment compared with Traffic Distributor Roads. This will largely depend upon the length of the roads. It is still desirable to use a formal design speed for assessing curve radii and visibility. 20mph is suggested as an appropriate figure, with a minimum centreline radius of 25 metres. A minimum carriageway width of 7.3 metres will normally be required, but this may be reduced to 6 metres where commercial vehicle activity is likely to be limited (e.g., in small-scale industrial developments comprising nest units) or where the roads operate one-way.

3.16 Pedestrian Provision

The following table provides the minimum recommendations for pedestrian provision based on the anticipated vehicle flows.

Table 2 – Summary of Pedestrian Provision

Vehicle Flow	Pedestrian Requirement
0 to 20vph	Level and shared
20 to 30vph	Separate demarcation zone (comfort space), level or with 30mm upstand kerbed footway, at least on one side.
30 to 50vph	Segregated footway with 30mm upstand. Preferably on both sides as number of vehicles increases.
50 to 100vph	Segregated footway with 100mm upstand. Preferably on both sides as number of vehicles increases.
Over 100vph	Segregated footway with 100mm upstand on both sides
Note: vph peak vehicle flow per hour	



Figure 23 – Pedestrian Route Through a New Development



Figure 24 – Pedestrian Provision on Type 2 Street in North Ayrshire

3.17 Street Typologies

The proposed residential street types for North Ayrshire are set out in Table 3 ‘Street Types’ below. Should a road, which distinctly caters for vehicles, be required then designers should refer to the National Roads Development Guide (NRDG) which sets out a hierarchy

of road types: Primary, Secondary and Tertiary. The key difference between each street type is in relation to the number of dwellings to be served from the street, speed and expected vehicle flow. **For residential streets a maximum design speed of 20mph** should normally be an objective.

Table 3 – Street Types

Street Types				
Primary Streets (Movement corridors / High Streets)				
Not covered in this guide, refer to National Roads Development Guide and Designing Streets for Design Guidance				
Street Type	Summary		Speed	
Strategic	For major traffic movement outside of the urban boundary. Movement is prioritised over Place in these circumstances.		Over 30mph	
Main Roads / Primary Streets	These streets are within urban boundaries and link strategic roads to residential and industrial areas. They include arterial ‘through routes’ and mixed use multi-functional high streets. These are public transport corridors. A careful balance between place and movement is required in the designing of these street.		30mph	
Secondary & Tertiary Streets (Residential)				
Street Type	Summary	Max No. of Dwellings	Speed	Max Peak Traffic Flow
Type 1 – Connector Street	Street within residential area with segregated footway	1000+*	20mph	500vph two- way flow
Type 2 – Local Residential Street /Industrial Street	Local Residential Streets are located within residential areas and provide access to properties. Separate footways (segregated by an upstand kerb) are provided for pedestrian movement along this street type.	400*	20mph	200vph two- way flow
Type 3 – Residential Link Street	Residential Link streets are low trafficked residential streets which provide routes to properties. Separate footways (segregated by an upstand kerb) are provided for pedestrian movement along this street type.	200*	15 to 20mph	100vph two- way flow
Type 4 – Shared Surface Street	Shared streets are low trafficked residential streets such as lanes, mews, vennels and courtyards.	40-60*	10 to 15mph	30vph two- way flow
Tertiary Streets (Industrial)				
Street Type	Summary		Speed	
Industrial Street	An industrial street should follow guidance in Designing Streets as it provides a link to main roads, or primary streets. It could also provide access to industrial and commercial streets by means of accessing to servicing yards or allowing frontage development of these premises onto the road.	n/a	20mph	n/a

* Approximate number of dwellings. Street type to be based on the expected traffic flow

Type 1 – Residential Connector Street

Residential Connector Streets are the main streets within a new residential development which connect to surrounding strategic roads (e.g., main roads and high streets) and from which the secondary/tertiary residential streets flow. This street type forms a key part in the character of the development as well as providing local public transport connections such as bus routes and bus stops. This street type can also function as part of the active travel network with provision for pedestrians and cyclists. The character of these streets can be enhanced through verges and tree planting which also can provide separation between the footway, cycleway and road creating a safe and pleasant route for pedestrians and cyclists. SuDS such as swales (depending on the location) are recommended for this street type to contribute to surface water management and as opportunities for wildlife.

For Residential Connector Streets within developments over 300 dwellings, there should be at least two points of vehicle entry/exit for effective connectivity, accessibility and to facilitate emergency vehicle operation. There is an opportunity for Residential Connector Streets to also accommodate commercial use and include associated traffic/carparking where appropriate.

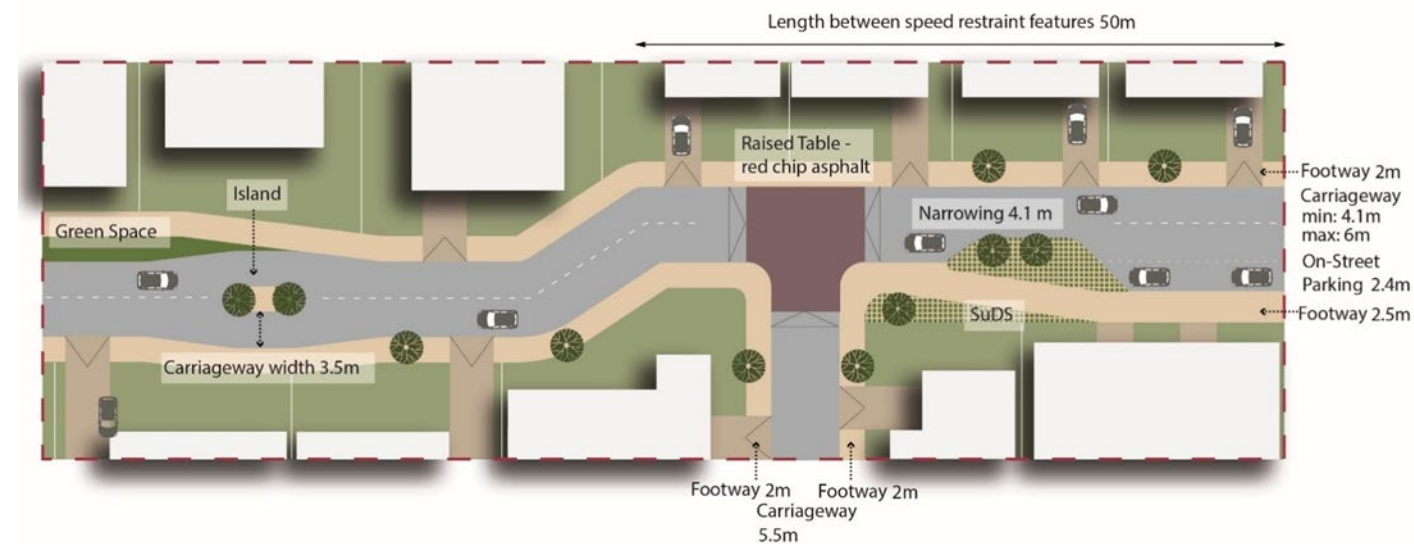


Figure 25 – Street Typology Plan for a Residential Connector Street in an Urban Context



Figure 26 – Street Typology Plan for a Residential Connector Street in an Urban Context

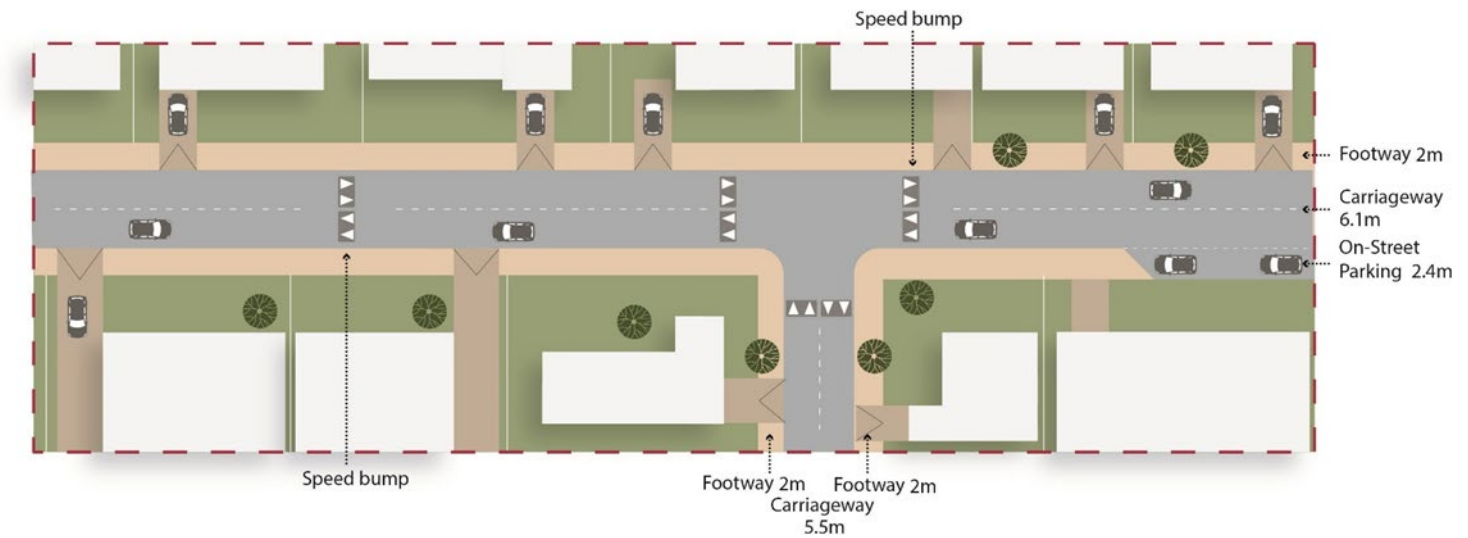


Figure 27 – Street Typology Plan for a Poorly Designed Residential Connector Street in an Urban Context

Table 4 – Type 1 – Connector Street Design Parameters

Type 1 – Connector Street Design Parameters	
Design speed	20mph (except at particular locations, such as outside schools, when a design speed of 15mph is required).
Max number of vehicles / dwellings	200 to 500 vehicles in the peak hour. (approx. 400 to 1000 dwellings)
Number of vehicle access points	Multiple connections preferred with at least two minimum
Carriageway width	Non-uniform width is desirable. Shifts in the horizontal plane are preferred to vertical speed control features. Minimum vehicular width to be 6m, or 6.75m if a bus route. Width is dependent on type of traffic, percentage of large vehicles, plus other design considerations, with widening on bends or elsewhere where necessary. On street parking should be accommodated in widened areas that are designed into the street layout.
Footway width (see Section 3.1.4 of the NRDG)	2m minimum (on each side of the road) to increase to 3m or more in areas of identifiably higher levels of pedestrian activity (adjacent to schools, shops, bus stops, railway stations, etc) or if shared with cyclists.
Kerb height for footway	100mm minimum
Verge width and service strip	Minimum 2m width on streets over 150vph (approx. 300 dwellings).
Length between speed restraint features	50m or 60m desirable dependent on design speed
Minimum forward visibilities	33 (or 25m) dependent on design speed
Minimum centreline radius	35m but not fixed; radius geometry to be based on tracking—larger vehicles could generally use whole road turning from / into this street type.
Direct vehicular access	Acceptable if it can be demonstrated that it would not cause an operational problem. Normally only allowed if vehicles do not need to reverse into the carriageway.
Minimum K value	6
Minimum vertical curve length	K x algebraic difference in %age gradient; minimum 25m (absolute minimum 20m)
Maximum gradient	8%
Minimum gradient	0.8% (1.25% Block Paving)

Type 2 – Local Residential Street

Local Residential Streets provide the main setting for homes and allow direct access to individual dwellings. Local Residential Streets are accessed directly from a Connector Street (Type 1) and should ideally contain multiple and linked access points. Separate footways (segregated by an upstand kerb) are provided for pedestrian movement. A designated cycleway should also be allowed for. The priority for these streets is on 'place' over 'movement' where although vehicles should be accommodated, they should not overly dominate the street scene. Careful consideration should also be given to on-street parking. It is unlikely that these streets would carry large volumes of traffic or be part of the public transport network. A non-uniform width is desirable for this street type to control speeds, accommodate on-street parking and accommodate areas of SuDS and tree planting.



Figure 29 – Street Typology Section for a Local Street in a Coastal Context

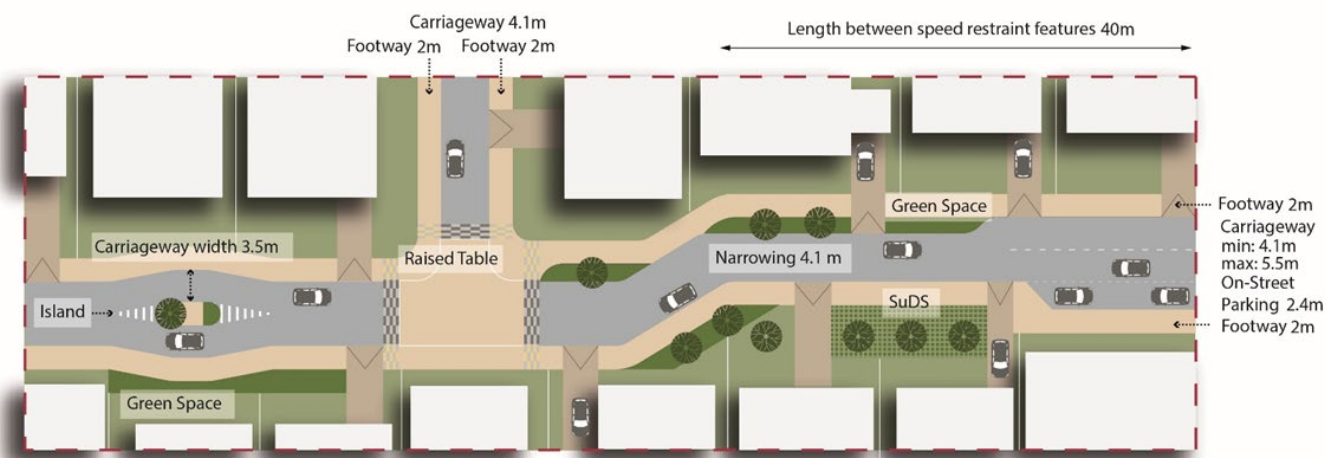


Figure 28 – Street Typology Plan for a Local Street in a Coastal Context

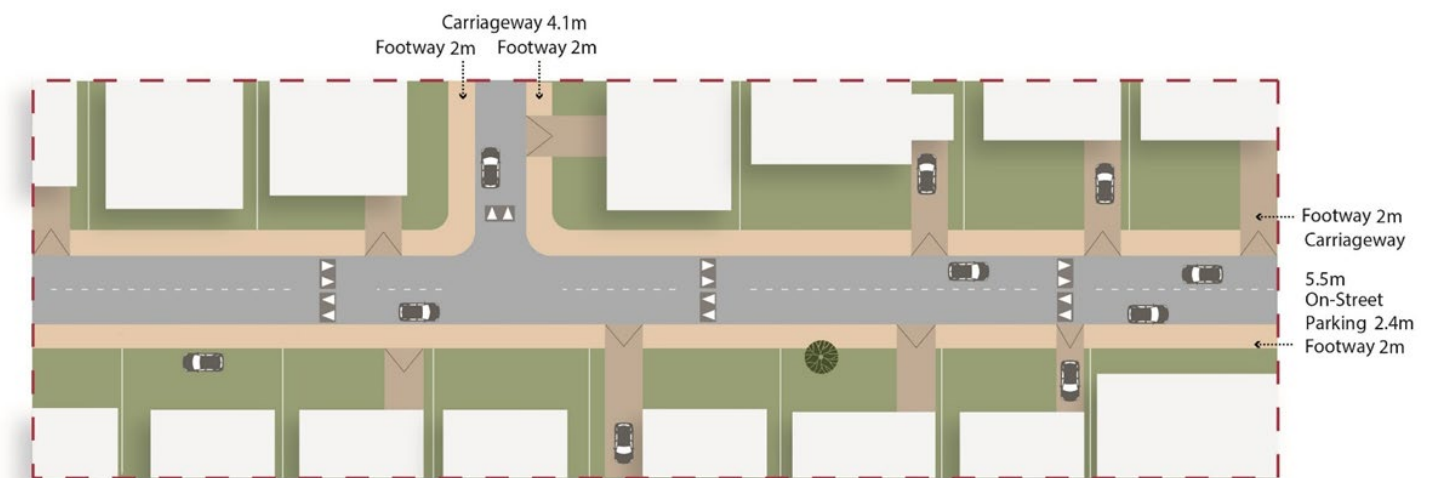


Figure 30 – Street Typology Section for a Poorly Designed Local Street in a Coastal Context

Table 5 – Type 2 – Local Residential Streets Design Parameters

Type 2 – Local Residential Streets Design Parameters	
Design speed	20 mph (except at particular locations, such as outside schools, when a design speed of 15mph is required).
Max number of vehicles / dwellings	100 to 200 vehicles in the peak hour. (approx. 200 to 400 dwellings).
Number of vehicle access points	<p>Multiple and linked connectors are recommended.</p> <p>Up to 150vph (approx. 300 dwellings): - Single access point acceptable if two points of access are not possible. An emergency vehicle access if required for over 100vph (approx. 200 dwellings).</p> <p>150vph to 200vph (approx. 300 to 400 dwellings) a minimum of two access points.</p> <p>Cul-de-sacs to be avoided. If absolutely necessary, they should have a maximum length of 200m. The layout should incorporate turning facilities for service vehicles where cul-de-sac is more than 20m long.</p>
Carriageway width	<p>Non-uniform width is desirable. Shifts in the horizontal plane are recommended to control speed.</p> <p>Could be relatively constant width but with measures to control speeds at regular intervals, depending on street character and length of links between junctions.</p> <p>Recommended as a minimum, 5.5m up to 300 dwellings, minimum 6m between 300 and 400 dwellings (can vary to respond to built form, public spaces and on streetcar parking, turning from accesses, or a bus route is to be accommodated), plus widening on bends or elsewhere where necessary. On-street parking can be designed into the street layout.</p>
Footway width (see Section 3.1.4 of the NRDG)	2m minimum (preferably on each side of the road) to increase to 3m or more in areas of identifiably higher levels of pedestrian activity (adjacent to schools, shops, bus stops, railway stations, etc) or if shared with cyclists.
Kerb height for footway	100mm minimum
Verge width and service strip	Desirable if not footway present but generally not required as footway is available for services.
Length between speed restraint features	40m desirable, 60m maximum. Horizontal shifts in alignment are desirable.
Minimum forward visibilities	25m. Visibilities significantly above the level should be avoided to deter excess speed.
Minimum centreline radius	20m but not fixed; radius geometry to be based on tracking—larger vehicles could generally use whole road turning from/into this street type.
Direct vehicular access	Allowed
Minimum K value	3
Minimum vertical curve length	K x algebraic difference in %age gradient; minimum 15m
Maximum gradient	8%
Minimum gradient	0.8% (1.25% Block Paving)

Type 3 – Residential Link Street

Residential Link Streets are low trafficked residential streets which provide the setting for residential properties. The priority for these streets is on 'place' over 'movement' where although vehicles should be accommodated, they should not overly dominate the street scene. Slower speeds should be encouraged through good design such as variable road widths. Pedestrians should feel they can share the whole street; however, a segregated footway should be accommodated for more vulnerable pedestrians. These streets are generally part of the tertiary road network and should be reflected in a change in surface material and detail from Type 1 and 2.



Figure 32 – Street Typology Section for Residential Link Street in a Rural Context



Figure 33 – Street Typology Plan for a Poorly Designed Residential Link Street in a Rural Context

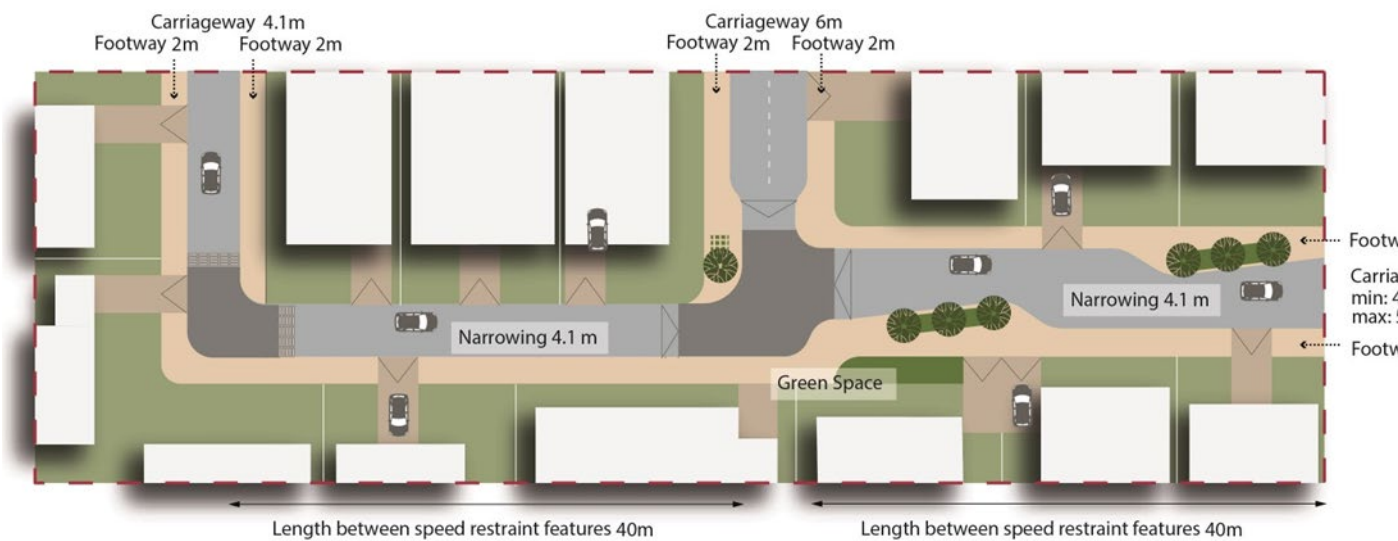


Figure 31 – Street Typology Plan for a Residential Link Street in a Rural Context

Table 6 – Type 3 – Residential Link Streets Design Parameters

Type 3 – Residential Link Streets Design Parameters	
Design speed	15 to 20 mph
Max number of vehicles / dwellings	30 to 100 vehicles in the peak hour. Can be used for vehicle flows between 20 and 30 vehicles. (approx. 60 to 200 dwellings). Maximum length 300m
Number of vehicle access points	Multiple and linked streets are recommended. Should connect to other streets at each end as a minimum. Length should generally reflect block size. Should connect to street of equal or higher status at one end at least. A minimum two points of access required. Cul-de-sacs to be avoided. If absolutely necessary, they should serve a maximum of 6 homes and should be Type 4 streets. Longer (Type 3 streets) cul-de-sac development may be permitted in exceptional circumstances. Should incorporate turning facilities for service vehicles where the cul-de-sac is more than 20m long.
Carriageway width	Variable. Uniform width not acceptable. Shifts in the horizontal plane are essential and a requirement to control speed. Width could vary between 4.1m (3.7m min) and 5.5m depending on use. On-street parking should be designed into the street layout. If the developer wishes to reduce the running carriageway width to below 3.7m, they should consult the local Fire Safety Officer.
Notional carriageway width	Predominately a minimum width of 4.8m for 50 to 100vph and a preferred 4.1m for 30 to 50vph, with 5.5m wide sections to be provided at regular intervals. Can vary to respond to built form and public spaces, on-streetcar parking, turning from accesses, or if a bus route is to be accommodated plus widening on bends or elsewhere where necessary. Frequent narrow sections of 4.1m (3.7m min) width for 50 to 100vph and frequent widened inter-visible sections of 4.8m width for 30 to 50vph. Minimum length of 10m for widened / narrowed sections.
Footway width (see Section 3.1.4 of the NRDG)	2m minimum (preferably on both sides of road as the number of vehicles increase beyond 40 to 50vph).
Kerb height for footway	30mm minimum for up to 50vph, 100mm for flows greater than 50vph
Length between speed restraint features	40m, narrowing's with a horizontal shift in alignment are a requirement.
Minimum forward visibilities	23m. Visibilities significantly above the level should be avoided to deter excess speed.
Minimum centreline radius	14m but not fixed; radius geometry to be based on tracking—larger vehicles could generally use whole road turning from/into this street type.
Direct vehicular access	Allowed
Minimum K value	2
Minimum vertical curve length	K x algebraic difference in %age gradient; minimum 15m
Maximum gradient	8% (7% Block Paving)
Minimum gradient	0.8% (1.25% Block Paving)

Type 4 – Shared Surface Street

Shared surface streets are low trafficked residential streets such as lanes, mews, vennels and courtyards. The priority for these streets is on 'place' over 'movement'. Pedestrian movement is the priority for this street type, reducing the dominance of motor vehicles. A shared surface street should be child and community friendly spaces, rather as just being a corridor for movement.

It is important that drivers enter shared space streets at an appropriate speed. It might therefore be useful to convey this requirement to them on the approach by means of a gateway feature as detailed in Section 3.18. Ideally, the feature would encourage drivers to slow down to the design speed before entering the shared or level area.



Figure 35 – Street Typology Section for a Shared Surface Street

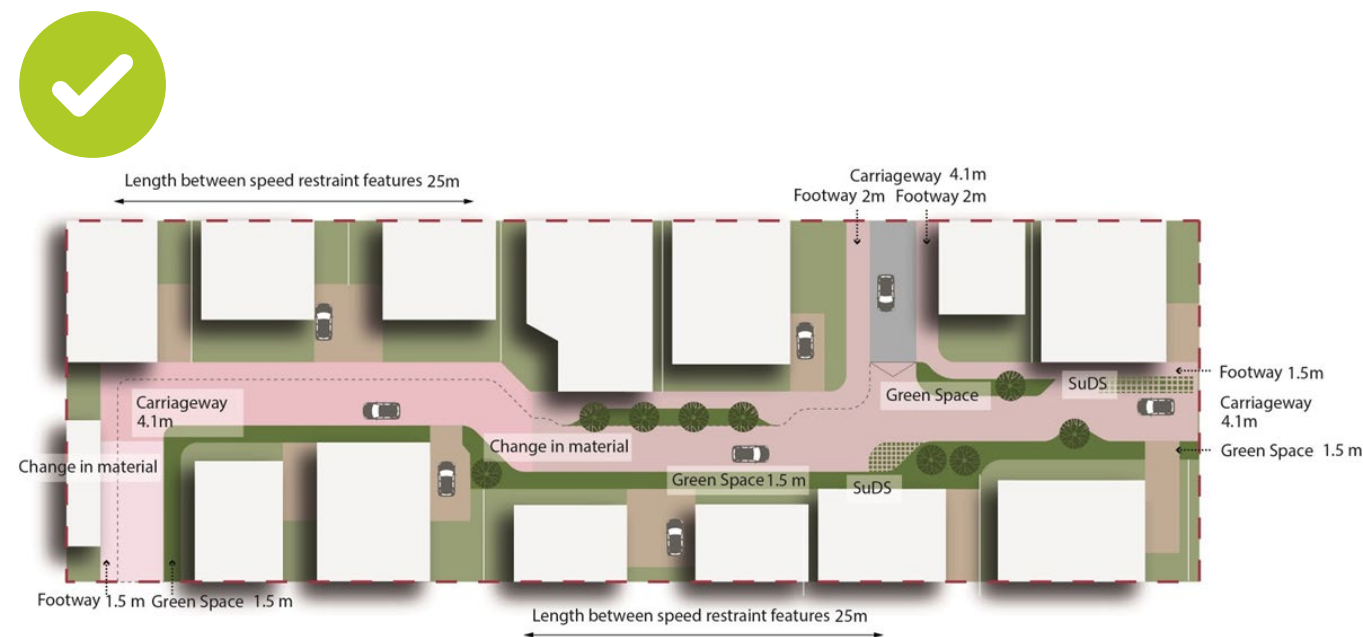


Figure 34 – Street Typology Plan for a Residential Link Street in an Urban Context

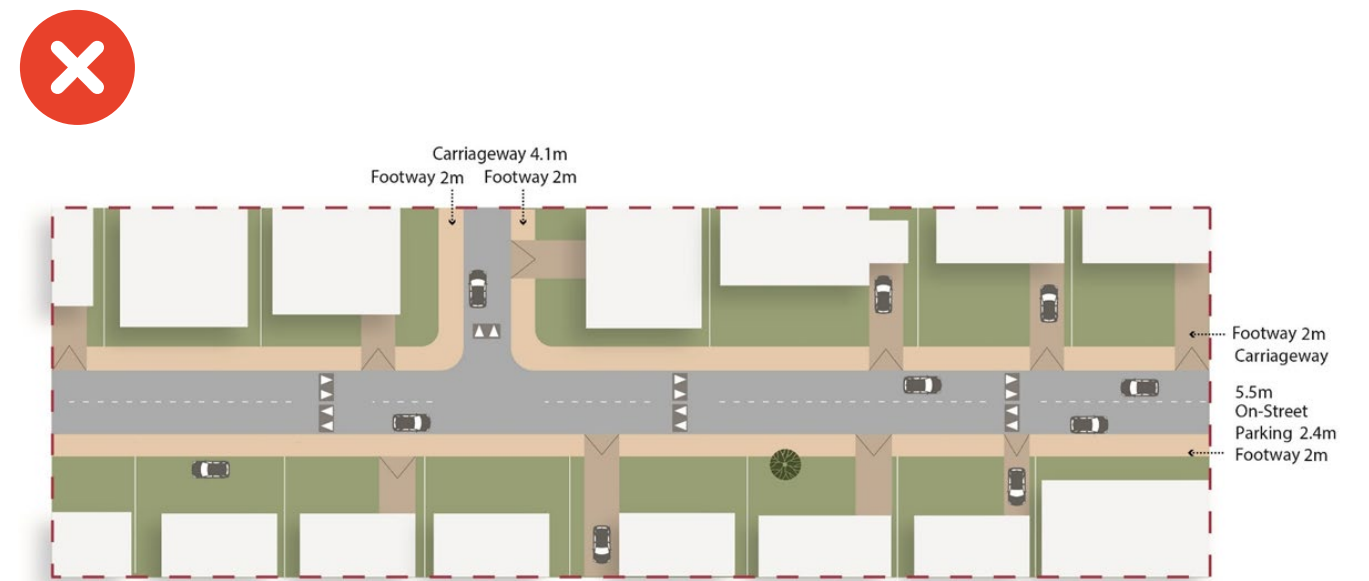


Figure 36 – Street Typology Plan for a Poorly Designed Residential Link Street in an Urban Context

Table 7 - Type 4 – Shared Surface Street Design Parameters

Type 4 – Shared Surface Street Design Parameters	
Design speed	15mph, 10mph with no pedestrian demarcation
Max number of vehicles / dwellings	Limited to 20 vehicles in the peak hour in a cul-de-sac with a maximum length of 100m. Loop shared surface road can serve up to 30 vehicles in the peak hour. Approx. 40 dwellings in a cul-de-sac and 60 dwellings in a loop.
Number of vehicle access points	Can connect at both ends. Should incorporate turning facilities for service vehicles where the cul-de-sac is more than 20m long.
Carriageway width	Variable, uniform width not acceptable. Shifts in the horizontal plane is essential and a requirement to control speed. Preferred vehicular width to be 4.1m (3.7m min.) with wider areas used for passing. 2m wide service strip can be provided within the vehicle route where width of street is 5.5m or greater. On-street parking should be designed into the street layout. If the developer wishes to reduce the running carriageway width to below 3.7m, they should consult the local Fire Safety Officer.
Notional carriageway width	Predominately a preferred minimum width of 4.1m (3.7m min.) but can vary to respond to built form and public spaces, on-street car parking, turning from accesses, or if a bus route is to be accommodated) plus widening on bends or elsewhere where necessary. Inter-visible widened sections of 4.8m width (minimum length 10m).
Footway width (see Section 3.1.4 of the NRDG)	1.5m minimum demarcation zone or 2m wide segregated footway for peak vehicle flows between 20vph and 30vph
Kerb height for footway	None, delineator strip may be required between the notional carriageway and the demarcation zone where high levels of pedestrian flows are anticipated. 30mm upstand where segregated footway is provided
Verge width and service strip	At least one continuous 2m wide service strip with a 50mm kerb upstand if no footway provided.
Length between speed restraint features	25m to 40m depending on vehicle flow, horizontal shifts in alignment are a requirement
Minimum forward visibilities	20m. Visibilities significantly above this level should be avoided to deter excess speed.
Minimum centreline radius	10m but not fixed; radius geometry to be based on tracking—larger vehicles could generally use whole road turning from/into this street type.
Direct vehicular access	Allowed
Minimum K value	2
Minimum vertical curve length	K x algebraic difference in %age gradient; minimum 10m
Maximum gradient	8% (7% Block Paving)
Minimum gradient	0.8% (1.25% Block Paving)

3.18 Transitions and Junctions from Street Types

It is important that drivers are aware that they are entering a different street type, especially entering shared space streets where they can change their speed appropriately. **At each change of street type a gateway transition feature will be required** to help convey the requirement to alter their driving behaviour. Ideally, the feature would encourage drivers to slow down to the appropriate design speed before entering the shared or level area. Transitions can occur at any point in the street and the changes perceivable by road users, but transitions at junctions are the preferred option (see Figure 39).

The change between street types and from a conventional street could be indicated by various measures used individually or in combination, such as:

- A reduction in road width.
- Visual narrowing (e.g., trees either side of the entry point).
- A portal feature that reduces the visual (or actual) height.
- A change in surfacing material.
- Signing.
- Short lengths of block paving prior to each leg of the junction.



Figure 37 – Change of Surface in Type 4 Street | Gateway

Junctions

For junctions on rural roads, it is necessary to consult the planning authority. In the case of residential streets block spacing will determine the distance – as a guide the minimum stagger between junctions on the opposite sides of a road is X, where X is determined from the table below. Where cells in the table are left blank no restrictions apply. The normal stagger between junctions on the same side of the street 2X.

Table 8 – Junction Spacing

Junction Spacing						
Side Road at Junction	Main Road at Junction					
	A	B	C	D	E	F
A - 40mph Local Distributor	50m					
B - 30mph Local Distributor	50m	30m				
C - Type 1 Street (up to 1000vph)	50m	30m	15m			
D - Type 2 Street (up to 400vph)	30m	15m	15m	15m		
E - Type 3 Street (up to 200vph)	30m	15m	15m	10m*		
F - Type 4 Street (up to 40-60vph)	30m	15m	10m*	10m*		

Notes:

- The cells marked with a * indicate desirable distance.
- Relaxations will be considered depending on the existing street character and the design of the proposed street.
- Right / left staggered junctions are preferred, as they generate fewer conflicting movements.
- Priority crossroads will be allowed on Type 2, 3 and 4 streets.
- Relaxations may be considered.

Table 9 – Junctions Layouts and Sightlines

Junctions Layouts and Sightlines				
Priority Route	Non-Priority Route	Radius (see note (a))	X-Distance (see note (b))	Y-Distance (see note (c))
External Road Network	Type 1	6m	2.4 or 4.5m	See note (c)
	Type 2	6m	2.4 or 4.5m	See note (c)
	Type 3	See Table 10		
Type 1	Type 1	6m	2.4m	33m
	Type 2	6m	2.4m	33m
	Type 3	4m splays	2.4m	33m
Type 2	Type 2	6m	2.4m	25m
	Type 3	4m or splays	2.4m	25m
Type 3	Type 3	4m or splays	2.4m	17m
	Type 4	4m or splays	2.4m	17m
Type 4	Type 4	Dependant on tracking	2.4m	11m
External Road Network	Major Industrial Rd	15m	2.4 or 4.5m	See note (c)
	Minor Industrial Rd	15m	2.4 or 4.5m	See note (c)
Major Industrial Road	Major Industrial Rd	15m	2.4m	33m
	Minor Industrial Rd	10m	2.4m	33m
Major Industrial Road	Minor Industrial Rd	10m	2.4m	33m

Notes:

- Radii are typical values but are subject to variation depending on route types and widths. The 15m Industrial radii can be reduced if the development comprises mainly B1 offices.

As a principle, radii should be minimised to assist pedestrians and should be checked using vehicle tracking.

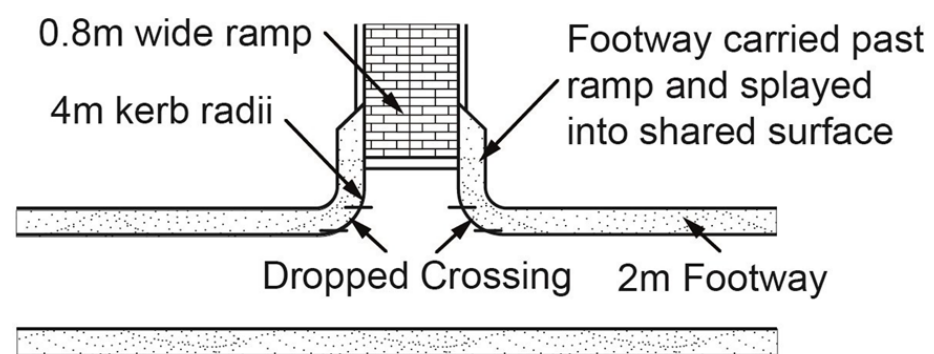
- The x-distance will depend on the level of development proposed. An x-distance of 4.5m will be only considered where capacity is an issue. Consideration should also be given to the impact of the x-distance on the built form.
- See Table 14; The y-distance is dependent on the existing speed limit, the design speed of the road or the 85th percentile speed as agreed with NAC. Any reductions in the normal y-distance will only be considered if appropriate speed restraint measures are proposed, they form part of a wider scheme, and are considered appropriate. Reference should be made to the tables 13 and 14 for visibilities at different speeds.

Table 10 – Junctions Layouts and Sightlines

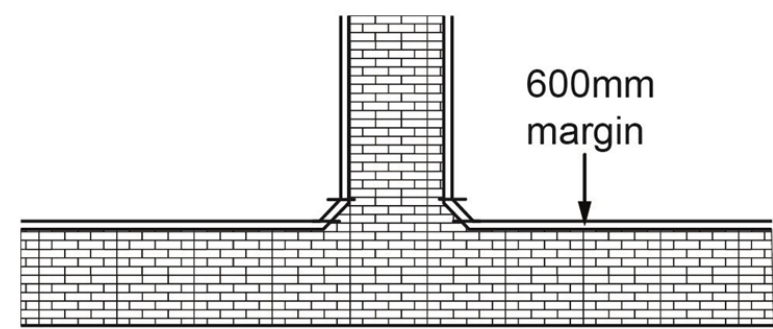
Junctions to Shared Surface / Residential Link Streets				
Road/ Street Connections to Type 3 Streets	Suitability of Junction Options			
	A	B	C	D
40mph Local Distributor	Yes	No	No	No
30mph Local Distributor	Yes	No	No	No
Type 1 Connector Street (up to 500vph)	Yes	No	Yes	Yes
Type 2 Local Street (up to 400vph)	Yes	No	Yes	Yes
Type 3 Residential Link Street (up to 200vph)	Yes	Yes	Yes	Yes
Type 4 Shared Surface Street (up to 60vph)	No	Yes	Yes	Yes

Notes:

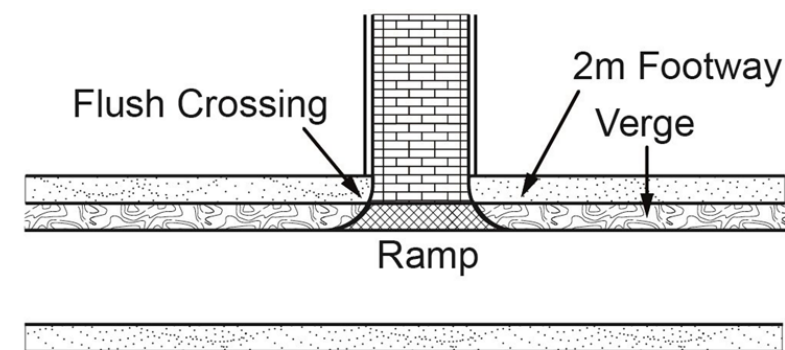
- The junction to a Shared Surface Street can be any of the arrangements shown below.
- Option A with a 6m radii should be used when there is a need to get vehicles off the main route as quickly as possible.
- If Option C is utilised for a junction on to a Type 1 Connector Street, then the ramp will need to be set back 5m (as standard) from the junction with footways extending beyond the ramp.
- Option D should only be used on to a Type 2 Street.



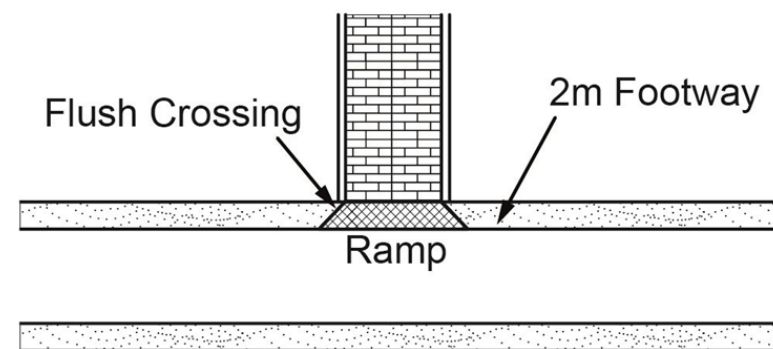
Option A



Option B



Option C



Option D

Figure 38 – Examples of Junction Options onto Residential Link / Shared Surface Streets

- Half batter kerb, type HB1 (100mm)
- Round top edging kerb, type RT
- Flush edging kerb, type FT
- Bulnose kerb, type BN3 (30mm)
- Bulnose kerb, type BN2 (50mm)
- Channel kerb, type CS (Flush)
- Transition kerb

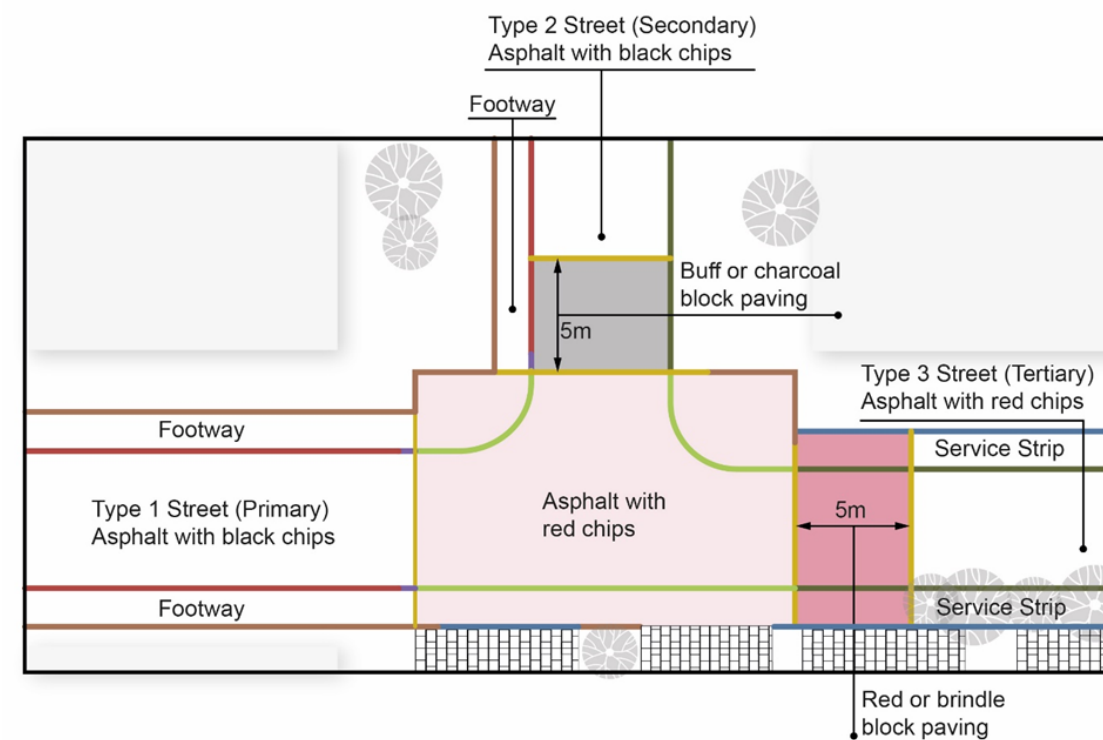


Figure 39 – Junction Material Change to Highlight Transition from Type 1 to Type 2 and 3 Streets

Adoptable Visibility Zones

An adoptable visibility zone should be provided for drivers turning left into a minor route, to enable them to view potential hazards. The required visibility radii, which is tangential to the kerb, for different junction angles and kerb radii, are as follows:

Table 11 – Junction Deflection and Visibility at Kerbs

Junction Deflection (degrees)	Visibility For Each Kerb Radius		
	4m	6m	10m
80	10m	11m	19m
90	9m	10m	19m
100	8m	9m	19m

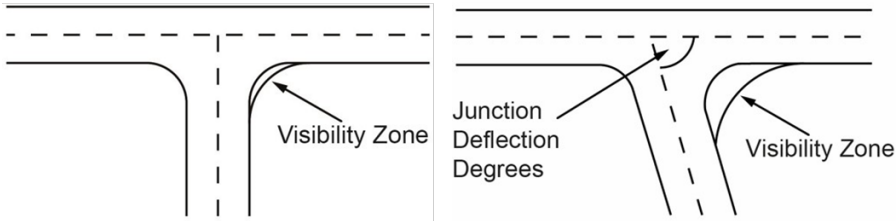


Figure 40 – Visibility Zones

Turning Spaces and Vehicular Sweep Path Tracking

The vehicle path is the width required for vehicle movement within the overall street width, given the nature of vehicles likely to utilise the street, the requirements for non-car users, and any on street parking or servicing. North Ayrshire Council can provide details of the typical waste refuse vehicle that is likely to operate in the development.

The position of buildings and other features needs to be considered alongside the requirements for pedestrian and vehicle movements, so that the design is not dictated by standard road layouts. Vehicle tracking demands need to be accommodated but should not dominate. It should be used to lessen the dominance of the carriageway. Kerblines should not rigidly follow vehicle paths but take note of the building lines, etc. The aim should be to achieve a harmonious mix of user demands.

Following design principals of having connected street networks, this will generally eliminate the need for vehicles to turn around in new developments. Where it is necessary to provide for vehicles turning (e.g., in a cul-de-sac or court), a tracking assessment should be made to indicate the types of vehicles that may be making this manoeuvre and how they can be accommodated. **The turning space provided should relate to its environment.**

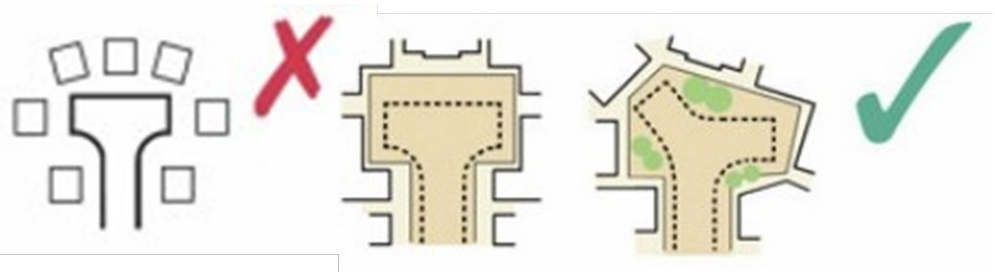


Figure 41 – Turning Heads Responding to Use vs Environment from Design Streets

Overhang

Turning heads should be provided with a 2 metres wide verge or margin to allow for any overhang of vehicle bodies when manoeuvring where there is no adjacent footway.

Self-Policing

Designated or marked parking bays should be provided to prevent vehicles using the turning head for additional on-street parking.

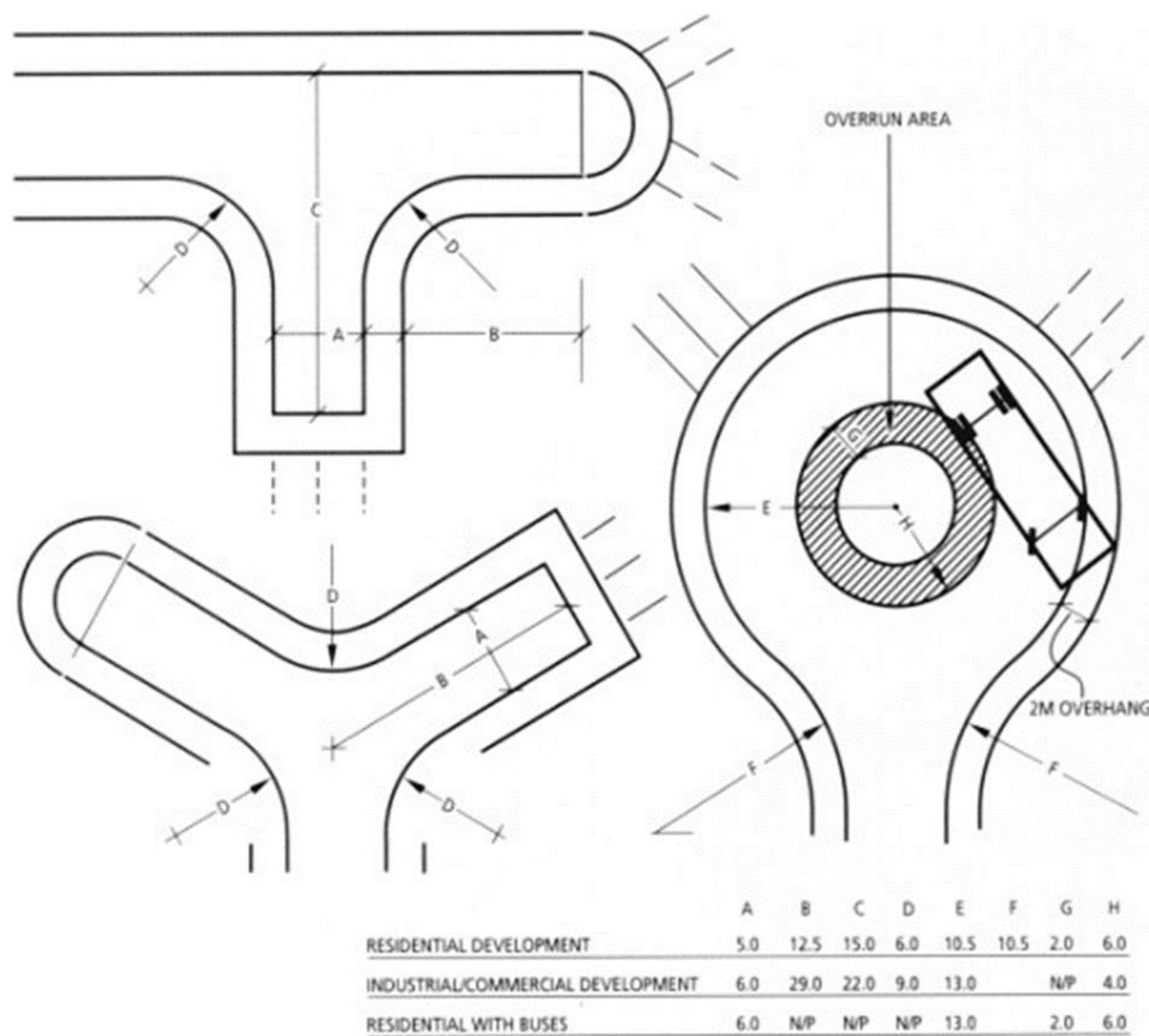


Figure 42 – Typical Turning Areas (as a Guide) with Dimensions | National Roads Development Guide

Emergency and Service Vehicles

The developer should demonstrate that the street layout can accommodate service and emergency vehicles without compromising the positive sense of place. Wherever possible this should be achieved by the provision of roads forming loops thus avoiding the need for turning areas. Tracking should be used to determine appropriate sizes.

The requirements for emergency vehicles are generally dictated by the fire service requirements. All development proposals should be discussed with the relevant Fire Authorities.

The requirements are as follows:

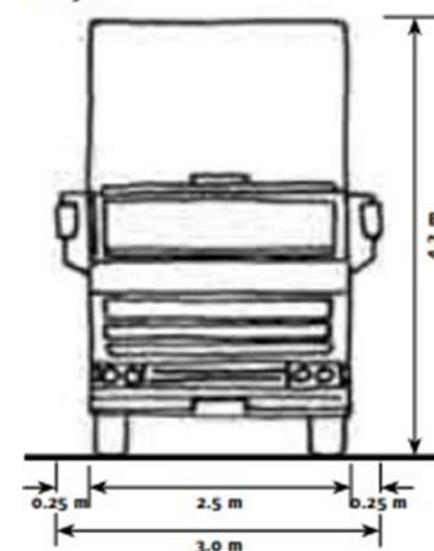
- A 3.7m carriageway (kerb to kerb) is required for operating space at the scene of a fire. To reach a fire the access route could be reduced to 3.0m over short distances, provided the pump appliance can get to within 45m of all points within a dwelling.
- If an authority or developer wishes to reduce the running carriageway width to below 3.7, they should consult the local Fire Safety Officer.

Waste Vehicles

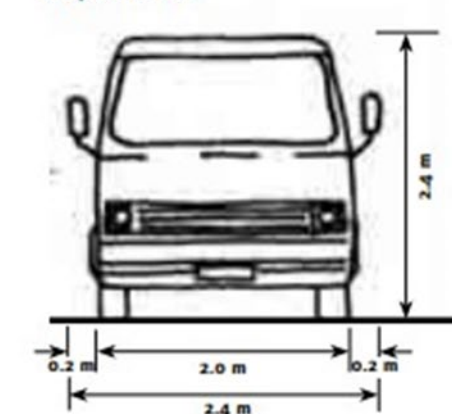
It is essential that liaison between the designers and the waste operations team takes place at an early stage. Policy for local and regional waste planning bodies is set out in Scottish Planning Policy. BS 5906: 2005 and recommends a maximum reversing distance for refuse vehicles of 12 m. Longer distances can be considered, but any reversing routes should be straight and free from obstacles or visual obstructions.

On streets with low traffic flows and speeds, it may be assumed that vehicles will be able to use the full width of the carriageway to manoeuvre. Larger vehicles which are only expected to use a street infrequently, need not be fully accommodated – designers could assume that they will have to reverse or undertake multi-point turns to turn around for the relatively small number of times they will require access.

Lorry



Van/mini bus



Family saloon

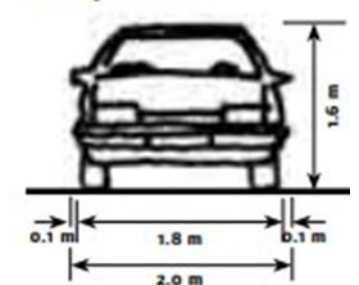


Figure 43 – Typical Vehicle Dimensions | Manual for Streets

3.19 Vertical Alignment

Vertical curves shall be provided at all changes in gradient. The use of permitted vertical curve parameters will normally meet the requirements of visibility, however stopping sight distance should always be checked because the horizontal alignment of the road, presence of crossfall, superelevation or verge treatment and features such as signs and structures adjacent to the carriageway will affect the interaction between vertical curves and visibility.

3.20 Visibility

Designing Streets provides details for visibility. Forward visibility and junction visibility should be measured in accordance with Table 13 and 14. An ‘x’ distance of 2.4m should normally be used in most built-up situations. A minimum figure of 2m may be considered in some very lightly trafficked and slow-speed situation.

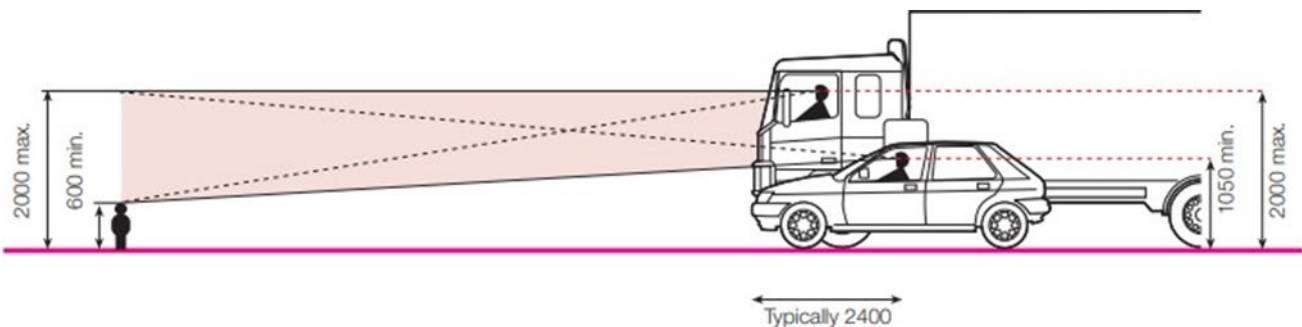


Figure 44 – Stopping Sight Distance (SSD) | Manual for Streets

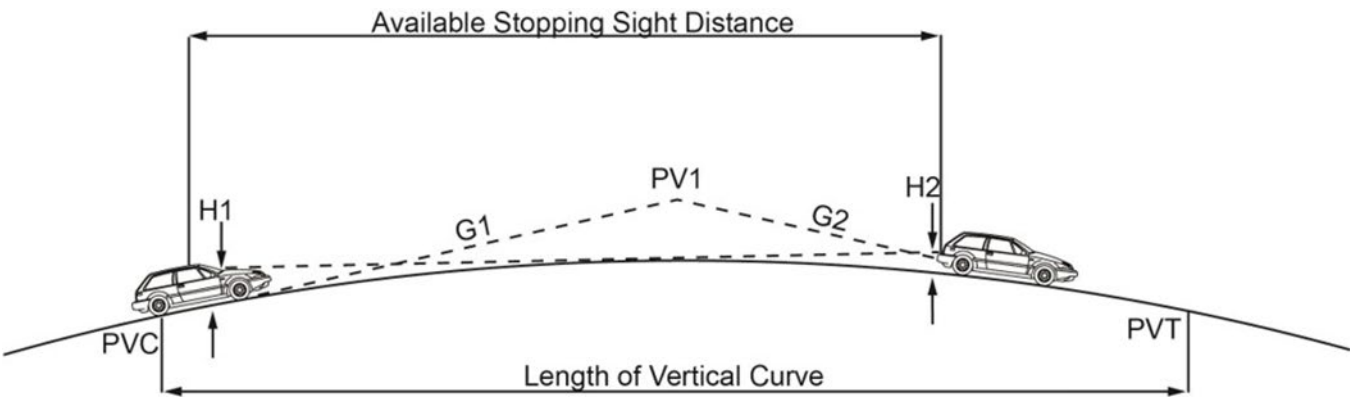


Figure 45 – Stopping Sight Distance (SSD)

Table 12 – Stopping Sight Distance (SSD)

Stopping Sight Distance (SSD)												
Speed	Km/hr	16	20	24	25	30	32	40	45	48	50	60
	mph	10	12	15	16	19	20	25	28	30	31	37
SSD (m)		9	12	15	16	20	22	31	36	40	43	56
SSD adjusted for bonnet length		11	14	17	18	23	25	33	39	43	45	59

Table 13 – Visibilities (Designing Streets)

Speed	Visibilities (Designing Streets)					
Kph	56	48	40	32	24	15
Mph	37	30	25	20	15	10
Y-distance (m)	59	43	33	25	17	11

For accesses onto the external road network that meet the following criteria the following Y-distances in Table 14 should be utilised;

- It is a Main Distributor Road or Strategic Route.
- It is outwith a built-up area.
- The eighty-fifth percentile wet weather speed is considered to be 37 mph or greater.
- The movement function of the street is more important than the place function in almost all situations.

Table 14 – Visibilities (DMRB)

Speed	Visibilities (DMRB)					
Kph	113	97	80	64	48	32
Mph	70	60	50	40	30	20
Y-distance (m)	295	215	160	120	70	45

Notes:

- Where it can be shown that vehicle speeds will be contained to 30 mph or 20 mph, the respective major road ‘y’ distance can be amended to 43 metres and 25 metres respectively.
- Departures may be considered if the full recommended standards are not achievable.

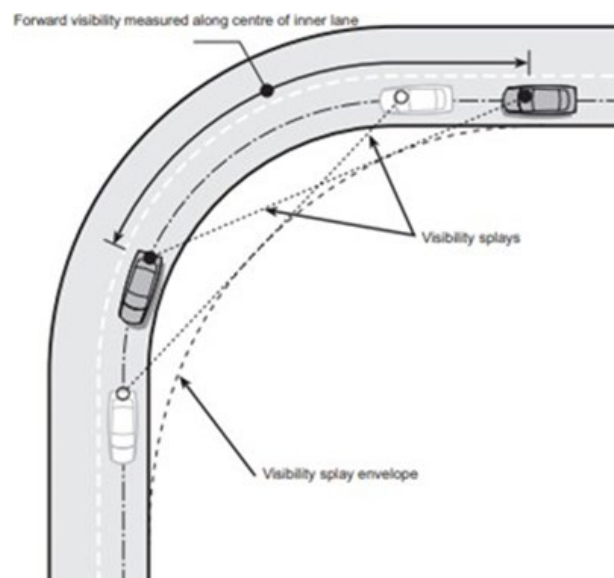


Figure 46 – Forward Visibility from Design Streets

Encroachment of parking spaces into visibility splays should be avoided where practicable, therefore tracking streets may be advisable.

Other street features can impact visibility, such as street furniture and street trees and should be assessed in terms of their impact on the visibility envelope. In general, where these features are deemed not to fully obscure a whole vehicle or pedestrian (including child or wheelchair user) they will not have a significant impact on visibility.

Although parking in visibility splays can be common, it does not appear to create significant problems in practice.

3.21 Driveway Visibility

Vehicle exits at the back of the footway mean emerging drivers will have to take account of people on the footway. The absence of wide visibility splays at private driveways will encourage drivers to emerge more cautiously. Appendix I – Parking Standards, Section 1.4 provides further details.

3.22 Overrun Areas: Verge and Footway Protection

Careful consideration to be given to areas where potential overrun could occur and may require vertical features to highlight street edge. Potential mitigation measures at identified over-run areas could consist of:

- Verges reinforcement to permit over-running.
- Grass-crete.
- Wooden posts.

- Raised verges (mounds).
- Bollards.
- Natural stones.
- High kerbs

The visual impact of kerb heights can impact on the overall street scene. The developer should determine the appropriate kerb height for all locations within the development; to reduce the risk of overrunning. Overrunning is generally to be avoided in residential and mixed-use streets as it can be visually intrusive, interfere with pedestrian desire lines and pose a potential hazard to cyclists.

At locations where it may be expected that over-running of the service strip/verge/footway may occur, localised raising of the kerb to 100mm or greater may be the most appropriate measure.

Designing Streets states 'overrun areas can, however, help to overcome problems with regular or high-volume access for larger vehicles. In this instance verge or footway reinforcement should be considered.



Figure 47 – Over-run protection | Before and after

3.23 Public Transport

Bus Routes

Public Transport should be considered at an early stage in the design process. The principle streets within a development should be the streets on which public transport runs. Those streets, identified through the design process, should be discussed in consultation with transport operators and detailed requirements agreed throughout the design process. Bus stops and bus routes form a key part of walkable well-connected neighbourhoods.

Streets on bus routes should generally not be less than 6.0m wide (but can be reduced on short sections with good intervisibility). Swept path analysis can be used to determine the ability of streets to accommodate large vehicles as per Figure 48 below.

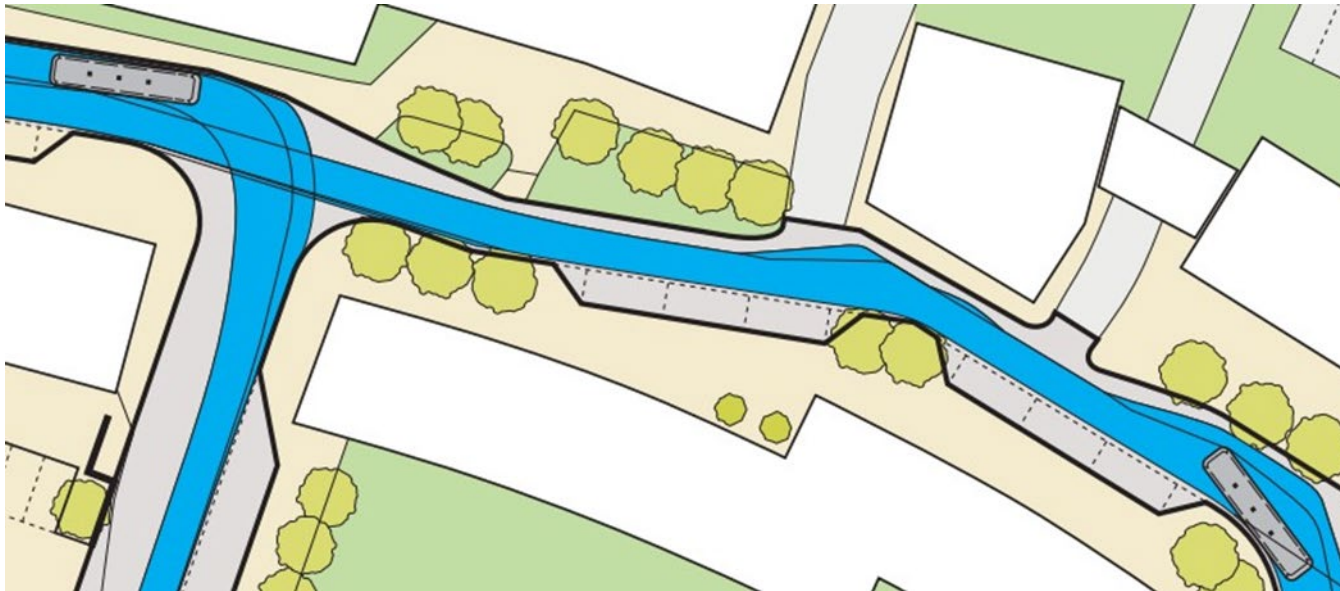


Figure 48 – Bus Tracking in Residential Streets from Designing Streets

Bus Stops

Public transport stops should be sited in relation to pedestrian desire lines at an early stage in the design. The developer should co-operate and consult with local public transport operators and the local authority.

- Bus stops should be sited so they can be easily accessed by all pedestrians.
- Bus stops should be placed near junctions so that they can be accessed by more than one route on foot, or near specific passenger destinations. (Schools, shops, etc.)
- The bus should generally stop on the street and not in a lay-by.
- Bus stops should be high-quality places that are safe and comfortable to use.
- Footways at bus stops should be wide enough for waiting passengers while still allowing for pedestrian movement along the footway. This may require local widening at the stop.
- Provision should be made within the streetscape for features that assist passengers getting on and off buses. This may involve areas of raised footway. It is important that such features are integrated within the overall design of the street and do not pose difficulties for those with visual impairments.
- A bus shelter hardstanding and shelter to be provided to the rear of footway.
- Where real-time information services can be made available, such facilities should also be considered.



Figure 49 – Typical Bus Stop and Shelter

3.24 Pedestrian Movement

Residential pedestrian routes are classified as either footways (which are adjacent to the carriageway or verge) or footpaths (which are not related to the carriageway). Pedestrian movements are also catered for on Shared Surface Streets.

Within new residential areas, pedestrian movement should be:

- Convenient.
- Lit.
- Safe.
- Pleasant and attractive.
- Direct to attractions with good intervisibility and connectivity.

The desirable maximum longitudinal section gradient of adoptable footways or footpaths is 1 in 20 (5%). If this is not achievable, then the specific circumstances should be discussed with the Council. A gradient steeper than 1 in 12 (8.5%) will not be acceptable.

All footways and footpaths should have a crossfall of 1 in 40 (2.5%) towards the drainage channel.

Footway Widths

- In high vehicle volume streets the minimum footway widths should be 2 metres to both sides of the carriageway, although in certain situations one footway may be acceptable if there is no likelihood of pedestrians utilising a second footway. In such a case, sufficient land may need to be dedicated as adopted verge if there is a reasonable likelihood of a

footway being needed at any time in the future.

- The minimum width of footway should increase to 3 metres in areas of identifiably higher levels of pedestrian activity, such as adjacent to schools, shops, bus stops, etc.
- Greater widths may be required at specific points (e.g., around bus shelters).
- A separate footpath should have a total corridor width of 4m containing at least a 1m margin to each side of a 2m surface.



Figure 50 – Pedestrian Connectivity - Tarryholme, Irvine

Steps

Where steps are proposed within the development, a suitable adjacent ramp must also be provided.

Handrails must be provided and should be smooth and continuous where there is more than one flight of steps. The handrail should be terminated no less than 300mm past the end of the flight and 'closed' to the stair wall. Where the steps open on to a pedestrian footway crossing the line of the flight, the handrail should be placed 850mm above ground level and not protrude.

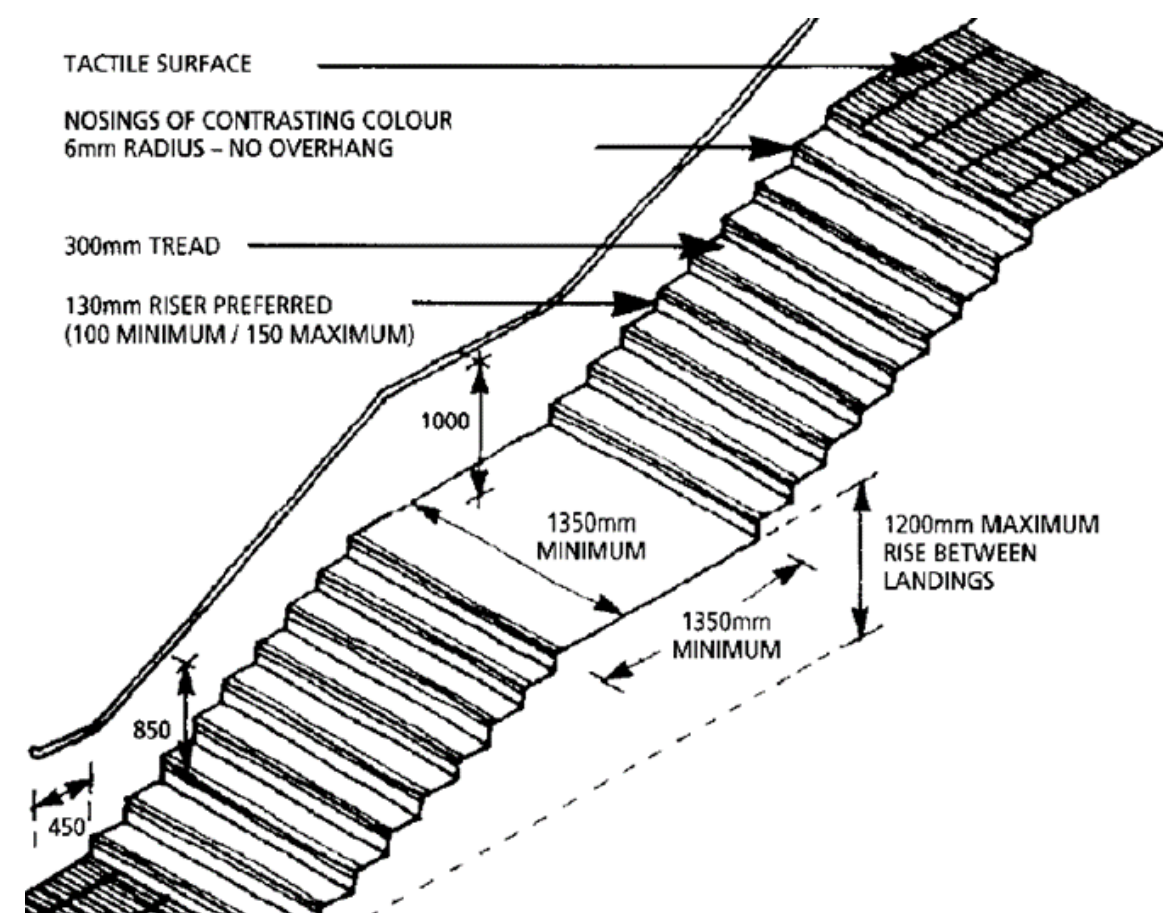


Figure 51 – Step Dimensions

Crossings

Dropped kerbs should be provided at all junctions and pedestrian desire lines, including connections to external and existing footpaths.

Where dropped kerbs are provided across the minor route within a major/ minor junction they can lie within the corner radius for junctions with radii of 4 or 6 metres. However, for junctions with radii of 10 or 15 metres, they should be positioned further from the major route to reduce crossing distances. For low levels of development, dropped crossings are preferable to the provision of kerb radii to give priority to pedestrians. Continuous pedestrian crossing points can be provided by raised plateaus or level crossing points.

Surface level crossings can be a number of types, as outlined below:

- Uncontrolled crossings—which should have dropped kerbs.
- Informal crossings—can be created through careful use of paving materials and street furniture to indicate a crossing place to encourage slow-moving traffic to give way to pedestrians.
- Formal crossings—in which there are four types of signalised crossings (Pelican, Puffin, Toucan and Equestrian, for further information see page 15-16 of Designing Streets) and Zebra crossings.

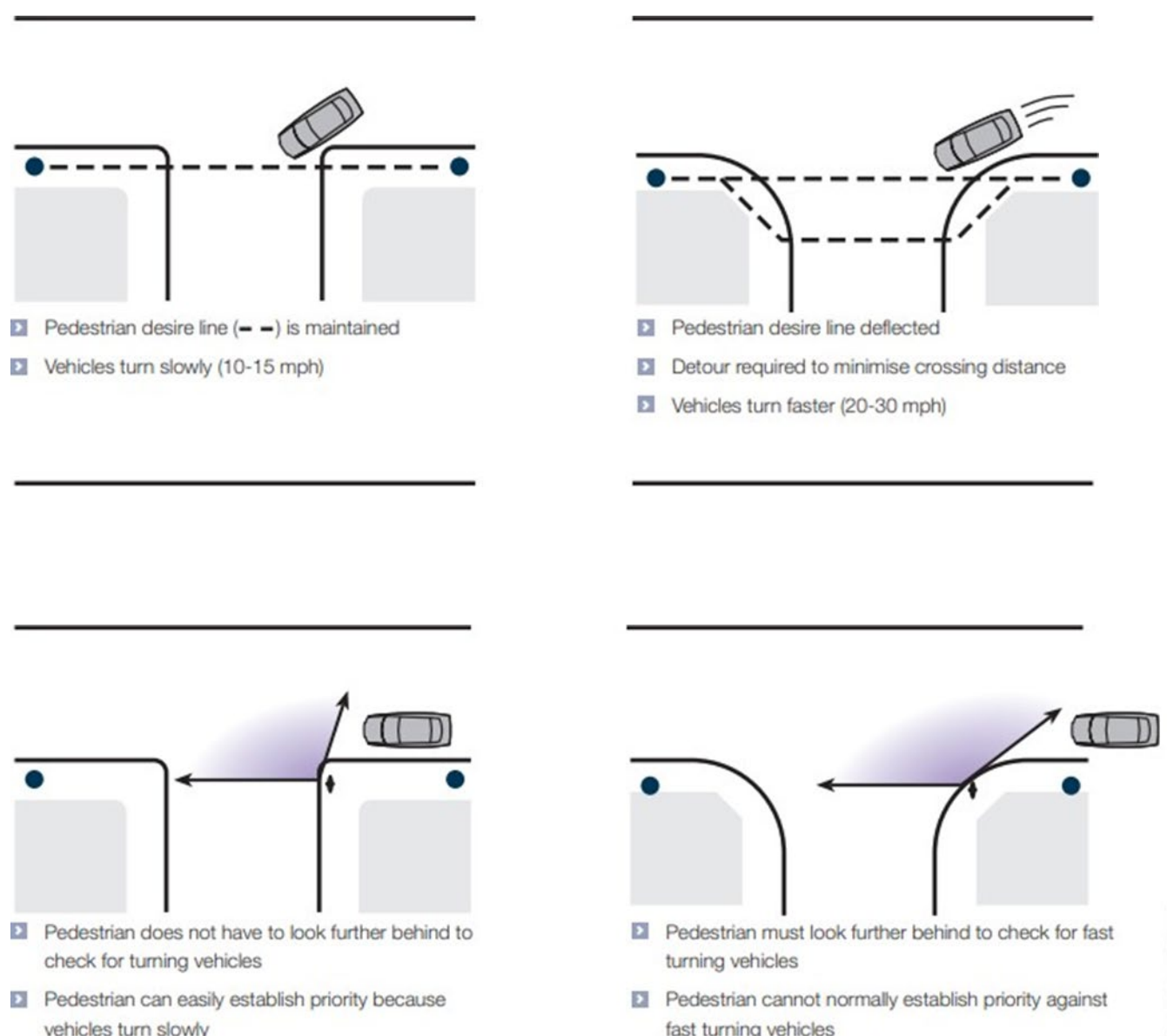


Figure 52 – Pedestrian Connectivity and Junction Radii | Designing Streets

Swept-path analysis can be used to determine the minimum dimensions required. The footway may need to be strengthened locally in order to allow for larger vehicles occasionally overrunning the corner.



Figure 53 – Dropped Kerb Uncontrolled in North Ayrshire

Designing for Inclusive Mobility Access Provision

Developers should design streets and spaces to provide good access and clarity for the elderly, disabled people, including those with visual, hearing and other impairments. They should also seek to ensure that routes are accessible to all and are not obstructed.

This Street Design Guide considers the needs of disabled people within all elements of the design guidance so that their requirements are incorporated from the start of the process rather than added as an afterthought. However, this does not obviate the need for care when assembling design elements and building form.

Ramps

Pedestrian ramps should have a desirable gradient of less than 1:20 (5%) which should be regarded as the norm. Gradients must not exceed 1 in 12 (8.3%) and if this gradient is utilised then it should not be for a greater length than 2 metres. Should this not be achievable, the specific circumstances should be discussed with the Council. Ramps should always be provided next to steps.

The maximum length of a ramp shall not exceed 6m unless provision is made for a level landing of preferred length 2m (with or without an adjacent resting platform). Slopes of between 1 in 12 and 1 in 20 require at least a handrail down one side. Stepped ramps should be avoided. Ramps should be 1800mm wide to permit wheelchairs to pass. The minimum width over short lengths can be 1200mm. Handrails should be set 1000mm above the ramps.

Tactile Paving

Tactile paving to assist blind or partially sighted people should be utilised in accordance with national guidance found at: Inclusive Mobility. A Guide to Best Practice on Access to Pedestrian and Transport Infrastructure (publishing.service.gov.uk).

With the appropriate tactile paving, dropped kerbs should be provided at all side road junctions where the carriageway and footway are at different levels.

Street furniture is typically sited on footways and can be a hazard for blind or partially sighted people. Obstructions in the footway should therefore be minimised, lighting columns for example should always be located at the back of footway.

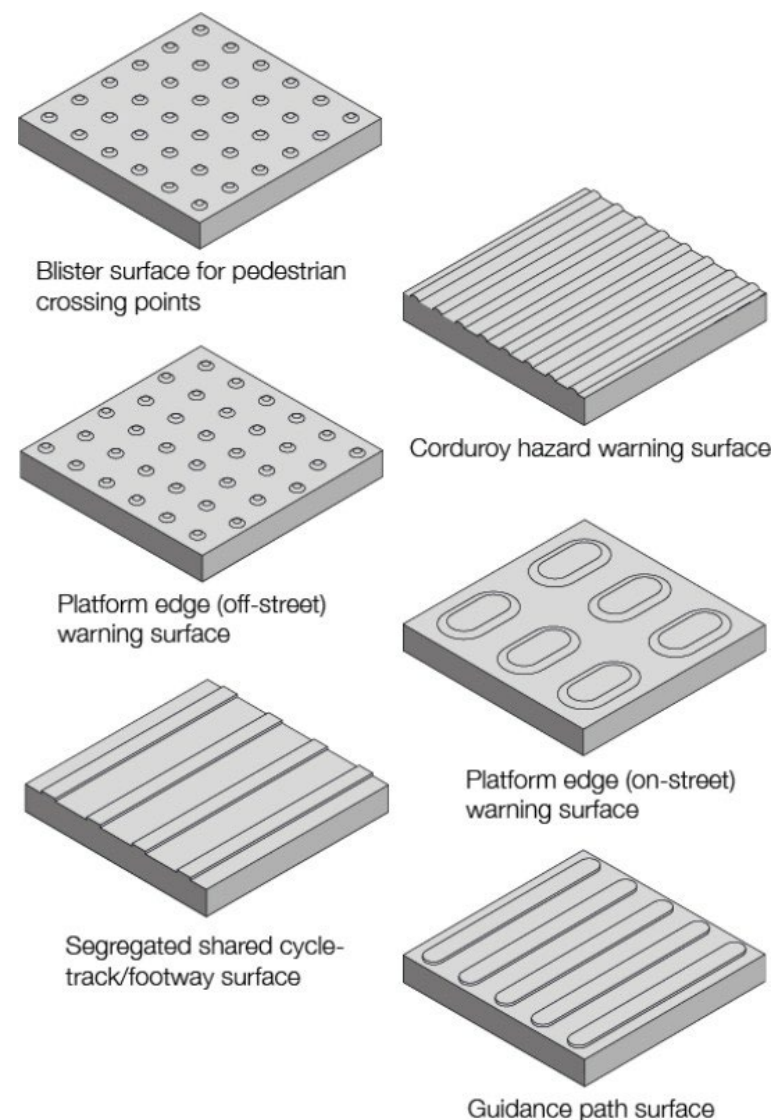


Figure 54 – Tactile Paving Examples and Application

3.25 Vertical and Horizontal Clearance

A general vertical clearance of 2.6 metres should be provided, with an absolute minimum of 2.1 metres beneath signs. Within 450 mm of the carriageway edge the full 5.1m (5.3m for Primary roads) clearance requirement will apply.

A horizontal clearance of 0.45 metres should always be provided between the edge of the carriageway and any vertical objects such as signs. Where the crossfall on the carriageway exceeds 4% this clearance should be increased to 0.6 metres.

3.26 Cycle Infrastructure and Movement

New infrastructure for cycle provision should link to existing and intended routes. While good quality off carriageway routes may be favoured, shared unsegregated use of a path alongside the carriageway by cyclists and pedestrians is an option.

Where this is proposed, the minimum width is 3.0 metres. Ideally, a width of over 3.5m will allow delineation of pedestrian and cycle use. Reduced widths can be provided in exceptional circumstances- please seek advice from NAC officers. If the pedestrian and cycle routes are parallel but segregated by level difference or by a tactile dividing line, different widths apply. Principles and appropriate widths for shared and adjacent facilities for pedestrians and cyclists are considered in detail in the Governments Cycling by Design guide.

Access

Where off-road cycle tracks are installed away from the carriageway, access measures should be used to prevent unauthorised access by cars or motorbikes. All access barriers must comply with Disability Discrimination Act (DDA) regulations.

Visibility

Where a cycle track joins a carriageway, an appropriate x-distance must be provided with a normal minimum of 2.4 metres. Where a crossing or a junction with a carriageway is approached by means of a physical barrier arrangement the x-distance can be reduced to 1.0m. Further details are in the Governments Cycling by Design.

Cycle Parking

The Council's guidelines for cycle parking within development should be followed and guidelines followed as per the Governments Cycling by Design.

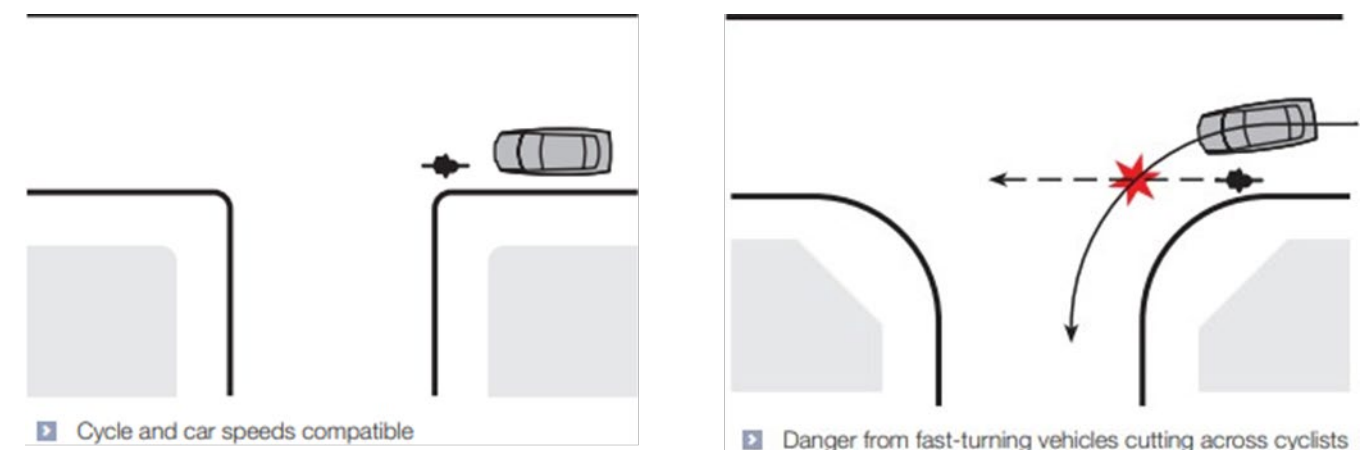


Figure 55 – Junction Design to Slow Travel Speed | Designing Streets



Figure 56 – Cyclist Utilising a Core Cycleway in North Ayrshire

Consideration should be given to the installation of secure cycle parking facilities at shopping and other communal centres in new developments where cycle usage is anticipated. A suitable method of creating secure parking is the "Sheffield" stand design. Communal covered cycle parking should be provided for higher density flatted or mixed use developments.

Cycle parking stands/ spaces should be designated such that they cannot be abused by vehicular parking.

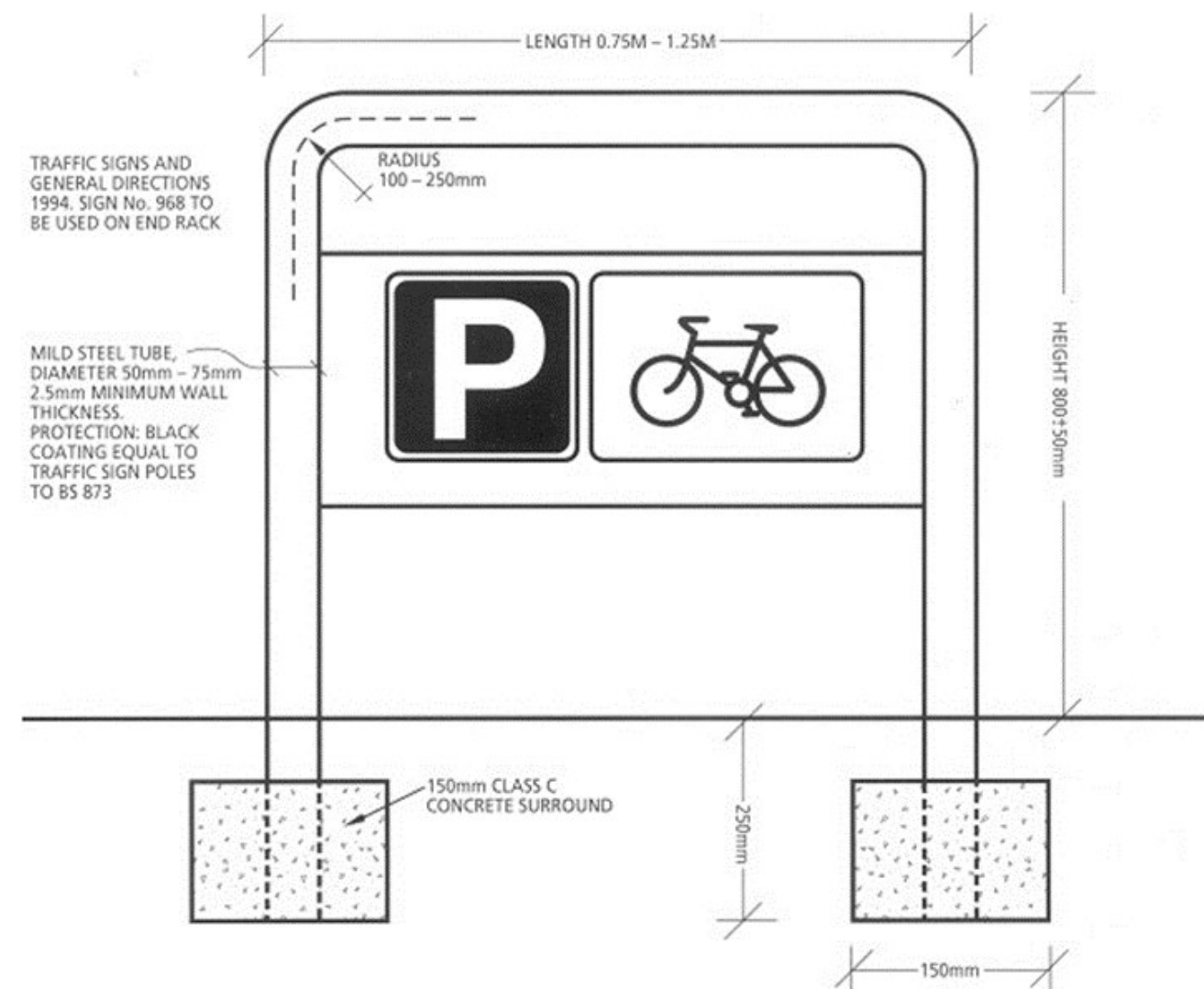


Figure 57 – Sheffield Stand Cycle Parking

3.27 Public Utility Service Strip

At least one service strip (can be within footway), a minimum of 2 metres wide, is required out with the extents of carriageway. Service strips can be located under any footway in a development. A service strip within the carriageway may be permitted at the discretion of the local road's authority. Where a service strip is permitted within the carriageway it requires to be a minimum width of 2.0 metres and 1 metre clear of the nearest public sewer. Local deepening will be required, see Section 3.1.6 (c) of the NRDG.

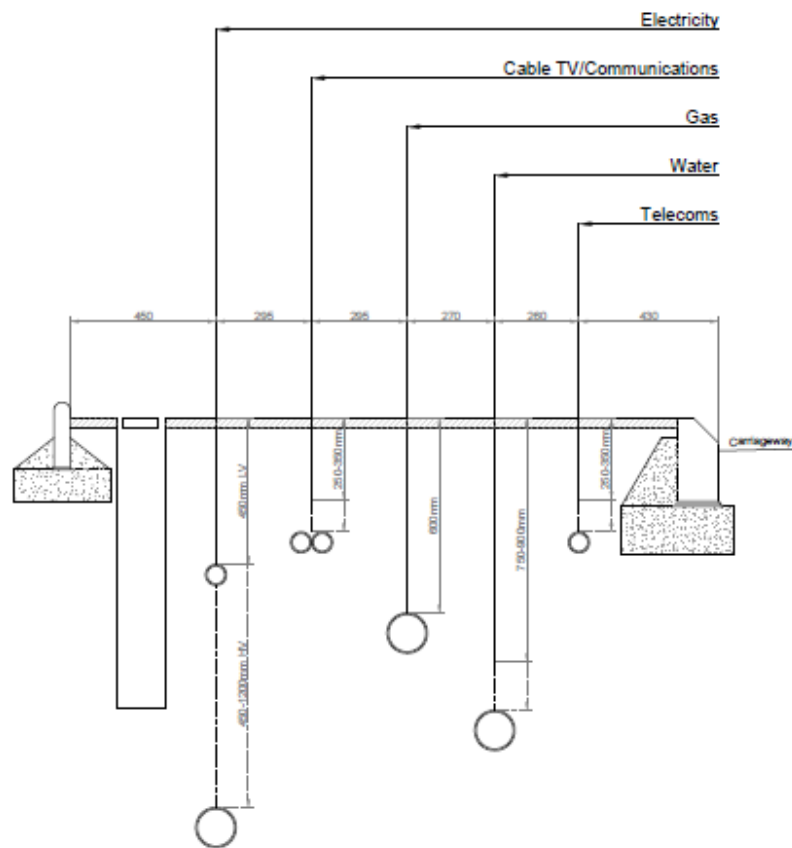


Figure 58 – Public Utilities to be Laid Underground in Footway

Service strips require to be located such that access to the utilities will not result in excessive vehicular diversion for properties affected. In a variation to 3.1.6(j) of the NRDG, maintenance of the adopted service strips will be the responsibility of the adjacent homeowner. This should be written into the relevant title deeds and must be maintained in good condition and not planted or altered without permission from the local road's authority.

Service strips considerations, for further details see NRDG Page 102 Section 3.1.6 (e)

- Located in land available for adoption by North Ayrshire Council.
- Consider utility location and provision in relation to proposed street types.
- Service strips to be planned and located out with the running surface.
- Place utilities within a landscaped zone adjacent to property garden areas.

- If utilities must be located in the running surface, should be situated in an area subject to less traffic and agreed with NAC officers.
- To be maintained at a width of 2.0m.
- Manhole placement should not be located within the 3.5m wide running width of the shared surface unless alternative access can be provided.
- Preferable not to include manholes in service strip, can locate in parking areas or widened areas within total width of road.
- Developers should engage with North Ayrshire Council and Statutory Undertakers to agree location and depth of service strips.

Utility – Visual Requirements

Any utility equipment that is above ground, for example, cabinets, boxes, pillars and pedestals should be sited outwith visibility splays so that it:

- Does not obstruct a driver's view.
- Not affect traffic movements.
- Be positioned so there is enough access for the equipment and the surrounding road to be maintained and cleaned.
- Not be located within any tactile paving (in the case of surface covers).
- Allow space for associated jointing chambers.
- Does not indiscriminately create wide sterile easements within verges or public greenspace (i.e., grassed areas maintained by the Council).
- Is not located within 5m of any other street furniture that would create a double obstruction to pedestrians.
- Any item within 5m must be in line.
- Does not spoil the view of a listed building; or does not result in 'visual clutter' by being in an inappropriate place.
- Does not obstruct pedestrians, wheelchairs, prams, pushchairs, etc.
- At least 2m clearance, increased to 3.5m in areas of high pedestrian flows (500 pedestrians an hour) or in locations such as schools, bus and rail stations, shall be provided.
- Does not constitute a danger to the public or to staff working on it.
- Does not facilitate crime or anti-social behaviour.
- Does not enable illegal access to adjacent premises or property (e.g., locating cabinets adjacent to high boundary walls, where the apparatus could be used to climb over the wall).
- Does not restrict the outlook or surveillance from the window of a house, intrude into areas of open-plan front gardens or disrupt the line of low boundary walls.



Figure 59 – Utility Cabinets and Service Strips Incorporated into Street Design

Drainage and Utilities

The NRDG and Appendix H details the SuDS requirements for North Ayrshire.

Key documents for road drainage and flood risk include:

- The Adopted North Ayrshire Local Development Plan.
- National Flood Risk Assessment (2018).
- Ayrshire Flood Risk Management Plan (2021).
- Ayrshire Local Flood Risk Management Plan (2022).
- Drainage, SuDS & Flooding: Procedure Note for Prospective Developers (2021 as amended).
- Surface Water Management Plans for 'Irvine' (2020) and for 'Saltcoats, Ardrossan, Stevenston & Kilwinning (SASK) (2021).
- Ayrshire Shoreline Management Plan (2018).
- Sewers for Scotland.
- The SuDS Manual.

Key Legislation:

- Flood Risk Management (Scotland) Act (2009).
- The Water Environment (Controlled Activities) (Scotland) Regulations (2011).

Drainage proposals must be formulated to ensure that they meet the requirements of national and local planning policy, all relevant environmental regulations, the identified

actions of the Local Flood Risk Management Plan, and relevant design standards for the management of flood risk and for the management of water quality.

North Ayrshire Council's [procedure note](#) on Drainage, SuDS & Flooding identifies the matters that should be considered and the documents that should be provided by a developer when applying for planning permission. The procedure note is updated from time to time to reflect the changing understanding of flood risk as well as changing policy and regulatory requirements. The information and approach contained in the procedure note should be considered as general guidance and other relevant or more up to date sources of information should also be consulted.

The term Sustainable urban Drainage Systems (SuDS) covers the whole range of sustainable approaches to surface water drainage management. SuDS aim to mimic natural drainage processes and to remove pollutants from urban runoff at source. In most cases, SuDS are required by regulations. Street design, including drainage, should help to deliver SuDS, which comprise of a wide range of techniques, including:

- Green Roofs.
- Permeable Paving (in non-adoptable areas).
- Rainwater Harvesting.
- Swales.
- Detention Basins.
- Ponds.
- Rain Gardens.

SuDS are more sustainable than traditional drainage methods because they can manage run off flow rates using infiltration and/or the retention of storm water, they protect and/ or enhance the water quality, are sympathetic to the environment setting, provide a wildlife habitat and encourage natural ground water recharge (where appropriate). They do this by:

- Dealing with run off close to where it falls.
- Managing potential pollution at its source.
- Protecting water resources from pollution created by accidental spills or other sources.

Proposals will be expected to make appropriate allowance for both urban creep, climate change and freeboard.

3.28 Car Parking

In general, adequate parking should be provided adjacent to all new developments to ensure that vehicles are not parked on the carriageway of a road where they may impede traffic flow and constitute a safety hazard. Appendix I – Parking Standards details the parking requirements for North Ayrshire.

3.29 Street Lighting

North Ayrshire Council's procedures for the adoption (accrual) of Street Lighting and Illuminative Apparatus are set out in Appendix D - Street Lighting Requirements.

Standard and Quality of Lighting

For appropriate designs standards and quality of lighting, in terms of design selection lighting services should aim to:

- Assist in the safe movement of traffic and reduction of night-time accidents by providing appropriate lighting on roads within the built environment and urban centres.
- Contribute to the commercial and social use of town centres, amenities and tourist activities by improving the night-time appearance and accessibility.
- Assist in reducing the fear of crime and aid visual recognition on public roads through use of white spectrum Light Emitting Diodes (LEDs).
- Protect and enhance the built environment by providing an efficient and effective lighting service for those roads and footpaths that have lighting installations.
- Safeguard and enhance our night time environment by reducing light pollution, obtrusive light and carbon emissions through ensuring that only the road area is illuminated by using more controlled, low carbon, long-life LED lighting that doesn't spill light into private areas.

The lighting levels and outputs required are detailed within the British Standard BS5489-1:2020 A Code of Practice for the Design of Road Lighting", which defines the maximum and minimum illumination levels thresholds for different road classifications, environmental locations and night-time use of the road; and within the ILP Guidance Note for the Reduction of Obtrusive Light to ensure that the outputs are controlled to avoid glare, spill light beyond the road area being lit and general upward pollution contributing to urban "skyglow". Lighting levels should be adequate and appropriate for all users of the street, particularly vulnerable users.

Where it considers it appropriate to do so in achieving the aims set out above and under the provisions of the Roads (Scotland) Act 1984, the Roads Authority Lighting service may direct that privately maintainable lighting be installed in locations that will not subsequently be adopted by the local authority.

Within Conservation Areas standard lighting column designs may not be appropriate and will be subject to agreement with the Local Authority Lighting service.

3.30 Rural Roads and Streets

The developer will have to demonstrate the level of the existing traffic flow and the likely peak generated flow created by the new development and depending upon the new total flow the

following road types and widths will be appropriate. A rural road can be defined as any road out with a defined settlement boundary.

Carriageway widths and number of vehicles per hour (vph) permitted are:

- Maximum 100vph single track 3.7m access road with passing places.
- Maximum 150vph 4.1m wide carriageway with passing places.
- Maximum 300vph 5.5 wide carriageway.

All passing places should be intervisible or up to a maximum distance of 150 metres apart. Adjacent passing places should be placed on alternate sides of the road. Consideration to be made on the percentage of HGV's expected to use the rural road/ street network, if a high percentage is expected the above figures/ estimates may not be suitable.

Rural roads should have adequate road drainage to prevent excess water and loose material from being deposited on the public road.

3.31 Materials and Construction

One of the key objectives is the use of simple, appropriate, sustainable, well detailed, high-quality materials that form a cohesive family of components. The selected materials should assist in the making of high-quality places and need to reflect the existing character of an area. Specific instances (e.g., Conservation Areas, in the vicinity of Listed Buildings, or other areas of the historic environment) will sometimes need specific materials not acceptable elsewhere. Further detail on the construction specifications for the various materials can be found in Appendix G - Construction Standards and Materials.

3.32 Landscape

Proposed Planting in New Developments

Space for new street planting can be integrated into layout and building designs, and, wherever possible, located on private land or buildings (generous balconies, roof gardens, walls) or public land/open space intended for adoption, including the road.

Planting adds value; it helps to soften the urban street-scene, creates visual and sensory interest, and improves the air quality and microclimate. It can also provide habitats for wildlife. The aromatic qualities or contrasting colours and textures of foliage are of value to all and can assist the navigation of those with visual impairment. Flowers and fruit trees add seasonal variety.

Planting can provide shade, shelter, privacy, spatial containment, and separation. It can also be used to create buffer or security zones, visual barriers, or landmarks or gateway features. Vegetation can be used to limit forward visibility to help reduce vehicle speeds.

Proposed landscaping within new developments will be required to be outwith the adoptable road boundary. The landscaping including SuDS, grass verges or service strips would be managed by a factor.

Trees proposed near roads should be located 5m from the edge of the carriageway (minimum) and species should be selected which tie into existing woodland matrix and should be suitable for the conditions affecting the site. The following information should be provided to the Local Authority:

- Site conditions.
- Aspect.
- Tolerances.
- Habit.
- Species.
- Watering requirements.
- On-going maintenance requirements.
- Native or non-native.
- Hardiness.

Swales and rain gardens should have appropriate species.

3.33 Structures

Technical Approval

Where design submission includes proposals for road structures (e.g., Bridges, retaining walls, culverts) the application will be subject to a formal Technical Approval procedure as outlined in Roads Authority guidance document CG 300 - Technical approval of road structures. "The submission of proposals for agreement by the technical approval authority and the subsequent provision and acceptance of certificates confirming that the design, assessment, specification or construction works complies with the agreed approval in principle (AIP) and design/assessment and specification certificates as appropriate." CG 300

North Ayrshire Council are the Technical Approval Authority (TAA) for all road structures. The designer must submit to the TAA an approval in principle document to record the agreed design basis and criteria, this should generally consist of completed AIP, a location plan, a general arrangement drawing, relevant parts of any geotechnical investigation report, documents relating to consultation and any other relevant information or reports.

The scope of CG 300 structures requiring technical approval are summarised below –

1. Bridge, buried structure, subway, underpass, culvert and any other structure over the road or supporting the road with a clear span or internal diameter greater than 0.9 m.
2. Overhead crossing carrying conveyor or utility service.

3. Movable inspection access gantry, gantry rail and gantry support system.
4. Earth retaining structure where the effective retained height, i.e. the level of fill at the back of the structure above ground level in front of the structure is greater than 1.5 m.
5. Reinforced/strengthened soil/fill structure, with hard facings where the effective retained height is greater than 1.5 m.
6. Reinforced/strengthened soil/fill which is an integral part of another road structure.
7. Portal and cantilever sign and/or signal gantry.
8. Minor structures listed below:
 - Cantilever mast for traffic signal and/or speed camera.
 - Lighting column.
 - High mast of more than 20 m in height, i.e., the vertical distance from top of post to bottom of flange plate, for lighting.
 - Mast for monitoring equipment. i.e., camera, radio and telecommunication transmission
 - Equipment.
 - Catenary lighting support system.
 - Noise barrier.
 - Traffic sign/signal posts of more than 7 m in height, i.e., the vertical distance from top of post to bottom of flange plate or top of foundation, whichever is the lesser.
 - Other 'mast type' structures identified by the TAA as requiring technical approval.
 - 'Fence type' structures, including environmental barriers, visual screens and fencing, identified by the TAA as requiring technical approval.
9. Proprietary manufactured structure or product.
10. Reinforced/strengthened soil/fill structure where hard facings are not provided and the face inclination exceeds 45 degrees, unless agreed with the Overseeing Organisation that structural TA in accordance with this document is not required.
11. Fitting of M&E apparatus and fixtures to existing structures, including tunnels, either permanent or temporary.
12. Design, selection and installation of cathodic protection systems for reinforced concrete structures.
13. Safety critical fixings.

It is highly recommended that early involvement with the NAC Structures team is established for all schemes involving technical approval.

North Ayrshire Supplementary Street Design Guide

Appendix A – Development Assessment Form

Version 1: 2024



Version Control

Issue	Date	Nature of Change/Pages Affected
Version 1	xxxxxxx	Issue of Supplementary Street Development Guide



Contents

1.1 Notes 2

1.2 Development Assessment Form 3

1.1 Notes

This Appendix provides developers with an overview of key points for a development that will be assessed by officers of North Ayrshire Active Travel and Transport. Reference should be made to the key sections listed to ensure that the development has been designed in accordance with this Street Development Guide.

Key Design Considerations

Infrastructure provision should be provided and planned for in line with the number of predicted and existing vehicles on the road/street.

Public Transport and Active Travel opportunities/ locations should be available at the initial stage of the development either by linking to existing or providing new routes and provide a seamless connection to the existing public network.

Drainage should be planned to provide a 1 in 200 level of provision, with the application of SuDS integral to the development's drainage design.

Designers should aim to create streets that **control vehicle speeds** naturally by well-crafted design from the outset rather than through unsympathetic traffic-calming measures added at the end of the design process." Residential street should be designed to ensure speeds do not exceed 15 to 20mph.

1.2 Development Assessment Form

Development: Assessed by: Date:

No.	Item	(Delete as required)	Comments
1	<u>Street Hierarchy</u> Has the development a clear street hierarchy with different types of streets. This should be based on the volume of vehicles on each street. Advise developer to use Designing Streets "Street Technique".	Acceptable Requires slight adjustment Cause for concern	
2	<u>Infrastructure</u> Are the street widths appropriate for the street types? Sightlines appropriate? Junction Spacing appropriate? Multiple connections to existing network for all modes (vehicle/ped/cycle)?	Acceptable Requires slight adjustment Cause for concern	
3	<u>Speeds</u> Are the streets designed to ensure speeds are below 20mph or 15mph in certain circumstances? Has horizontal deflection been utilised?	Acceptable Requires slight adjustment Cause for concern	
4	<u>Pedestrians and Cyclists</u> Has suitable pedestrian/cyclist provision been provided within site? Are the links/connections to the adjacent facilities acceptable? Protected pedestrian routes provided?	Acceptable Requires slight adjustment Cause for concern	
5	<u>Service and Emergency Vehicles</u> Can vehicles that would be expected to travel the street, travel okay? Tracking diagram if necessary. Consider potential for parked cars. Where might they park, and can the vehicle still pass?	Acceptable Requires slight adjustment Cause for concern	
6	<u>Public Utilities</u> Is there a continuous service strip to every property? One could be acceptable but should be positioned to reduce utilities individually crossing the road. Local deepening if located in carriageway. Is the service strip located out with the carriageway?	Acceptable Requires slight adjustment Cause for concern	
7	<u>Drainage</u> What drainage strategy is being provided? Is there space for SUDs feature? Suggest separate 1 in 30 features for everyday use and a separate 1 in 200 that could be used as open space. No manholes in narrow sections?	Acceptable Requires slight adjustment Cause for concern	

No.	Item	(Delete as required)	Comments
8	<u>Parking</u> Number of spaces per dwelling, garages of suitable size to be counted as a space, double width driveways where required, location close to door, visitor parking not grouped and spread evenly through site.	Acceptable Requires slight adjustment Cause for concern	
9	<u>Over-run</u> Are there areas of service strip/footway that could be potentially over-run by vehicles? What mitigation measures are proposed?	Acceptable Requires slight adjustment Cause for concern	
10	<u>Materials</u> Have the proposed street materials been identified at planning stage? Should be identified at this stage.	Acceptable Requires slight adjustment Cause for concern	
11	<u>Active Travel</u> Is there a proposed Active Travel strategy? Has cycle parking been provided in key nodal areas? Does the proposed Active Travel network connect to existing routes? What are the widths, gradients and crossfalls are the acceptable? Has suitable pedestrian/cyclist provision been provided within site? Are the links/connections to the adjacent facilities acceptable? Are protected pedestrian routes provided?	Acceptable Requires slight adjustment Cause for concern	

North Ayrshire Supplementary Street Design Guide

Appendix B – Variations from National Roads Development Guide

Version 1: 2024



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1.1 Variations from the National Roads Development Guide

Street designs should follow the design principles stated in North Ayrshire Supplementary Street Design Guide (SSDG) and the National Roads Development Guide (NRDG). In certain circumstances there are exceptions, as noted below. Where the documents vary the SSDG should be followed for developments in North Ayrshire.

Variations from the National Roads Development Guide		
NRDG Chapter	Item	Description
1.5.1	Road Types	This has been interpreted and expanded
2.1.1	RCC Process	For constructing new roads see Appendix C: Consenting and Adopting
2.1.4	Adoption Standards	For adopting new roads see Appendix C: Consenting and Adopting
2.3.1(a)	Phasing of developments	For phasing see Appendix C: Consenting and Adopting
2.4.2(a) & 2.4.13(b)	Submission of Plans for RCC	For submission of plans see Appendix C: Consenting and Adopting
2.4.4	Amendments to consents	For amendments see Appendix C: Consenting and Adopting
2.4.12 (a(3))	Notice of operations	For notice of operations see Appendix C: Consents and Adoption
2.4.13(c)	Road Lighting	For amendments see Appendix E: Street Lighting
2.4.15	Release of Road bond	For release of road bond see Appendix C: Consenting and Adopting
3.1.6 (j)	Surface Finish of Service Strip	Expanded maintenance responsibilities of service strips
3.4.4 (a)	Pavement Design	Expanded and tabularised requirements of footway construction and street construction – See Appendix G: Construction Standards and Materials
3.4.7 (a)	Materials/ Construction	Kerb heights adjusted
3.4.9 (e)	Footpath Drainage	Clarified requirements of drainage – See Appendix G: Construction Standards and Materials
3.4.11	Lighting Design	For amendments see Appendix E: Street Lighting Requirements
3.6.2 (b)	Layout of Parking Bays	Width of 90 degree square parking aisle altered – See Appendix I – Parking Standards
3.6.4 (e) & (f)	Garage Provision	Expanded the driveway and garage requirements – See Appendix I – Parking Standards
3.7	Parking Standards for Use Classes	Expanded the requirements for Class 9: Houses – See Appendix I – Parking Standards

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Appendix C – Consenting and Adopting

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1.1 Before Applying for Construction Consent

Notification of Owners

Where any person other than the developer owns land which fronts, abuts or is comprehended in the new road(s) or the extension of the existing roads for which Construction Consent is being sought, the developer will be required to declare that all such persons have been notified of the application for Construction Consent. A draft Notice for Service on Owner and Occupiers (Form CC3) is included for the convenience of applicants. A Form CC2 - Docquets of Service to be included in the application.

Owners Objections

Any person to whom the application has been intimated under the provisions of the preceding paragraph may, within twenty-eight days of the date of intimation, make written representation to the Local Roads Authority. Any such representations will be considered before Construction Consent is granted.

1.2 Applying for a Construction Consent

Design

All design must be undertaken in accordance with the Governments “Designing Streets” document, North Ayrshire Council Supplementary Street Design Guide (SSDG) and the National Roads Design Guidance (NRDG).

Responsibility for Design

The granting of Construction Consent does not imply that the Local Roads Authority accepts any responsibility for the accuracy or suitability of the design.

Planning Date of Application

An application for Construction Consent should be made on Form CC1. Completed application forms should be submitted at least three months prior to the intended commencement of construction to the Roads Authority’s Representative. An application will not be registered unless it contains all of the relevant documents/information detailed below.

Docqueting of Plans

It is essential that the plans, detailed drawings and specification submitted with the application are docqueted, ‘This is the plan/drawing/specification referred to in the application’, and signed and dated by the applicant or agent.

Documents to be submitted

The following must be submitted, where required, to enable a Construction Consent application to be registered. If this information is not included the application **will not** be registered or assessed in detail: -

1. The correct CC1 Form used and duly completed correctly.
2. The correct CC2 Form used and duly completed correctly (if required).
3. The correct CC3 Form used and duly completed correctly (if required).
4. The correct CC5 Form used and duly completed correctly (if required).
5. A location plan.
6. Layout plan(s).
7. Longitudinal section(s).
8. Typical cross sections.
9. All drawings docqueted, dated and signed.
10. A safety audit (where required).
11. A factual ground investigation report including interpretative report.
12. Street lighting drawings and design calculations.
13. Report from the Coal Authority/Mining Consultant.
14. Report from the British Geological Survey.
15. Structural design calculations (where required).

The following list details the required documents/information that must be submitted in support of an application for Construction Consent. Applications for Construction Consent should be accompanied by an electronic copy of detailed working drawings which should include the following:

1. **Correctly completed forms.**
 - a. CC1 Application for Construction Consent to Construct or Extend a Road.
 - b. CC2 Notification of Adjacent Properties (Docquets of Service (if required).
 - c. CC3 Notice of Service (if required).
 - d. CC5 Agreement to Take over Footpath(s) (if required)
 - e. CC9 - Construction consent checklist; completed.
 - f. Form DC1 - Structures design and check certificates. (if required).
 - g. Form DC2 - Sustainable Urban Drainage System (SUDS) design and check certificates.
2. **A location plan**, showing proposed development on the Ordnance Survey base, to a scale of 1:1250 or 1:2500, showing the proposed road network and its relationship to existing development.
3. **Layout plan(s)** of the carriageways, footways, cycleways, verges, footpaths, cycle paths, retaining walls, bridges, drainage systems long section to show cut and fill to a scale of

1:500 (1:200 where pedestrian/ vehicle/cycle shared surfaces are proposed) showing:

- a. The proposed centre, building and kerb lines (and also the back of the footway where this differs from the building line).
 - b. Curve radii of the road alignment and junctions.
 - c. Corner radii.
 - d. Horizontal curve size.
 - e. Dimensioned visibility splays at road junctions.
 - f. Vehicular access points to properties.
 - g. Driveway dimensions and number of bedroom within dwellings.
 - h. Pedestrian crossing points at junctions and locations where dropped kerbs will be provided. Indicated on kerb layout drawing.
 - i. Cycle crossing points with dropped kerbs where shared use facilities are proposed.
 - j. The location of all road gullies.
 - k. The location of the road drainage system and its discharge points.
 - l. The location of all underground services and ancillary apparatus.
 - m. The full extent of all excavated and infill.
 - n. The boundaries of any areas which it is intended will subsequently be offered for adoption for maintenance.
 - o. The layout and specification of all road markings, signs, street name plates and traffic signals.
 - p. Precise site limits.
 - q. Ground floor levels.
 - r. Driveway gradients.
 - s. Locations of speed reduction measures.
 - t. Adoption plan.
 - u. Setting out information.
 - v. Kerbing drawing.
4. **Street lighting** drawings and design calculations. Including the location and type of lighting columns and lanterns, wall-mounted lighting units. (If applicable) control pillars, underground cables and road crossing ducts.
 5. **Longitudinal Sections** to a scale 1:500 Horizontal 1:100 Vertical.
 6. **Surface Water Drainage Profiles** to a scale 1:500, Horizontal 1:100 Vertical.
 7. A **Drainage Assessment** (DA) should be prepared in accordance with current SEPA best practice guidance. The discharge of stormwater from the development should comply with the stipulated design criteria, current SUDS for Roads design guidance and any requirements of Scottish Water.
 8. The following information to be submitted in connection with the **SUDS design**.
 - SUDs Design and/or Drainage Design.

- Overland flow diagram for before and after development.
- A completed DC2 Form; SUDS and Drainage Self Certificate.
- A completed self-certification for Flood Risk Assessment, Drainage Impact Assessment.

9. A “**Responsibility Schedule**” and plan for drainage infrastructure detailing Scottish Water, NAC and owner infrastructure for all drainage infrastructure. Refer to Appendix H – Drainage and SuDs for further information.
10. A **SUDs Management Plan** to be provided (Refer to Appendix H – Drainage and SuDs for further information) which will include.
 - A SUDs overview.
 - A “Management Statement” to describe the SUDS scheme and set out the management aims and responsibilities for the site.
 - A “Maintenance Schedule” describing what work is to be done and when it is to be done using frequency and performance requirements as appropriate.
11. A copy of letters from **SEPA and Scottish Water** confirming that your drainage proposals are acceptable. Including confirmation that Scottish Water will vest in the drainage infrastructure.
12. **Site investigation information**, including:
 - a. A factual ground investigation report including interpretative report.
 - b. Report from the Coal Authority / Mining Consultant.
 - c. Report from the British Geological Survey.
13. General Arrangement Drawing of all **structures** showing the structural form, clear span(s) and other leading dimensions, headroom or clearance, materials, finishes and parapets with elevation, plan and typical cross sections to scales 1:50, 1:20, 1:10 as appropriate. If application contains structures (including retaining walls); a DC1 Form - Structural Design Certificate and, if being adopted, a Section 79(1) Agreement for any bridges or structures.
14. Vehicle **swept path** analysis.
15. A **Safety Audit** for the design (if required by North Ayrshire Council).
16. **Consultation Certificates** from appropriate statutory and/ or non-statutory consultees.
17. **Cycling Audit**.
18. **Disability Access Audit** (It will be acceptable for these documents to be submitted in an approved electronic format. The Local Roads Authorities Representative should be contacted to confirm details of acceptable electronic formats).

Construction Period

It will be a standard condition of any Construction Consent that the Construction will be completed within the period specified in the Consent. This period will not be less than **three years** and will be based on the Developer's proposed programme of works. If, as a result of a change in circumstances during construction, it is demonstrated that the specified period is no longer realistic, the Local Roads Authority may grant an extension. In normal circumstances, once homes are occupied, no more than one extension of time will be granted by the Local Roads Authority. If the full development is not completed within the specified period, including any extension, the Developer will be required to amend the Construction Consent to allow adoption of that part which is open to public use.

Alternatively, the roads will be completed by the Local Roads Authority using the Road Bond.

Right of Appeal

If an application for Construction Consent is (i) refused or (ii) granted subject to special conditions, the applicant may within 28 days of the date of intimation of such a decision appeal to the Scottish Ministers.

Hearing of Applicant

Should it be considered that the application for Construction Consent be refused or granted subject to special conditions, the applicant will be afforded an opportunity to be heard prior to such a decision being made.

Phasing

There are two options for phasing a development:

Option 1 – A separate construction consent is required for each phase. A road bond, if required, is then provided for each consent. Each consent could then be adopted separately provided construction traffic has an alternative route.

Option 2 – One consent is issued for the whole site and the developer provides a phasing plan. Each phase then requires an equivalent road bond as each phase starts. The bonds can be reduced for each phase as the development progresses. However, all the phases require to be complete before the site can enter the maintenance period. The developer will initially require a construction consent to be issued indicating a total road bond cost for the entire site. Due to the need to separate the road bond calculation into phases an amendment to the consent will be required for which there is a fee. The developer will require to submit a phasing plan. No work can commence on the next phase until a road bond, if required, is submitted for the phase.

1.3 Commencement of Construction

Prior to commencement of any works on the public road (including the footway) that relate to the development, the contractor must obtain the necessary permits to occupy and work on

the public road, contractors must contact the council to book a time slot to undertake the necessary works.

Pre- construction dilapidation survey of existing network to be carried out prior to work commencing. The area for this is contained on CC4 form.

Road Bond

Where the development is for residential use, security in accordance with the current Security for Private Road Works (Scotland) Regulations must be lodged with the council prior to house building operations commencing. No security is required for industrial/ office/ retail development or for residential developments carried out by a recognised Housing Association. The Security for Private Road Works (Scotland) Regulations provide further information on the exemptions.

Where a developer is required to lodge a Road Bond or deposit, Form CC7 (obtainable at the Council offices or the North Ayrshire Council Web Site) should be completed by the Guarantor as part of the application for Construction Consent. The Road Bond must be lodged with the Local Roads Authority before any house building can commence. An A4 size drawing shall be provided showing the Construction Consent area applied for outlined in red. The area for which a bond is required for any section within the Consent area is to be outlined in blue. The Local Roads Authority's Representative shall determine the amount of bond, sufficient to meet the cost of completing the private road in accordance with the Construction Consent.

Inspection Fees

Attention is drawn to Section 140(6) of the Roads (Scotland) Act 1984 which entitles the Local Roads Authority to recover expenses reasonably incurred by them to ensure that the work carried out complies with the Construction Consent. The recovery of these costs will be from the person to whom the Construction Consent was granted. The Local Roads Authority gives notice of its intention to recover those expenses to which it is entitled under the Act.

Information Required Pre-Construction

The developer will be required to submit the following information prior to the commencement of construction:

1. A programme of works which includes the aspects of construction detailed in the general information sheet.
2. Construction vehicles routeing details.
3. Traffic Management Plans.
4. Method of Inspection Fee Payment.
5. Road Bond (where applicable).
6. Contractors Contact Form duly completed.
7. Temporary Traffic Signal Form (PLS-A form) if required.

1.4 During Construction

The new road must be constructed in accordance with the details provided by the Developer and the Full Road Construction Consent as approved and granted by the Council.

Unforeseen conditions on-site may however require changes to these. If these are minor changes (e.g., to detail) they may be mutually agreed between the Developer and the Active Travel and Transport Manager but where the changes are of a larger scale (e.g. to layout) then an application for an Amendment to the Road Construction Consent must be made by the Developer. No works involved in such changes should be undertaken until the Active Travel and Transport Manager gives written confirmation.

Inspections

The inspection fee method chosen for the development will either be lump sum or actual costs. Should actual costs be the chosen option then both on-site inspections and subsequent in-house discussions relating to the construction works will be re-charged on a six-monthly basis. You will receive a copy of the on-site inspection record sheets. The following stipulations must be adhered to:

1. Council officers shall have access at all times in connection with the construction of roads covered by Road Construction Consent. The officers will be permitted to take samples and to measure the thickness or quantity of materials used or take any dimensions or levels in order to satisfy themselves that the design requirements and specifications adopted by the council from time to time are being, or have been, complied with.
2. In addition, the Developer must inform the appropriate council officers, giving a minimum of 2 working days' notice, of the following stages of work (It should also be noted that the developer will be charged in respect of the inspection of these works if actual costs are chosen).

Carriageways and Footways / Footpaths

1. Intention to commence work. This includes commencement on or adjacent to a Public Road.
2. Setting Out.
3. Commencement of excavation (inspection of sub-soil conditions).
4. Commencement of laying capping layer or sub-base.
5. Commencement of installing concrete log.
6. Commencement of kerbing.
7. Commencement of laying binder course to carriageway.
8. Commencement of laying surface course to carriageway.
9. Commencement of laying sub-base to footways/ footpaths.
10. Commencement of laying binder course to footways/ footpaths.

11. Commencement of laying surface course to footways/ footpaths.

Road Drainage

12. Breaking into existing pipe runs—before installation of saddle connection or inspection chambers.
13. Completion, bedding and haunching (but before concrete surrounding of haunching and completion of inspection chambers—before backfilling (tests where applicable)).
14. Completion of backfill (tests where applicable).

Road Traffic Signals, Road Lighting and Illuminated Traffic Signage

15. Intention to commence.
16. Determination of exact location of plant by Developer on Site (Street Lighting Officer to be in attendance).
17. Commencement of column and sign erection.
18. Commencement of cable laying.
19. Commencement of electrical work (N.B no connections allowed to existing council supplies except by Street Lighting Officer).
20. Commencement of electrical testing and commissioning of installation (actual connection dates must be noted).

Traffic Signs and Road Markings

21. Commencement of sign installation.
22. Verification of position of signs in accordance with the approved drawings.
23. Completion of all road markings.

Outstanding Works Defined by Council Officers After Formal Inspections

24. Completion of each item of outstanding works as a result of non-conforming works identified on the daily inspection sheets.

Structures

25. Intention to commence construction.

Reduction of Bond

A written application may be made for a reduction in Bond to the Local Roads Authority's Representative. Reductions should normally be at the following stages; however, all reasonable requests should be considered.

1. 50% (completion of the base course, the drainage and the kerb base in the carriageway).
2. 75% (completion of construction, including traffic signs, gully connections, manholes and carriageway lighting).
3. 90% (maintenance period (or the date of completion of any works necessary to rectify defects) of works complete).

The Road Bond will not necessarily be reduced by 50%, 75% or 90%. The Road Bond will be required to cover the value of outstanding works against current rates.

Amendments to Consent

Should the Developer, for any reason, wish to depart from the construction or layout details for which Construction Consent has been granted, they must first seek the approval of the Local Roads Authority Representative for the amendment – for which there is a charge. Major changes may require the submission of a new application for Construction Consent.

1.5 End of Construction

Following completion of a private road constructed in accordance with a Construction Consent an inspection will be undertaken by the Local Roads Authority's Representative to ensure that the road has been constructed to a standard acceptable for adoption.

The developer or contractor is required to contact North Ayrshire Council requesting an end of construction inspection. This will be carried out with representatives from the Council, contractor, and developer. On completion of the inspection the contractor/developer will be provided with a list of any outstanding remedial works related to the Road Construction Consent will be provided. Any defects will have to be made good to the satisfaction of the Local Roads Authority's Representative within an agreed timescale (6 weeks of the date of notification).

The developer contractor will be required to undertake the following maintenance works prior to the development proceeding the 'maintenance period'.

1. Carry out a speed survey (if required). If the speeds are not as per the design, remedial measures will be required to ensure design speed is met.
2. Carry out a drainage survey of all pipes that carry road drainage. Any issues to be rectified. CCTV survey to be submitted.
3. Clean all gullies and manholes.
4. Sweep the development streets.
5. Weed killing to all streets/footways/footpaths within the consent area
6. 'As built drawings' submitted as electronic versions in a suitable PDF format.
7. Submit Street lighting certificates and a SR21 lighting certificate issued.
8. Submit a 1:2500 scale drawing showing the roads, footways, cycle tracks, drainage systems and structures offered for adoption should be shown in colour, and the plans should clearly indicate the ownership of all areas so coloured.
9. Submit a SuDS maintenance responsibility schedule and plan.

10. Provide copies of correspondence from Scottish Water confirming that they will or have adopted all their respective apparatus.

11. Make a formal application to the council for its inclusion in the Local Roads Authority's list of public roads on **Form CC6**.

On completion of the remedials and submission of all the necessary information the development will be put on a one-year maintenance period. The formal one-year maintenance period will not commence until all remedials, and the maintenance works are completed to the satisfaction of the Local Roads Authority's Representative.

1.6 Adoption

One month prior to the completion of the years maintenance period an adoption inspection will be undertaken by the Local Roads Authority's Representative to ensure that the road has not deteriorated to a standard below that required for adoption. Any defects will have to be made good to the satisfaction of the Local Roads Authority's Representative.

The following maintenance works require to be carried out:

1. Sweep the developments streets.
2. Gully and manhole cleaning.
3. Weed killing.
4. If a Stage 3 Safety Audit has been requested the results of this audit shall be provided along with the application.

In addition, the Developer will be required to provide a copy of the site Health and Safety File. This should include details of construction techniques used and maintenance requirements for any features included in the development, such as structures, SuDs systems. Further guidance can be sought on this topic from Managing Health and Safety in Construction, Construction (Design and Management) Regulations 1994, approved Code of Practice and guidance published by the Health and Safety Executive and HSE Information Sheet, Construction Sheet No 44.

Following a satisfactory adoption inspection and completion of remedial works, recommendation will be made to the Local Roads Authority that the roads be added to the list of public roads, in terms of the Roads (Scotland) Act 1984, as appropriate. Subsequently, a written application may be made for the remaining security or Bond to be returned.

1.7 Construction to Adoption Process

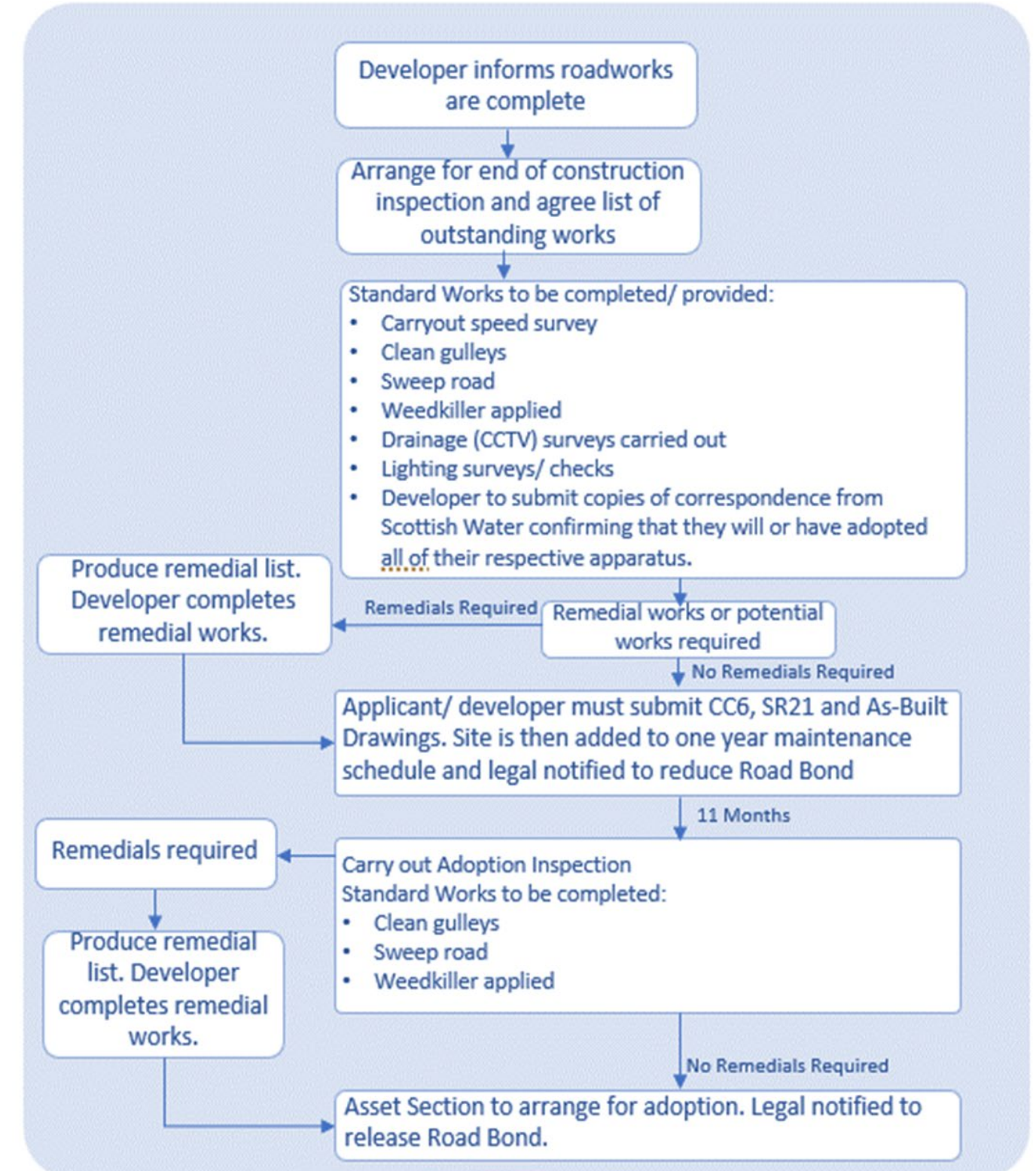
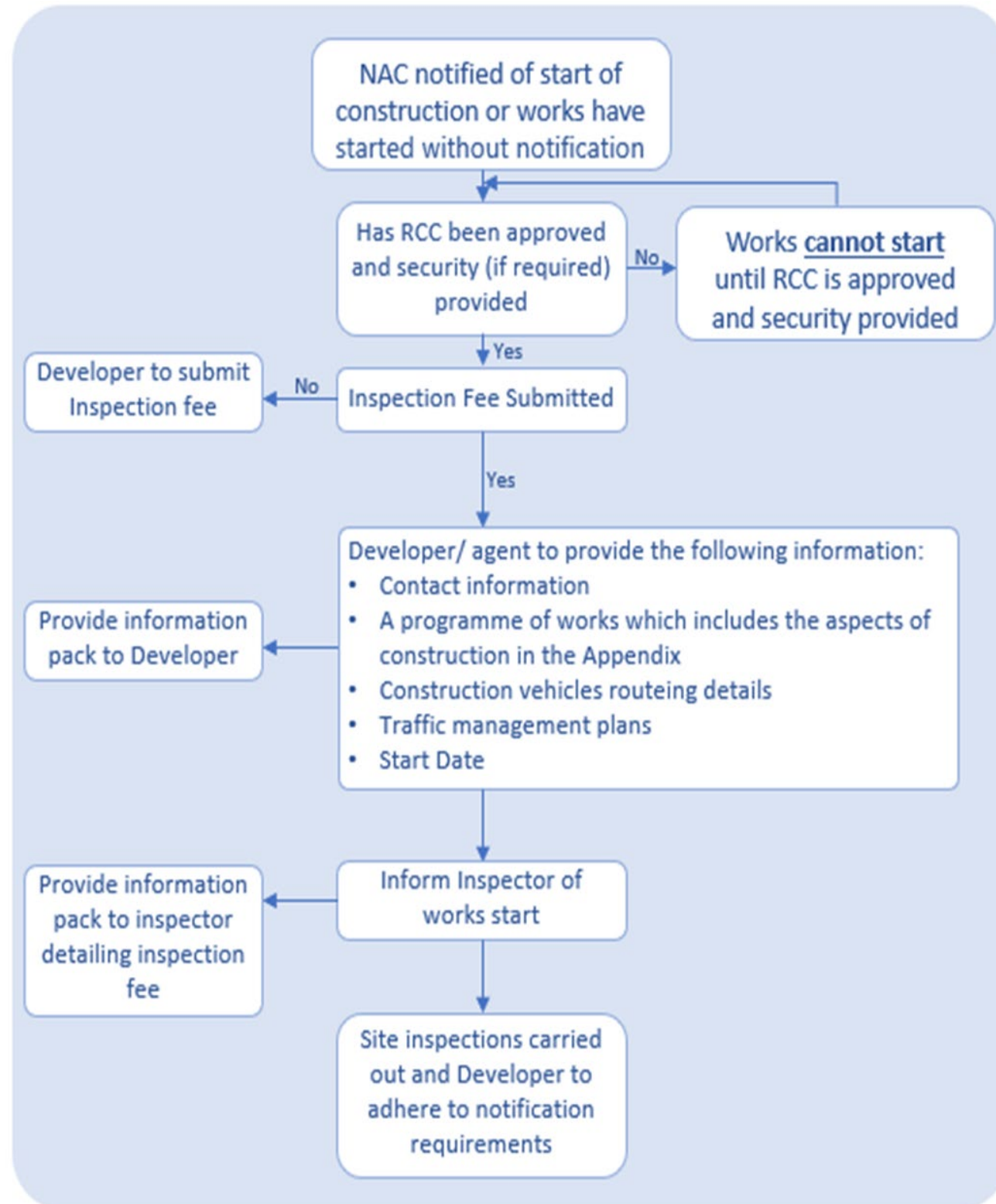


Figure 1 – Construction to Adoption Process Diagram

North Ayrshire Supplementary Street Design Guide

Appendix D – Speed Reduction Measures

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1.1 Introduction

Streets and spaces need to meet people's needs for walking, cycling, playing and generally being outside - as well as moving around by car. In most areas traffic travelling at 30mph speed immediately outside homes is generally not safe or desirable and new developments are to be designed to 20mph maximum or less to prevent this.

The Scottish Government's 'Designing Streets' policy is clear that for residential streets, a maximum design speed of 20 mph should be an objective.

The Scottish Government's 'Designing Streets' policy stipulates that "designers should aim to create streets that control vehicle speeds naturally by well-crafted design from the outset rather than through unsympathetic speed reduction measures added at the end of the design process". Although not exhaustive, typical examples of speed restraint measures that may be incorporated into the design are set out in this Appendix.

Forward visibilities should not be so excessive as to encourage high vehicle speeds.

Why Reduce Development Speeds?

Prior to the introduction of Designing Streets most new developments were designed around vehicle access. Although not intended, the dimensions for turning heads, road widths and road junctions has "fixed" the plot sizes and density for residential development. The result is development of uniform character dominated by roads, where buildings are located in whatever shaped spaces are left behind after the streets and access roads have been designed. This vehicle access based starting point does not make or shape characterful external spaces.

Better, more sustainable development design controls traffic impact and speed by design. Well-designed new developments create streets which are "places" and where driver behaviour is controlled by the built form. Designers can design access routes through:

- Locating buildings first and designing traffic access to accommodate them; designers should refer to "Designing for Streets" which recommends "swept path analysis" - a method used to determine access widths and turning spaces for vehicles based upon first principles rather than standard templates.
- Using alternatives to standard adopted roads and footpaths such as "shared surfaces" where pedestrians and traffic share the same access routes.
- Providing drivers with "clues" as to the type of location they are in and thus allowing them to gauge an appropriate speed. For example, through the use of local road narrowing at entries to a new development, gateway features which clearly signal development type, changes in texture of the road surface when moving from one area to the next and a hierarchy of materials linked to different types of public realm.

- Considering street dimensions and geometry to control traffic speed; the use of the sharp bends, junctions, and road width can reduce traffic speed for example, within Type 4 Streets a change in direction is recommended every 30 metres.

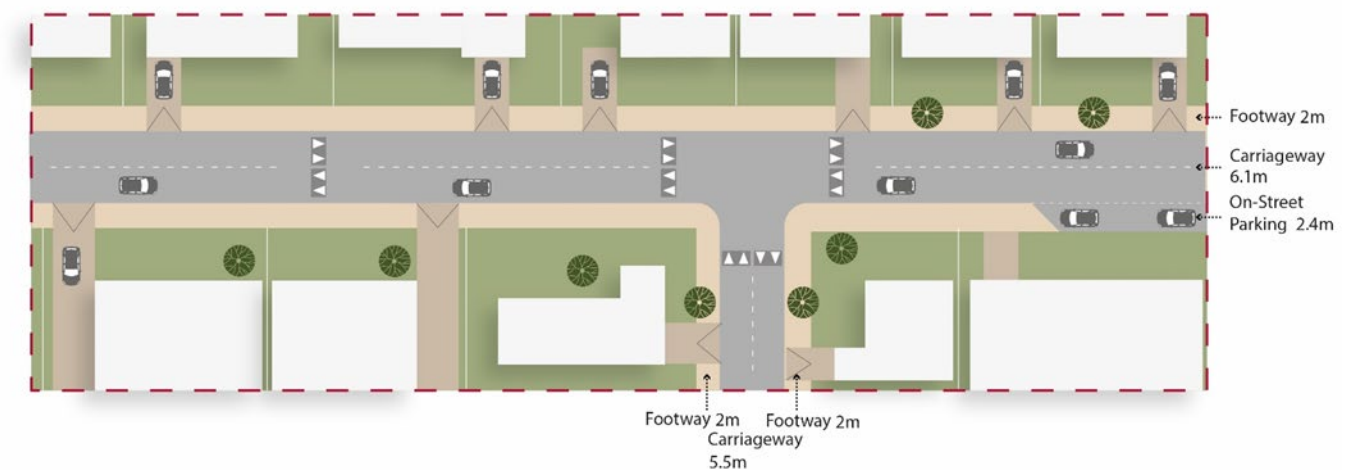


Figure 1 – Street Design – No Deflection

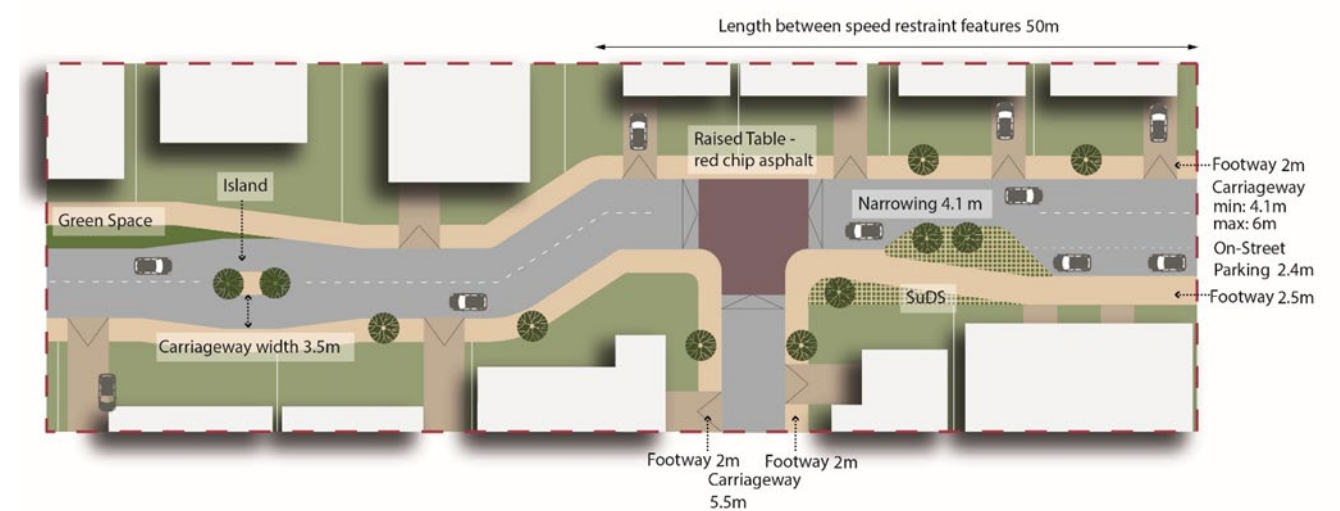


Figure 2 – Street Design – Clear Deflection

1.2 Speed Reduction – Design Considerations

Complementary features to streets can help to reduce speeds by giving emphasis to calming measures that are incorporated into the design. This can affect the behaviour of drivers, cyclists and pedestrians in the following ways:

- **Visual narrowing** - by making the road appear narrower and more enclosed by bringing planting, walls or tall objects close to the road,
- **Perception of speed** - by increasing a sense of speed by, for example, adjusting the spacing of avenue trees,
- **Emphasising changes in road function** - by changing the type of the landscape treatment, altering the perceived scale of spaces or changing materials or colours to underline a transition in the nature of the road,
- **Accentuating speed reduction measures** - by concentrating the deployment of complementary features at the speed reduction measures; and
- **Directing or segregating road users** - by directing pedestrians to crossing points, forming physical barriers where necessary or helping delineate footpaths, footways, cycle tracks and carriageways.



Figure 3 – Narrowing as Speed Reduction Measure (Visual Cue) in North Ayrshire

Three categories of complementary features can be identified as follows:

- **Vertical features** - such features would include bollards, pillars, walls, raised planters, rails and fences. Other types of street furniture such as road signs, lighting columns and pillar boxes can fulfil the same function while avoiding street clutter. Vertical features can be used to restrict unsafe vehicle manoeuvres, channel pedestrians to crossing points and prevent parking on the footway.
- **Planting** - trees, shrubs and ground cover can all be utilised as complementary features in speed reduction design. Trees can be effective in creating an obvious visual narrowing, located minimum 5m away from carriageway edge. Simplicity in design, using a limited number of species is recommended for any shrub and ground cover specification.
- **Change in surface** to paved material can heighten awareness of speed reduction measures. Within paved carriageways the colour of paving can be used to create the same contrasting effect. Textural contrast can also be achieved by changing the paving materials, e.g., from blocks to setts or in the laying of the paved materials (to be kept to a minimum). Different paving surfaces can be used to either highlight an appropriate route for vulnerable road users or alternatively to deter pedestrians from walking on a part of the footway.

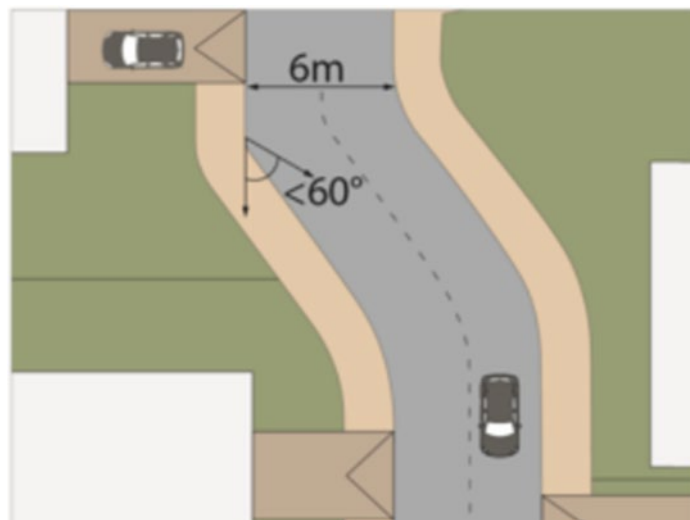
Psychology and perception – play a strong part in influencing driver behaviour. Street features and human activity can influence the speed at which people choose to drive. Features likely to be effective include:

- Edge markings that visually narrow the road – speed reduction is likely to be greatest where the edging is textured to appear unsuitable on which to drive.
- Reduced carriageway width.
- Physical features in the carriageway.
- Features associated with potential activity in, or close to, the carriageway, such as pedestrian refuges.
- On-street parking, particularly when the vehicles are parked in blocks on alternate sides of the street, either in echelon formation or perpendicular to the carriageway.
- The types of land use associated with greater numbers of people, for example shops, schools, and places of work.
- Landscaping.

1.3 Methods of Speed Reduction

To ensure that the design speeds identified for each type of street are not exceeded, it is necessary to design speed restraint measures into the development, which are self-enforcing and do not encourage uncontrolled parking. The speed of vehicles is the key factor in improving road safety and minimising future potential accidents. The list below is not exhaustive, and developers can make suggestions for speed reduction methods.

Lateral Shift



These should be tighter than the minimum specified for each street type, down to a minimum centreline bend radius of 7.5m. The deflection should be minimum 60 degrees with a mountable shoulder to enable larger vehicles to overrun.

Figure 4 – Lateral Shift Diagram

Bend

These should be tighter than the minimum specified for each street type, down to a minimum



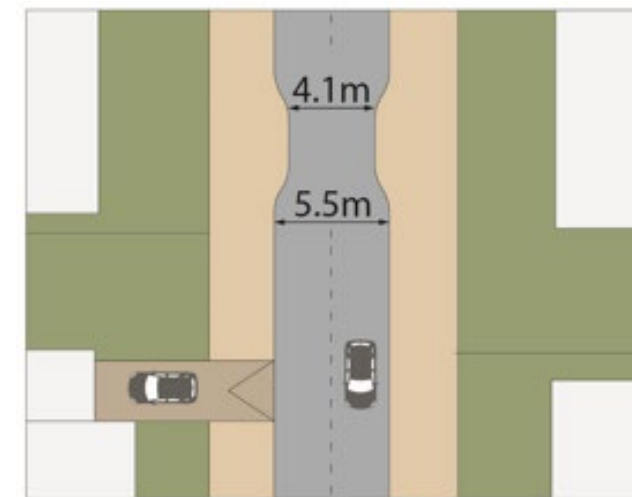
centreline bend radius of 7.5m. The deflection should be greater than 45 degrees with a mountable shoulder to enable larger vehicles to overrun.

- a. Deflection greater than 45°.
- b. Centre-line bend radius less than minimum specified for road type.

Figure 5 – Street Bend Diagram

Narrowing

The narrowing of the carriageway to 4.1m (3.7m min) for at least 10m will cause drivers to wait for oncoming traffic to pass. A narrowing should be wide enough for service vehicles without requiring a mountable surface shoulder. This measure is less effective when vehicle flows are low and should be limited to Type 1 and 2 Streets.

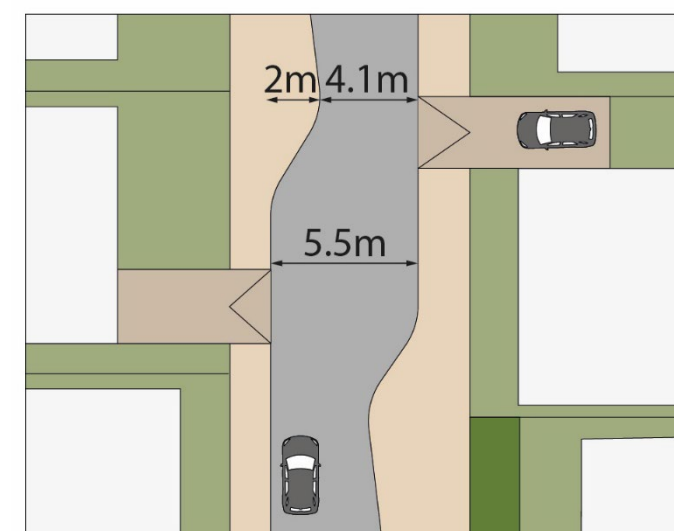


- a. Minimum 10m long with 4.1 minimum width shown.
- b. Over-run areas to be considered for larger vehicles.

Figure 6 – Street Narrowing Diagram

Chicane

To be effective, the lateral displacement of the running lane must be at least 2m and the length of the displacement no greater than 10m. A reduction of carriageway width to 2.75m at the entrance and exit of the chicane is acceptable, but an overrun area will be necessary to provide a 3.5m to 3.7m wide path for service vehicles.



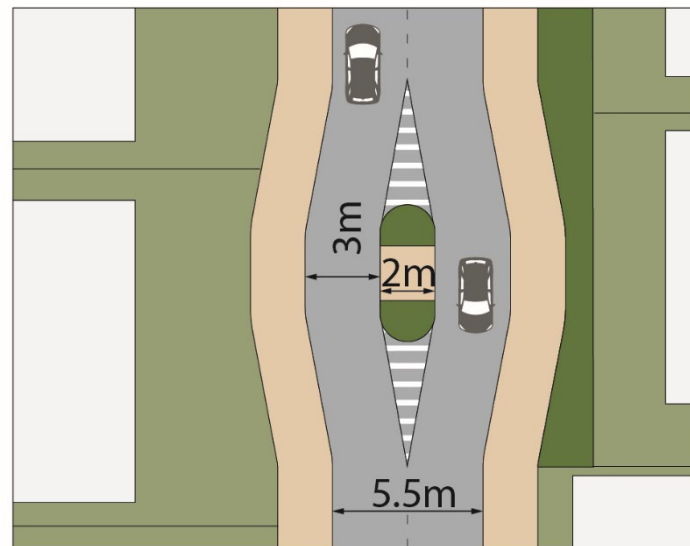
A reduction of carriageway width to 2.75m at the entrance and exit of the chicane is acceptable, but an overrun area will be necessary to provide a 3.5m to 3.7m wide path for service vehicles.

- a. Red and white posts and verge markers or alternative vertical indicator, if required.
- b. 5.5m maximum and 4.1m minimum carriageway width as shown
- c. Normal road width
- d. Maximum length of displacement 10m

Figure 7 – Street Chicane Diagram

Island

An island should result in a lateral displacement of the running lane of at least 3.25m. The island may be any shape, subject to the minimum dimensions given below. Mountable shoulders may be used to enable the passage of service vehicles, but no vehicle should be able to overrun the centre of the island. Mountable shoulders to be:

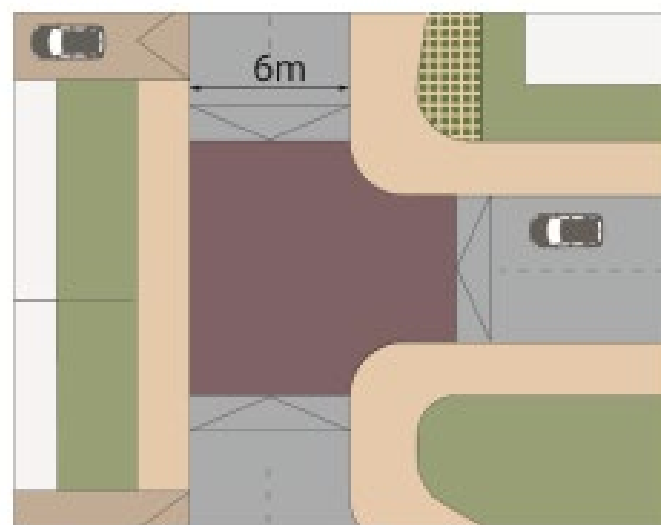


- a. Low shrub planting could be incorporated to prevent over-run.
- b. 7.1m radius.
- c. 2m radius.
- d. Upstand to prevent vehicle overrunning.
- e. Normal road width shown.
- f. Over-run areas to be considered for larger vehicles.

Figure 8 – Street Island Diagram

Raised Table

A raised table crossing should be installed where there is a high degree of pedestrian attraction and raised to provide a raised/ continuous footway. They should be clearly visible and installed at right angles to the direction of travel and suitable for any road width.



- a. Low shrub planting could be incorporated to prevent over-run on pedestrian spaces.
- b. Normal road width.
- c. No upstand surface level with pedestrian footways.
- d. Running surface can change materials as visual cue of road level change e.g., red chip with asphalt.
- e. Requirement for bollards on the corner.
- f. Ramps to respond to levels required.
- g. Asphalt with red chip.

Figure 9 – Raised Table Diagram

North Ayrshire Supplementary Street Design Guide

Appendix E – Street Lighting Requirements

Version 1: 2024



Version Control

Issue	Date	Nature of Change/Pages Affected
Version 1	xxxxxxx	Issue of Supplementary Street Development Guide



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1.1 Introduction

The role of street lighting within the street scene is to provide the overall background level of lighting required to encourage a better, safe environment for all public road and footway users, to ensure people and vehicles can see and be seen. Using lighting, where considered appropriate, to contribute to road safety is a statutory responsibility of the Roads Authority. Where it considers it appropriate to do so, under the provisions of the Roads (Scotland) Act 1984, the Roads Authority lighting service may also direct that lighting be installed in locations which will not subsequently be presented for adoption and/or maintenance by the Local Authority.

Energy consumption and carbon reduction requirements are an increasing priority in the national agenda and the UK has set challenging targets for reductions. Any decision on lighting provision must therefore follow strict national guidance on lighting hierarchy, local environmental considerations, appropriate light levels, night-time use of the location and include the assessment of glare or other light pollution emanating from all such installations, but particularly with respect to off-road lighting effects on the public road network. Careful lighting design is required to comply with all of these, sometimes competing, elements and it is important that competent design & verification is undertaken both on installations and improvements carried out by the Council but also ensuring proposed lighting installations associated with development and regeneration works achieve compliance through Planning & Construction Consent approval processes.

The provision of a lighting service is generally taken for granted as a basic service that the Local Authority should provide to its citizens and there are several benefits of providing an effective street lighting service including:

- To reduce night-time accidents.
- To reduce personal injury accidents.
- Assist emergency services to identify locations and shorten response times.
- Reduce the fear of crime.
- Promote sustainable transport & active travel (public transport, cycling and walking).
- Facilitate social inclusion & reduce isolation by providing freedom to use streets after dark.
- Support a 24-hour leisure economy, promoting economic development.
- Provide safe access to educational facilities supporting lifelong learning.

Achieving these benefits is linked to and supports the Council's corporate objectives and priority outcomes relating to Road Safety, community safety, social inclusion, quality of life and sustainability to ensure:

- North Ayrshire is well-connected with effective infrastructure.
- North Ayrshire is a sustainable environment.
- North Ayrshire is a vibrant welcoming and attractive environment.
- An efficient Council that maximises resources and provides value for money.

1.2 Design Parameters

In all cases the proposed lighting design will be within the current BS Street Lighting Standards.

Lighting designs should be based on the current versions of:

- BS 5489-1 - Code of Practice for the Design of Road Lighting (Part 1: Lighting of Roads and Public Amenity Areas) and the associated current BS EN 13201 Standards.
- BS 7671 - Requirements for Electrical Installations. IET Wiring Regulations.
- BS EN 12899 - Fixed, Vertical Road Traffic Signs - Part 1: Fixed Signs.
- BS EN 12464 - Outdoor Lighting.
- BS EN 40-3 - Lighting Columns. Design and Verification – Verification by testing.
- PD 6547 - Guidance on the use of BS EN 40.
- HSG 38 Lighting at Work.
- HSE GS6 Avoiding danger from overhead lines.
- ENA Engineering Recommendation G12 Issue 4 + Amendment 2 (March 2021)

It is the responsibility of the developer to ensure that adequate site measurement of road lighting performance is carried out and reported, prior to the end of the 12 month maintenance period. This should be carried out as per Technical Report 28 (TR28) from the Institute of Lighting Professionals (ILP) and ILP GN 3/16. Failure to submit this information may result in NAC carrying out these measurements with associated costs recharged to the developer.

Additionally, any lighting issues arising during the maintenance period should be resolved by the developer and where necessary verified by design revision (e.g. complaints from residents regarding obtrusive light or glare).

Lighting Levels

Lighting levels are recommended by British Standards based on the nature & usage of an area. This includes consideration of urban and rural, residential and town centre high amenity and allows for understanding the difference between the two in terms of night-time traffic & footfall.

Recommendations are based on the identification of Environmental Zones for exterior lighting within development plans.

Type	Descriptor	Examples
E1	Intrinsically dark landscapes	Country Parks, areas of outstanding natural beauty.
E2	Low district brightness area	Rural, small villages or relatively dark urban locations.
E3	Medium district brightness area	Small town centres or urban locations.
E4	High district brightness areas	Town/city centres with high night-time activity.

These categories help determine the appropriate design level of light output, the limiting factors for light pollution or if lighting is required at all. Using the Scottish Government Urban/Rural Classification Guidance a lighting plan was developed that matched the appropriate lighting classes to areas in North Ayrshire and a lighting class matrix tailored to North Ayrshire was produced.

Table 1 – Lighting Matrix

Note – A minimum Uo of 0.25 is required where P classes are selected.

Lighting Matrix					
Location	Area	Zone	Main User	Crime Risk	Design Class (White Light)
Urban Major Town Centre (Irvine)	High Amenity	E3	Traffic, Pedestrians and Cyclists	High	P1
Urban Town Centre	High Amenity	E3	Traffic, Pedestrians and Cyclists	Moderate	P2
Urban Town Centre	Distributor Road	E3	Traffic and Cyclists	Low	M4
Urban Town Centre	Link & Access Road	E3	Traffic, Pedestrians and Cyclists	Moderate	P3
Urban Town Centre	Link & Access Road	E3	Traffic, Pedestrians and Cyclists	Low	P4
Rural Village Centre	High Amenity	E2	Traffic, Pedestrians and Cyclists	Moderate	P3
Rural Village Centre	High Amenity	E2	Traffic, Pedestrians and Cyclists	Low	P4
Rural Village	Distributor Road	E2	Traffic and Cyclists	Low	M5
Rural Village	Link & Access Road	E2	Traffic, Pedestrians and Cyclists	Moderate	P4
Rural Village	Link & Access Road	E2	Traffic, Pedestrians and Cyclists	Low	P5
Distributor	>40mph	E2	Traffic	Low	M4
Distributor	<40mph	E2	Traffic	Low	M5
Urban Towns	Industrial Areas	E3	Traffic	Moderate	P4
Rural Villages	Industrial Areas	E2	Traffic	Moderate	P5
Urban Town	Car Park	E3	Traffic and Pedestrians	N/A	10 Lux Uniformity 0.25
Rural Village	Car Park	E2	Traffic and Pedestrians	N/A	10 Lux Uniformity 0.25

General Requirements

The following is a submission checklist of items required by the Roads Lighting Authority, before the lighting element of any construction consent can be formally assessed:

1. Adoptable areas/surfaces drawing showing extents of area to be assessed.
2. Designer risk assessment as per BS 5489-1:2020 (Design Strategy and Road Classification)
3. Layout drawing clearly showing:
 - A satisfactory scaled general lighting layout as well as at junctions and bends.
 - Any contiguous lighting.
 - Legend outlining satisfactory materials with a sufficient level of information provided.
 - Sufficient electrical information and cabling arrangements.
 - Details of proximity to other electrical apparatus which may impact the safe operation of the lighting system (EV charging points for example).
4. A corresponding lighting calculation report showing:
 - Sufficient photometry information.
 - Design classification (as per designer risk assessment).
 - Vertical illuminance calculation report. Guidance on requirements can be found in section 1.5.
 - Separate conflict area design where applicable.

Additionally, it is the responsibility of the developer to take cognisance of any authorised signage (e.g. “Neighbourhood Watch”, “No Dog Fouling” signs etc) mounted on existing lighting columns. If these existing lighting columns are to be removed as part of the construction phase, the signage should be relocated on the nearest available adjacent lighting column and identified on the submitted consent design drawings, or NAC consulted where suitable appropriate adjacent alternative location is not clear.

Private Areas

There are many roads, footpaths, parking areas and service areas in North Ayrshire that are private and for which the Council has no direct responsibility. No new adoptable lighting will be provided on existing private roads and areas. All proposed new development under planning & construction consent review requires the developer to ensure that residents and owners engage private factoring to provide, manage & maintain any lighting that is considered appropriate under the terms of approval by the Authority. Evidence and details of factoring arrangements for lighting or other maintenance in communal or private locations within any proposed development will be provided by the Developer as part of the planning and consent process.

Designs in respect of private & communal areas, while subject to separate maintenance and operational arrangements, will be designed in accordance with the same criteria as adoptable lighting.

Design Competency

All lighting design for developments must be carried out by professional lighting & electrical design consultants who are able to show evidence of specific relevant design experience and qualifications. Lighting designers may work independently or as part of an overall design consultancy, however the developer should provide on request evidence of previous experience and competency for the lighting design consultant engaged.

This requirement ensures that any designer duties for health and safety under relevant lighting, electrical and construction legislation and regulations, should be satisfied by professional designers with competency for the function. Guidance on appropriate competency standards and qualifications can be found by referring to the Institution of Lighting Professionals website. Engaging competent designers will also help support a more streamlined construction consent approval process that encourages a ‘right first time’ approach, reducing costly delays and revisions for developers.

Alternatively, should developers wish, North Ayrshire Council can provide a quotation for design services for lighting. This will provide quality, expertise and highly skilled lighting technical and design services that can ensure designs are competent on a first-time basis and can facilitate and accelerate the design process and construction consent approval.

Urban

Under current legislation, the responsibility to provide street lighting within North Ayrshire is given to the Council as the statutory Local Roads Authority. Section 35, of the Roads (Scotland) Act 1984, (RSA 1984), sets out the powers and duties covered by this legislation. The act does not directly impose an obligation on the Council to provide street lighting. It does however require that the Council considers what lighting is appropriate in terms of road safety and accident reduction. Once street lighting has been provided, it is the Councils statutory duty to ensure that it remains functioning correctly and is inspected and maintained to a safe standard. Road types and night-time usage vary in nature according to location, traffic volume and access to amenities. Therefore, the level, type, design & maintenance requirements of lighting systems will also vary. Roads within speed-controlled areas, i.e. urban and residential areas, and their associated 30mph speed limits are established by the presence of a “system of lighting”, in accordance with the Road Traffic Regulation Act 1984. De-restricted areas are not normally lit, however areas with special requirements, such as roundabout conflict areas or identified accident black spots may be considered on their individual merit for a site-specific solution. On principal and distributor roads, where traffic speed and flows tend to be higher, vehicles dominate, and public lighting systems are designed to reflect this purpose. On residential streets and footpaths, where the pedestrian and cyclist are more frequent, the lighting system is designed appropriately around the

combined needs of all users that may be brought into conflict. In high night-time amenity areas and town centres where traffic & footfall is high and subject to high incidences of interaction and potential crime, lighting design of associated roads, footpaths and pedestrianised areas will be of a higher illumination class to reflect this. The maintenance and management of the public road lighting network is undertaken by Roads –Engineering Services: Lighting Section.

Rural and Islands

An intrinsic element of the design process is consultation, particularly with respect to requests for new lighting. It is also recognised that many locations in North Ayrshire are unique in terms of their natural beauty and attractiveness and that residents might have strong feelings about the provision of lighting. The Council, however, as Roads Authority has a statutory duty and legal obligation to consider road safety and the mitigating impact of lighting provision of the correct type to reflect the local environment and night-time use. Where advised by the local authority during the planning process, the Developer, or their design consultants, will be responsible for consultation with adjacent property owners and users to inform the lighting design proposals. The Arran Lighting Policy is available for guidance specific to developments on Arran. In some circumstances NAC Road Lighting will direct the completion of a suitable design but limit installation to underground ducting for future provision only as detailed in the Arran Lighting Policy.

Conservation Areas

The Council has designated several locations as Conservation areas, and these will be lit in accordance with the design output criteria relevant to the environmental zone and area use. However, additional consideration will be given to the selection of specialist amenity or heritage styled materials, including the use of reduced colour temperatures, in these areas. Given the additional budgetary impact of specialist materials of this type and maintenance, as a rule these will be restricted to conservation areas.

Foot and Cycleways

Cycle routes shall be lit in accordance with the Institution of Lighting Professionals Technical Report No. 23 – Lighting of Cycle Tracks and shall respond to the Environmental Zone in which the route is located. The lighting of any cycle route should first be discussed with the Local Authorities Lighting Team.

Public lighting is part of the approach to a sustainable transport policy, helping to increase the use of the road and footpath network after dark.

The duties and responsibilities of specification, management and maintenance of cycle routes falls to Roads Services, either as the Roads Authority as in any other prospective public road or footway under the powers of the Roads (Scotland) Act 1984, or as maintaining service for non-public road asset network belonging to the Council, and as such responsibility for specification, adoption and future maintenance of any cycle path or lighting that the Roads Authority considers necessary, is as directed or designed by Roads Services.

As with any other public footway, there is no duty to provide lighting on any cycle route, however there is still a requirement to contribute to overall road safety and the Road lighting team will consider the appropriate provision of lighting subject to local circumstances.

Cycle routes which run adjacent to an unlit carriageway should not be lit as this can cause difficulties for drivers. Urban routes, particularly shared road routes, within speed-restricted zones will normally be considered for lighting. Off-carriageway tracks within otherwise lit built up areas, for example through parks or running tracks may not be well used after dark, even if lighting was provided. In these cases, determination of an appropriate cycle route should primarily identify suitable alternative routes utilising existing street lighting, while matching the desired line as closely as possible.

Where an off-carriageway track is being considered for lighting within an urban area, the factors that will be taken into account by the Roads Lighting service to determine suitability are based on guidance from Transport Scotland, the Department for Transport, Institution of Lighting Professionals and other national sources and include:

- Identification of possible existing alternative lit routes
- Responsibility and future adoptable status of the considered route-Environmental zone in terms of lighting design guidance (intrinsically dark, urbanised etc.)
- Existing night-time usage that shows evidence of high flows of non-motorised users
- Suitability for increased shared night-time use by cyclists, commuters, dog walkers, school children, other recreational users and for access to local amenities
- Linkage of urban access for higher volumes of commuting or access to centralised amenities
- Underground infrastructure provision for linkage to future development at a later stage- Availability of electricity supply
- Geographic considerations that may impact, e.g., presence of dense tree/vegetation likely to cause obstruction under the provisions of the Roads (Scotland) Act 1984.
- Scale of installation and impact of additional maintenance, particularly evidence of vandalism or anti-social behaviour-Impact of additional energy use and maintenance
- Effects of light pollution (inc. requiring evidence of consultation with local property owners if required)
- Impact on wildlife-Impact on carbon reduction commitment

Though it is not expected that routes outside built up areas and used primarily by cyclists for recreation would normally be lit, consideration will be given where there are specific road safety concerns such as crossings, subject to the availability of suitable electrical supply sources.

In accordance with current practice a full lighting impact consultation will be conducted with local residents, prior to finalising a route Option Appraisal. This will be specifically focused on determining the possible impact of additional lighting to identify any risks to the introduction

of lighting in respect of high profile, sensitive concerns relating to light trespass, glare & other light pollution, increased carbon emissions and energy use.

Once the decision has been made, by the Roads Lighting Authority, that a route should be lit, the preferred option will be developed in accordance with relevant lighting design guidance H & S and electrical legislation.

Underpasses, Subways and Tunnels

The following guidance and standards shall be referred to when considering lighting of underpasses, subways, and tunnels; BS5489-1:2020

- BS5489-2:2016
- PLG09 – Ensuring Visibility Within Short Tunnels
- CIE 88-204

Where switching between daytime and night-time levels has been identified, the designer will consult with North Ayrshire Council at the earliest convenience to agree upon an appropriate regime and switching method.

Pedestrian Crossings

Pedestrian Crossings shall be illuminated to the requirements of:

- ILP Technical Report No. 12 - Lighting of Pedestrian Crossings.
- BS 5489-1:2020.
- BS EN 13201 Part 2.

Design of Illuminated Traffic Signs

All traffic signage should be designed in compliance with the current version of the “The Traffic Signs Regulations and General Directions” (TSRDG) document. The TSRDG document places many relaxations on the number of signs and the illumination of traffic signs, by the means of external or internal lighting. Designers should take this into full consideration when specifying traffic signs within their proposal to ensure that proposals are compliant and reduce environmental impact; impact on streetscape access & clutter; and energy management associated with unnecessary (illuminated AND non-illuminated) signage.

1.3 Location

Footway

Lighting should illuminate both the carriageway, the footway and junctions, including any speed reduction features, to enable road users to see potential obstacles and each other after dark. The lighting design should ensure that shadows are avoided in streets where pedestrians may be vulnerable. Adequate lighting helps reduce crime and the fear of crime and can encourage increased pedestrian activity. Consideration should be given to

incorporating colour contrast bands on lighting columns and located at the back of the footway where possible.

Traffic Calming

Designers should pay special attention to the illumination of any proposed Traffic Calming measures. The Institute of Lighting Professionals’ “Technical Report 25 – Lighting for Traffic Calming Measures” document should be followed to ensure these features are illuminated adequately.

Verges

Lighting columns should be placed so that they do not impinge on available widths of footways in the interests of wheelchair users and people pushing prams or pose a hazard for blind or partially sighted people.

Service Strips

The width of a service strip will depend on the number and type of premises served. All domestic services (gas, electricity, lighting, water and telecoms) will normally be accommodated in a maximum 2 metres wide reservation, developers should discuss each development with Statutory Undertakers.

Lighting Obstructions

Under the provisions of the Roads (Scotland) Act 1984 the presence of dense tree/vegetation likely to cause obstruction should be considered and similarly with regards to the potential of the blocking of illumination on the roadway and footway. It is the designer’s responsibility to take cognisance of the landscape design e.g., placement of trees, walling etc. in relation to proposed lighting positions.

1.4 Self-Certification and Adoption

During the planning process, where it is determined by the Roads Authority that lighting should be provided, extended or improved, the developer submits lighting proposals, co-ordinated through Economic Regeneration, which are forwarded to Roads Lighting for review. Where the design is agreed to comply with the relevant lighting and electrical design requirements approval is granted, in writing.

Once approval is granted, the Road Lighting Authority reserves the right to review suitability of the design proposal to determine if it requires to be upgraded or redesigned at the developer’s expense in the following circumstances:

- If statutory legislative guidance, or NAC maintenance materials specification, is amended that affects the original proposals/approval.
- If the installation does not commence on site within 3 years of consent approval.
- If the development is not offered for adoption within 5 years of consent approval.

- At renewal of construction consent in all circumstances.

The developer may, at their own discretion, energise parts or whole of the network within their site prior to adoption and subject to compliance with all relevant safety, lighting and electrical legislation. The developer or their design consultant are responsible for the mitigation of any repairs, failures or complaints regarding light pollution arising from their design after energizing before final adoption by the Roads authority.

Lighting installations are not adopted, or part adopted, prior to the road being adopted and placed onto the public roads register. Lighting installations will be subject to the same monitoring, test, inspection and 12mth maintenance period in alignment with the adoptable road before being added to the Register of adopted roads and the Council's lighting asset inventory and maintenance regimes. 12mth maintenance period will begin upon satisfying a compliant final test and inspection on the lighting installation. All necessary access to site and equipment required to inspect prospectively adoptable plant will be provided by the developer, or their agents on-site, upon request by the Council's lighting inspectors.

Where a proposal requires alignment or integration with an existing lighting installation, for example a new junction arrangement, the Council will in certain circumstances, allow connection to the existing network utilising a Permit-to Work authorisation and the subsequent partial adoption of the lighting circuits involved, after a monitored test & inspection. The developer is responsible for all maintenance and cost of energy of their installation until the date of adoption and will require their own MPAN (Metering Point Administration Number) until the installation is formally added to the assets register and appropriate Council MPAN. The developer, or their agents, will provide written details on request of their selected DNO/IDNO and interim MPAN.

All necessary access to site and equipment required to inspect prospectively adoptable plant will be provided by the developer, or their agents on-site, upon request by the Council's lighting inspectors.

1.5 Specification

Lanterns

The proposed unit shall:

- Be compliant with all relevant EN standards and directives with a declaration of conformity to said standards and directives being available at the time of tender.
- Be constructed and tested in accordance with BS EN 60598-1.
- Have a canopy manufactured from Aluminium or other fully recyclable material.
- Finished in RAL7043 or similar approved to be confirmed at the time of order.
- Have an optical compartment sealed to IP66 in accordance with BS EN 60529 by a glass enclosure to ensure minimum lens degradation from long term environmental exposure.

- Have a Dali enabled LED driver compatible with the Philips City Touch CMS system.
- Be supplied with a factory fitted integral Philips City Touch OLC COM SR Node.
- Have a maximum body weight of no more than 10Kg.
- Be designed for Class 1 electrical protection in accordance with IEC 61140.
- Have all integral control gear / drivers mounted on a removable tray with plug and socket connections.
- Have all hinges, toggle catches, captive screws and nuts manufactured in stainless steel or other non-corrodible materials and a minimum of 2 stainless steel Allen fixing screws.
- Have tool-less access to serviceable parts with canopy held captive in open position.
- Have one-part sealing gaskets recessed to avoid damage during normal maintenance operations.
- Have an impact resistance of not less than IK08.
- Have a LED light source that can be replaced with the luminaire canopy in situ.
- Have a LED light source of 3000k for residential streets and 4000k for traffic routes, both must maintain chromaticity consistency of ≤ 5 SDCM throughout the guarantee period.
- Be approved for use under the Balancing and Settlement Code (BSC) Unmetered Supplies Arrangements and shall have all necessary UMSUG codes provided at the time of tender/ submission.
- Be supplied with a universal spigot to allow either 76mm post mount or 42mm side entry connection and without the need of additional accessories.
- Be guaranteed against failure for a period of 12 years (including all components & drivers)
- Incorporate a surge protection device rated to at no less than 10kV in common mode.
- Have a minimum CRI of 70 compliant with Ra8.
- Have a power factor of 0.9 or greater.
- Be fully compliant with the RoHS (2012) Regulations.
- Be fully compliant with the WEEE Regulations.
- Have a ULOR of equal to or less than 1%.
- Incorporate a surge protection device rated at no less than 10kV in common mode and 6kV in differential mode.



Figure 1 – Galvanised Finish Column Lighting with LED Lamps in Public Realm

Columns and Brackets

General Specification

The lighting column manufacturer shall be registered with and certified by either British Standards Institute Quality Assurance Services or Lloyds Register Quality Assurance Ltd for the manufacture, supply and verification of lighting columns under their Quality Assessment Schedule to BS 5750 part 2. An equivalent European Standard shall be acceptable.

Dimensions and Tolerances

Table 2 – Bracket Type C (Web Type with 5° Uplift)

Projection	Height	For use with
0.5m 0.6m	7.4M 9.4M	11.4M
0.5m 0.6m	7.4M 9.4M	11.4M

5,6m columns which have an integral bracket shall have a bracket projection 0.3 metres at a 15 degree angle. Bracket projections do not include the lantern spigot.

Materials and Welding Requirements

The columns, brackets and compartment doors shall meet the requirements of BS5649:EN40:, BD 26/99, and shall have a silicon content between approximately 0.12% and 0.3% or below 0.04%. The grade of steel used in the fabrication of the lighting column and brackets shall be hot rolled to BSEN10021 S355J2H.

Test certificates applicable to the grade of steel used shall be supplied on request.

Corrosion Protection for Steel Columns and Brackets

Columns shall be hot-dip galvanised as defined in BS 5649 Part 4, clause 4.1, the requirements of ISO 1459, ISO 1460 and ISO 1461 being applied.

The hot-dip galvanising shall be applied to areas A, B and C of the lighting column as defined in BS 5649 Part 4. In addition a coat of bitumen shall be applied to area B as defined in BS 5649 Part 4, clause 3 - excluding above ground level which shall be 100mm.

Lighting column brackets shall be galvanised as per the above requirements for columns, the hot-dip galvanising being applied to the interior and exterior surfaces of the column bracket. Foundation bolts and all steel fixings including doors, chains, locks and grub screws shall be approved stainless steel or be galvanised in accordance with the above.

Base Compartment and Cable Ways

The column base compartment and cable ways shall comply with the requirements of BS 5649 Part 5. The compartment door shall be protected against corrosion by hot-dip galvanising as specified above. A 3mm nominal diameter closed link stainless steel chain shall be fitted internally between the door and column (not to the backboard, earthing terminals or other removable points). The chain shall be sufficiently long to allow the door to rest freely on the ground with the column in its operational position.

The base compartment(s) shall be fitted with hardwood or other substantially non-hygroscopic material baseboards not less than 90mm wide and 15mm thick securely fixed internally to accommodate the fused cut out assemblies, control equipment, service cables etc.

See drawing sl/spec/cols 4 for dimensions of door and door access. The base compartment shall have a weatherproof access door fitted with a tamperproof and corrosion resistant lock.

The door arrangement shall be such that it can only be opened by releasing a single equilateral triangular headed (with 8mm diameter rounded corners) captive non-corrosive bolt fixing into a door locking bar. The lock face shall be circular in shape,

Doors shall be interchangeable for similar columns without adaptation. All column doors shall have rounded corners of 27mm minimum radius.

Interconnection of Column Shaft and Bracket

Bracket types must be interchangeable on lighting columns of 8m or 10m or 12m nominal height. Web shall be 6mm thick.

The diameter of all column shafts should be equal at the point of interconnection with brackets.

The assembly of lighting column shaft and bracket shall incorporate a mechanical locking system in addition to high tensile socket headed set screws.

The mechanical locking system on the column shaft shall comprise of four 16mm by 25mm deep slots 90 degrees apart located at the top of the column to allow the bracket to be

General

- Door keys shall be provided on the basis of 1 per 10 columns.
- Welded watersheds shall be provided above the column door openings.
- Have an external identification number painted in black on a white background. The numbers shall be 75mm high
- Locking Mechanism shall be greased before dispatch.
- Columns shall have door openings arranged so that when the column is in the erected position an operative facing the door opening will also normally be facing oncoming traffic.
- The cable way shall be located at the front of the column and situated directly beneath the door
- All columns and brackets shall carry a unique identification mark which indicates the name of the manufacturer, year of production, and other information, to enable details of the column and bracket to be determined by a unique design code reference number relating to the appropriate Column and Bracket Data sheet.

The unique reference number shall not be used for any other design of column or bracket.

The column identification mark shall be permanent, legible, clearly visible and be:

- On a permanent fixed label.
- Hard stamped.
- Formed in the material of the column on an external face only.

It shall be located either within the base compartment or, except in the case of hard stamping, immediately above or below the door. It shall not be located on the door.

The bracket identification mark shall be in the form of detachable label supplied fixed to the bracket. This label shall be moved from its temporary position and fixed on erection to a suitably provided hole next to the label on the column. Cable ties are not an acceptable means of attaching identification labels.

- Each column shaft shall have a base compartment large enough to offer easy access to the control equipment. A weatherproof door giving protection to IP42 BS EN 60529 shall be provided for each opening and shall be interchangeable between columns of the same mounting height.
- There shall be no sharp edges within the columns or bracket arms which could cause damage to electrical cables either during installation or whilst in service. An anti-chafe ring shall be welded where cables change direction from the horizontal to vertical within the bracket arm.
- Columns and brackets shall carry a unique identification mark which indicates the name of the manufacturer, the year of production and other design information to enable details of.

Column Planting Depth

Column foundations used in the design were in accordance with Chapter 8 of the Department of Transport standard BD26/92. 8.5.14.10 DESIGN LOADS: The required design loads need to be assessed by the supplier, based on luminaire size and a winding loading factor of K3, but a length of 150mm positioned above the cable entry. The external dimensions should be adhered to unless a variation has been agreed in writing between the Supervising Officer and Contractor.

Verification of Structure by Testing

The structure of lighting columns shall also be verified by testing by the manufacturer and a third party approved by the Council.

Guarantee

All lighting columns and brackets shall be manufactured from steel which meets the requirements of BSEN40. Columns should be of tubular steel design and shall be manufactured from specified grade of steel to give a minimum design life of 25 years.

Mid-Hinged Raise and Lower Columns

- Columns shall be as galvanized tubular steel columns above with the following exceptions
- Column shall be suitable for operation without a specialist tool.
- Columns must have a discrete internal locking mechanism which has the capability of being internally locked
- Columns to be hinged using a stainless-steel hinge and pin with a suitable with no maintenance dry lubricated bush.
- Column shaft to be profiled to ensure the overlap section of the shaft fits neatly in position ensuring the circular section of tubular steel design and shall be manufactured from specified grade of steel to give a minimum design life of 25 years. The gap between where both shaft profiles meet shall not exceed 3mm, to reduce ability for digital ingress and injury.
- Column should be supplied prewired within suitable flexible conduit provided.
- Columns shall be the mid hinged counter balanced type designed such that the fitted lantern provides the counterbalance.

Electrical Supply

Feeder Pillars

- Be manufactured in 3mm thick sheet steel hot dipped galvanised after construction or 2.5mm thick stainless steel, minimum grade 3CR12 or similar throughout, including door and back panels, have degrees of protection IP54 reducing to IP 42 where single ventilator is fitted. It shall comprise two sections, a cabinet (above ground level) of dimensions no greater than 1010mm high x 606mm wide x 288mm deep and a root (below ground level) bolted together or it may be plinth mounted bolted to a concrete foundation. Object impacts at 20 joule. IK10 must be achieved as per EN50102.

- Have a colour finish to (RAL7031 – blue grey or RAL7000) which has been applied by the manufacturer immediately after production.
- Be of adequate size to house lighting distribution units panel(s), incoming and outgoing cables, Electricity Supply Authority service cables and apparatus.
- Have a baseboard (890mm x 525mm) manufactured from substantially non hygroscopic material to mount electrical equipment. A clearly marked position shall be indicated for the Supply Authority Cable Head. This position will not encroach upon the position for the siting of the Distribution panel.
- House such suitable electrical equipment as is described in the specification. 107 Volume 2 Numbered Appendices 3G Roads Minor Works Rev 1 October 2018 Framework Contract (PS/18/04).
- House distribution panels as specified in Appendix 0/2.
- Have a main earth terminal comprising a brass screwed stud M8 x 30mm long complete with 2 No. brass hexagon nuts and plain brass washers at a readily accessible position within the cabinet section of the pillar.
- Have an external identification number painted in black on a white background. The numbers shall be 75mm high.
- Labelling shall be provided to enable ready identification of all protective, switching and isolating devices and all outgoing circuit terminals, with warning notices regarding isolation, and the presence of voltage, appropriately positioned.
- A suitable anti-condensation heater shall be provided within the unit. The rating of this unit will not be greater than 15W. Resistors used as heaters will not be accepted
- Will be provided with sets of all keys and tools required for access supplied by the Contractor
- Lighting circuits shall operate as group control.
- The double pole switch isolator and contactor, shall be suitable for use in switching discharge lighting loads up to 63A.
- Contactors shall be silent in operation and shall be of the electromagnetically operated electrically maintained type with arc control devices and neutral link. The contactor shall be rated with an AC 3 utilisation Category and also have readily replaceable contacts. Auxiliary coil circuits shall be separately fused and suitable for operation at 230V 50Hz.
- Internal wiring between the Scottish Power cut-out, the contactor and outgoing fuses shall be single core PVC insulated the PVC sheathed 300/500 volt grade at least 16mm² unless otherwise specified, and comply with BS 6004:2012.

Mini Feeder Pillar

- The pillar shall be manufactured in two sections, a cabinet (above ground) c/w a root (300mm below ground level) and single door. The pillar shall be constructed of 3mm sheet steel (hot dip galvanised to BS EN 1461).
- The pillar shall be manufactured to prevent ingress of dust and water sprayed from all directions. Minimum rating of IP54 as per EN6059 MUST be achieved. It must also be able to withstand an impact of an object weighing 5kg on a flat surface no greater than 40cm across. Object impacts at 20 joule. IK10 must be achieved as per EN50102 · A distribution

cut out shall be fixed to a hardwood backboard no less than 18mm thick and coated with water repellent (minimum size- 585mm high x 155mm width). Unit to be mounted at least 65mm from the top of the backboard. Outline position to be marked (using permanent marker) centrally at the bottom of the backboard for the main Electricity Supply Authority service cut out.

- The paint finish will be in accordance with BS4800 and painted Aircraft Grey (BS693 RAL693) which is a power coated application.
- The pillar MUST have M8 x 32mm long earth bonding studs fitted and located with ease of installation in mind, on both the door and pillar housing. The earth terminal shall be brass and supplied with one full nut, two half nuts and two washers (all brass)
- All electrical bonding and labelling must be completed to the current edition of BS7671
- Earthing
- The location of earth electrodes is described in Appendix 14/2 and shown on the Construction drawings.
- Details of the earth electrodes are shown on Drawing Number SL/SPEC/27/A.
- The earthing of the installation shall comply with the current edition of BS 7671 and ENA ER G12.
- The Contractor shall ensure that throughout the installation all metallic parts other than the current carrying conductors are bonded to form a continuous path by way of the armouring to the Distribution Network Operator earth connection.
- An earth electrode is required at the last or penultimate lighting column on each separate cable run where there are more than three lighting columns.
- The earth continuity conductor between the cut-out and earth rod shall be a copper conductor of at least 16mm² tri-rated PVC insulated or sheathed coloured green and yellow.
- Traffic Signs
- Sign Lanterns.
- The luminaire shall have an LED light source with sufficient output to provide illumination to the required levels.
- The luminaire shall have electronic control gear.
- The luminaire shall have flat glass.
- The luminaire shall have a facility for fixing miniature Photo Electric Cells as required.
- The luminaire shall have a maximum wattage of 6 watts.
- External sign lanterns shall comply with the current edition of BS EN 12899-1:2007.
- The lantern shall have an IP65 rating as per BS EN 60529:1992+A2:2013.
- Lanterns shall be suitable for mounting either by bracket on 76-114mm dia. column shaft and 76mm post top mounting.
- The body shall be constructed of die cast aluminium, with the lantern and bracket being of ridged one-piece construction to provide for no rotational displacement in service.
- All circuit components should be on a plugged tray which can be removed without disturbing the supply cabling.

- Provision for fixing miniature Photo Electric Cells will be available as required.

Illuminated Bollard – LED Type

- Bollard base lights shall be suitable for positioning in the ground with cable termination box and light source being below ground level.
- The whole unit shall have a minimum ingress protection of IP67 as specified in the current edition of BS EN 60529. All gaskets shall be one part recessed to avoid damage in service. All bolts for the fixing of the bollard shall not penetrate the box internally.
- The bollard shell is to be fitted over the bollard base light unit and secured by using bolts.
- The unit shall be constructed in die cast aluminium. The hinge and lock should be of stainless-steel moving parts.
- The unit shall be fitted with two lead in glands approximately 50mm in length suitable for 6mm² 3 core armour cable. A heat-shrink seal must be fitted between the bollard and the outer cable sheath.
- The unit shall have a LED light source with a maximum running wattage of 18 watts.
- The circuit components shall be on a plugged removable gear tray which can be easily removed without disturbing the supply cabling.
- The light unit lens shall be made from 5mm polycarbonate which can be easily replaceable.
- The unit shall be suitable for accepting a Type 2, cut-out.
- Bollard tops shall be manufactured in a one piece moulding from tough UV stabilised flexible polymer with integral graphics.
- Bollard tops to suit 270mm dia and 600mm dia sign face as required with the graphics outlined in black for improved definition.
- Bollard tops shall be finished in anti-grime finish.
- The photometric performance of the bollard shall, when illuminated from below, provide the illumination levels with uniformity required by BS 8442:2015.
- The light unit lens shall be made from 5mm polycarbonate

Artificial Light Nuisance

Local authorities in Scotland are obliged under the Public Health etc. (Scotland) Act 2008 to consider and mitigate within reason any instance where artificial lighting may constitute a nuisance. The Act considers all fixed light installations and stationary objects (other than lighthouses and certain defence and military premises), including street lighting installations.

While the Act does not define what constitutes as a nuisance, responsibility is placed on the local authority to investigate and consider whether or not any artificial lighting installations adversely impact a person's reasonable use or enjoyment of their property.

In an effort to ensure consistency and align with North Ayrshire Council design specification

aswell as current design standards, the following guidance has been developed for use on any adoptable street lighting installations within North Ayrshire.

Table 3 - Maximum values of vertical illumination on single story properties

Environmental Zone	E0	E1	E2	E3	E4
Illuminance on the vertical plane (Ev, Lux)	0lx	1lx	1lx	2lx	5lx

Table 4 - Maximum values of vertical illumination on multiple story properties.

Environmental Zone		E0	E1	E2	E3	E4
Height (m)	Illuminance on the vertical plane (Ev, Lux)	0lx	1lx	1lx	2lx	5lx
3m+		0lx	1lx	1lx	2lx	5lx
0m-3m		0lx	1lx	1.5lx	3lx	7.5lx

NOTE – North Ayrshire Council does not operate a curfew and any external guidance and standards should be based on post curfew values only unless explicitly specified by North Ayrshire Council.

Louvres and Shields

Where louvres or shields are proposed, it will be expected that manufacturers photometry is used which takes such attachments into consideration. Standard photometry will not be accepted. Only integral louvres and shields will be considered.

Vertical Grid Specification

Vertical grids shall meet the following design specification;

- Grid spacing - ≤0.60m
- Width - based on property frontage.
- Height - 3m
- Quantity - 1 per story
- Location – to be agreed with North Ayrshire Council and considered to be the property likely to be most impacted by artificial lighting within the development.

The below (Figure 4) can be seen to demonstrate the above grid specifications.

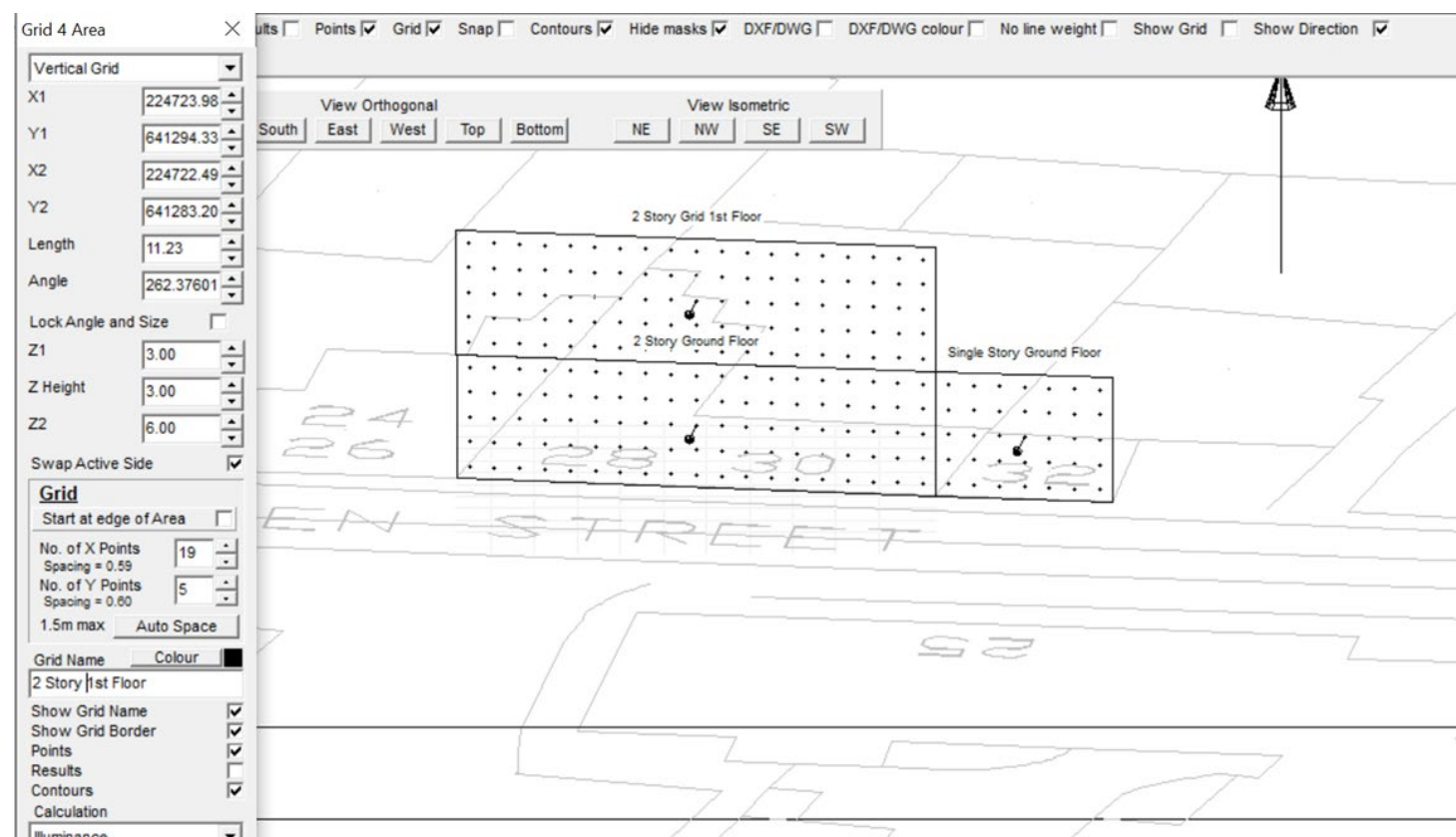


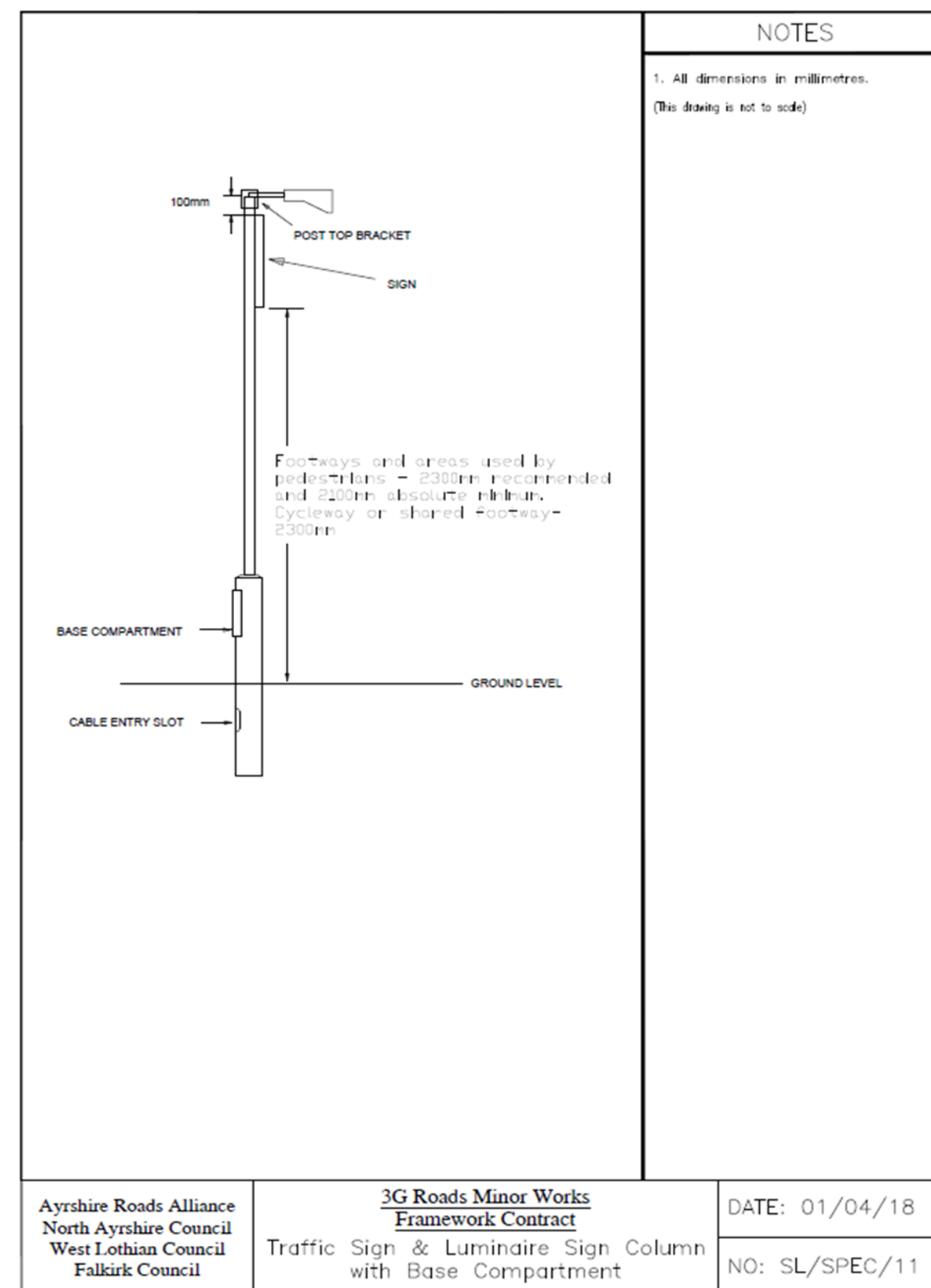
Figure 2 - Grid specification example

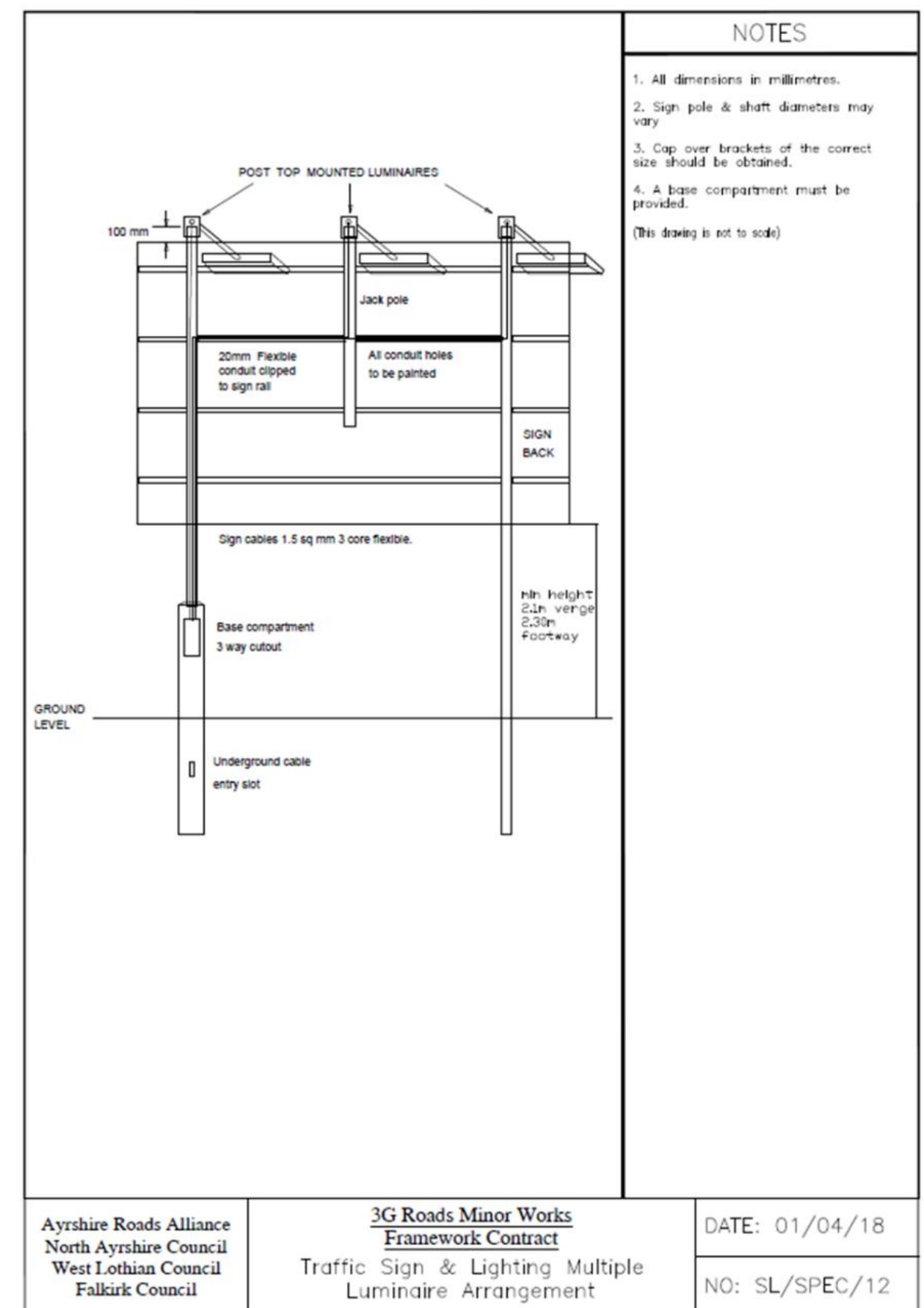
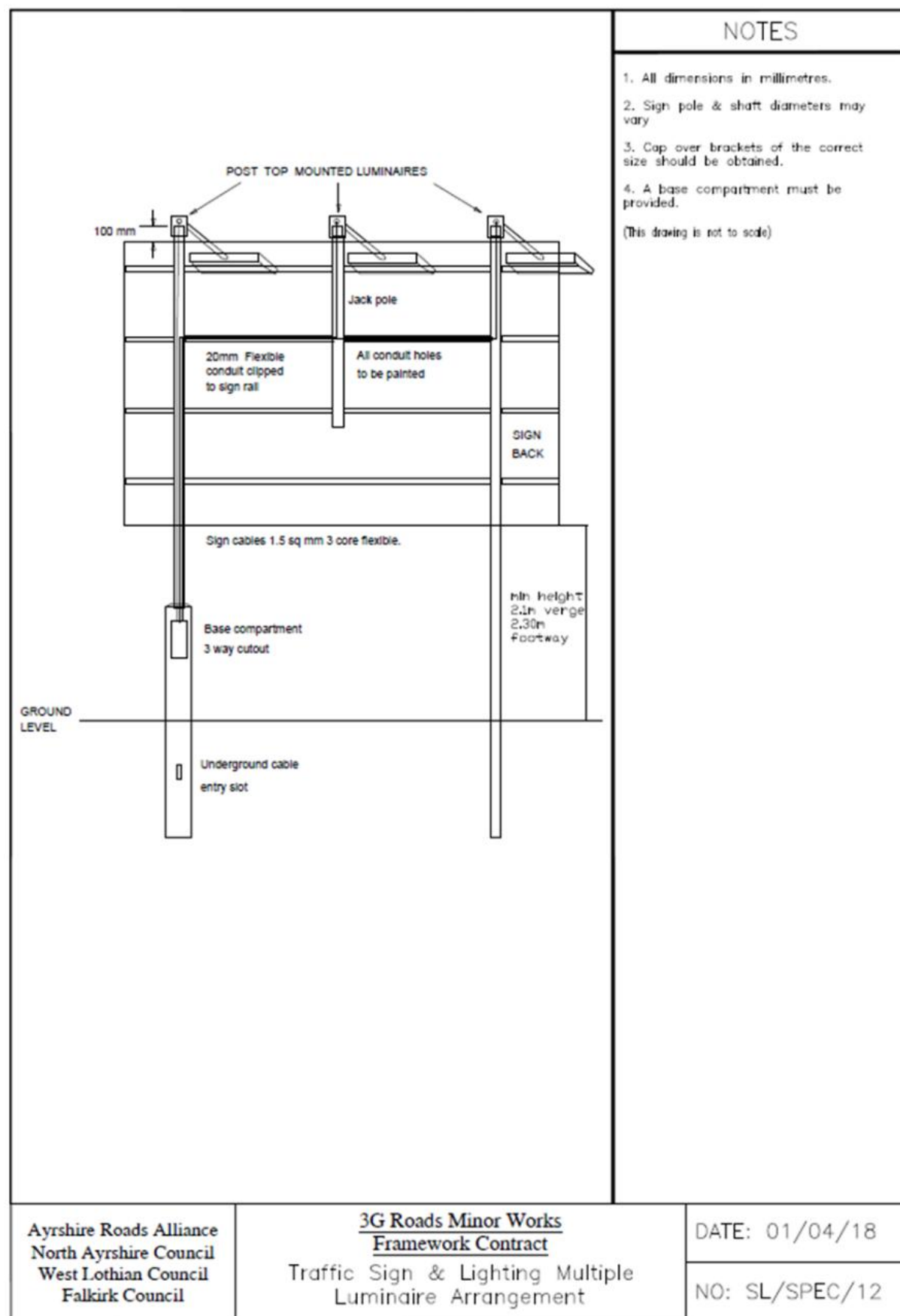
Failure to meet specification

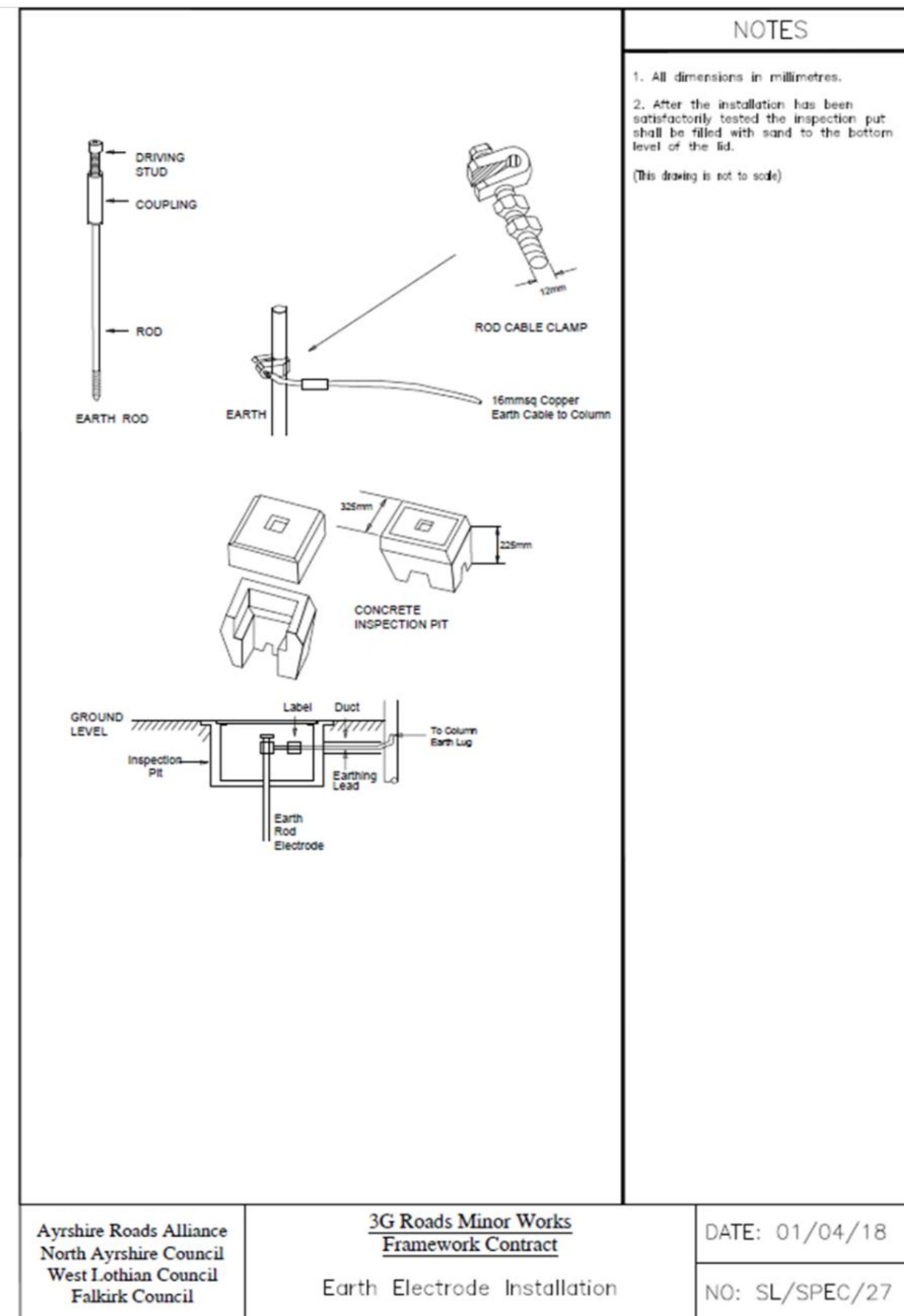
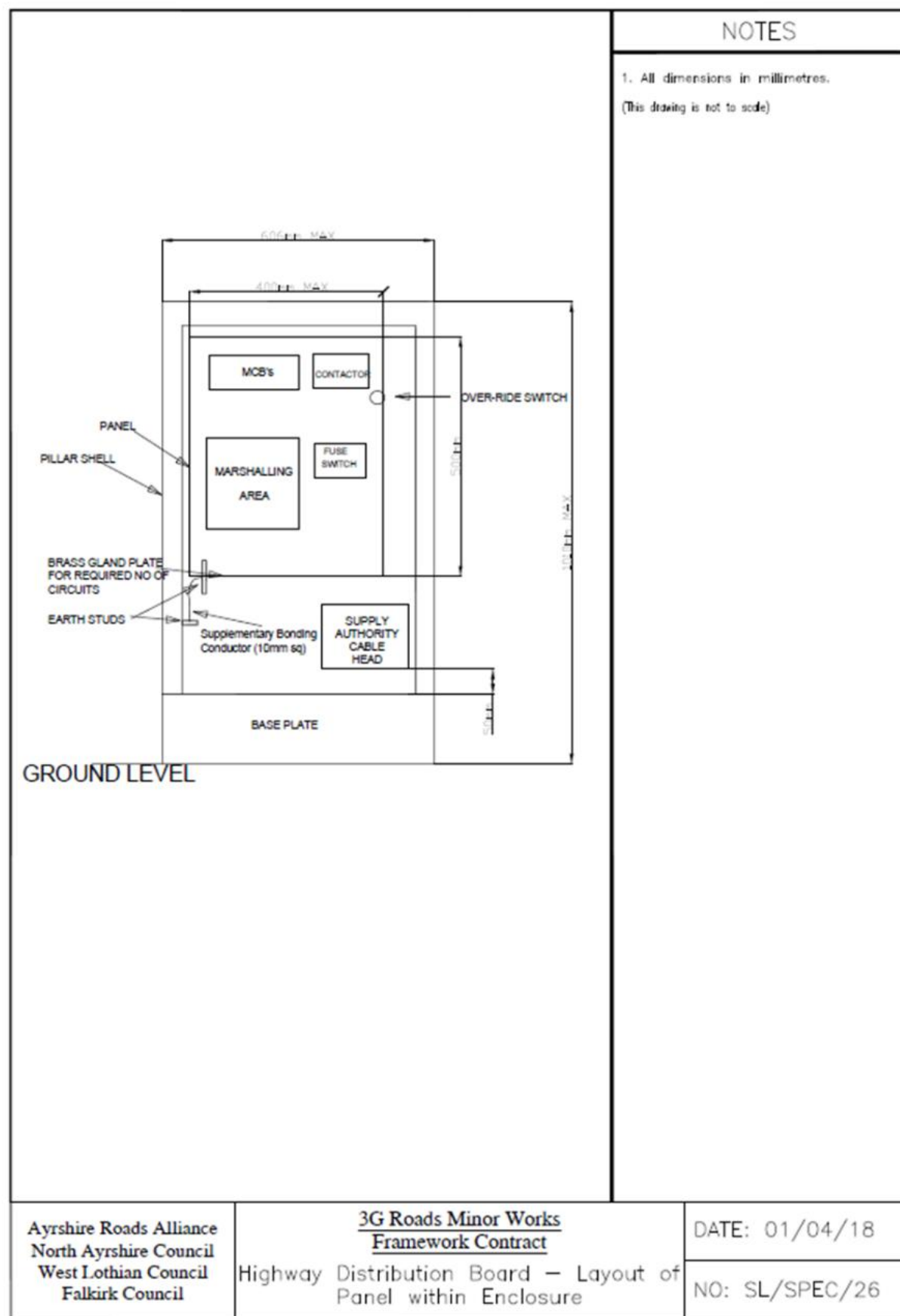
It is inevitable, given individual circumstances, that there will be instances where the aforementioned criteria cannot be met. Where such instances arise, the designer will be required to provide the following detail for review on a case by case basis by North Ayrshire Council:

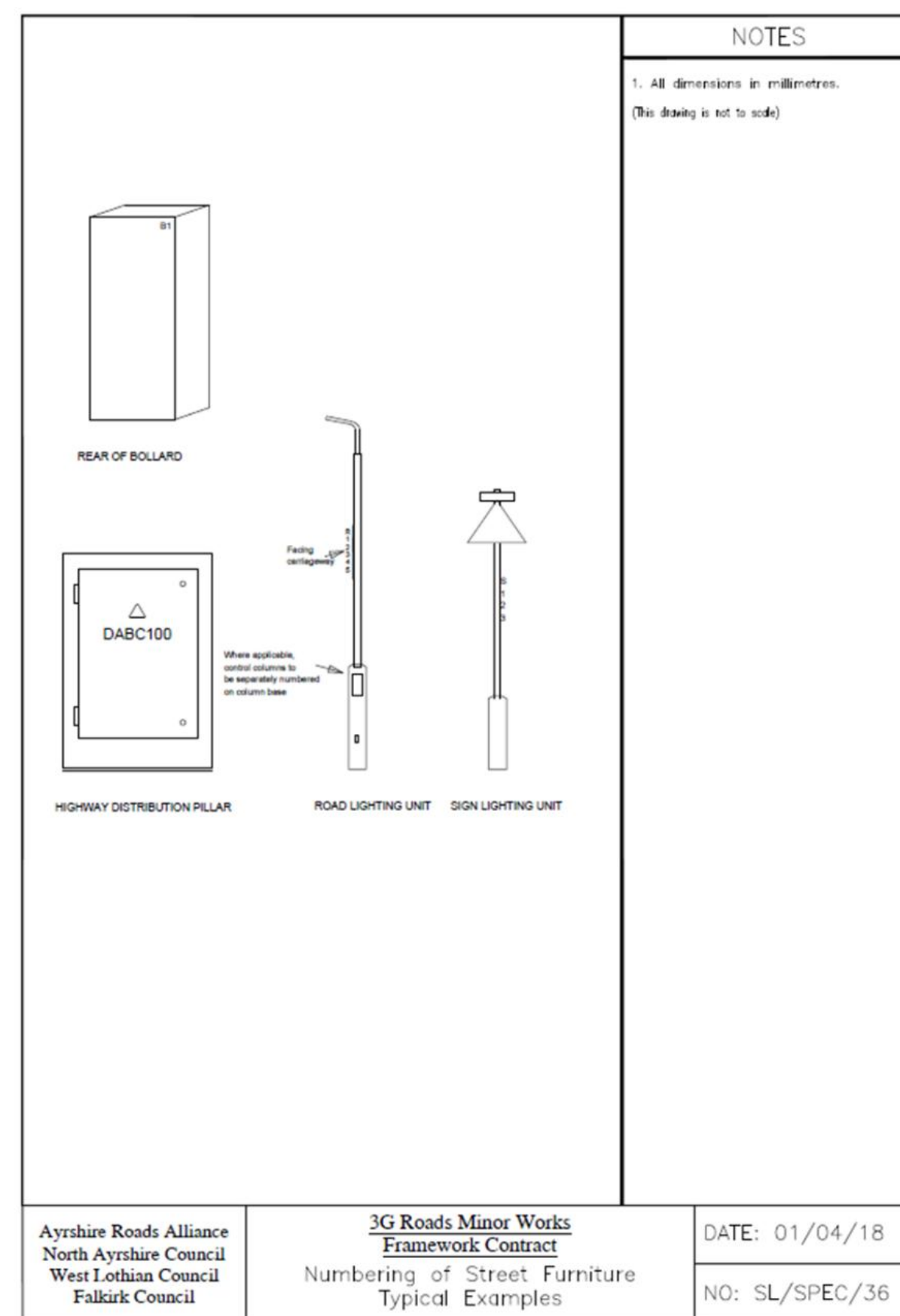
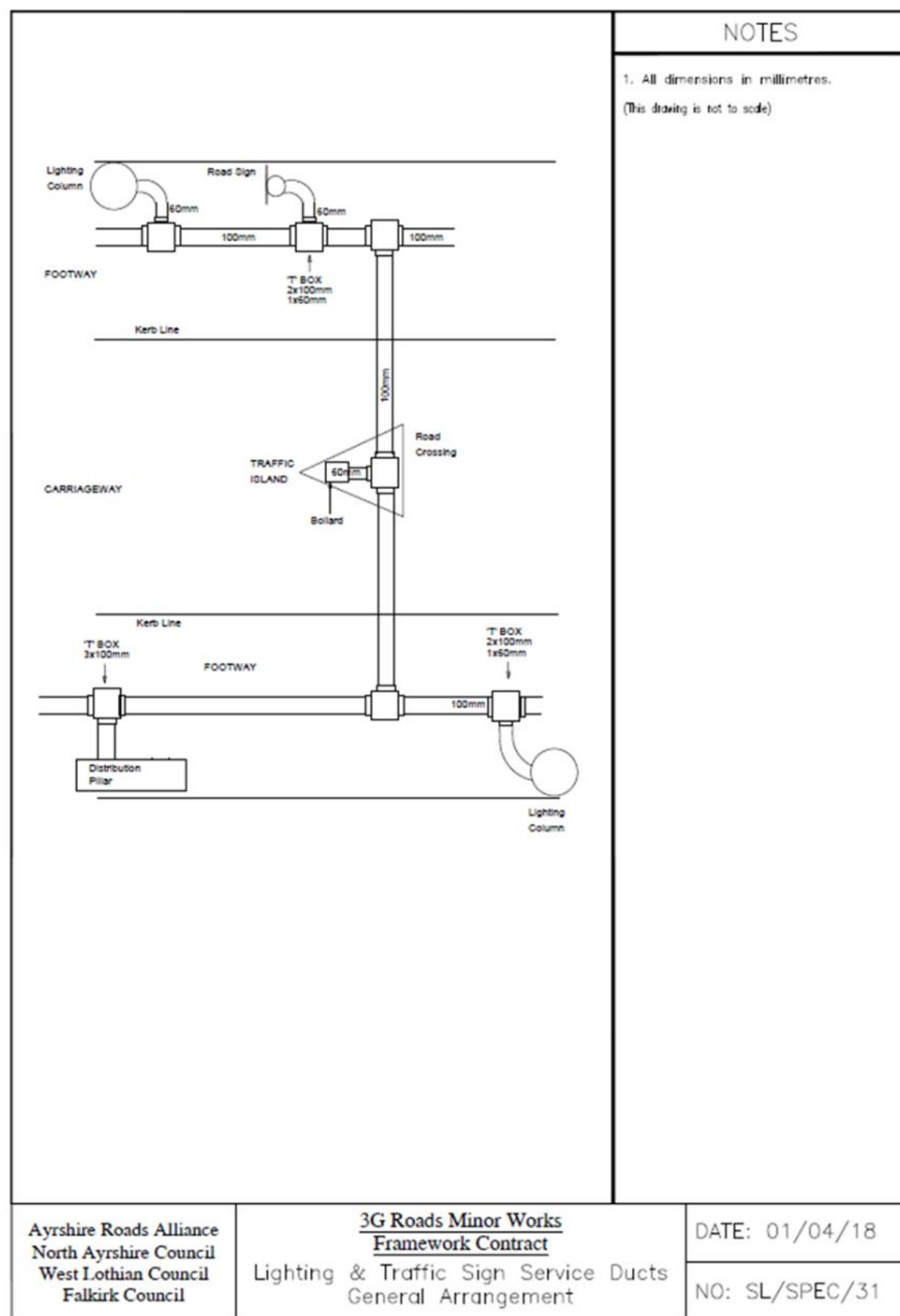
- Failed designs to demonstrate other manufacturers and/or models have been considered and are also unable to meet specification.
- Risk Assessments to consider artificial light nuisance.
- Design files to demonstrate that alternative location cannot be considered.

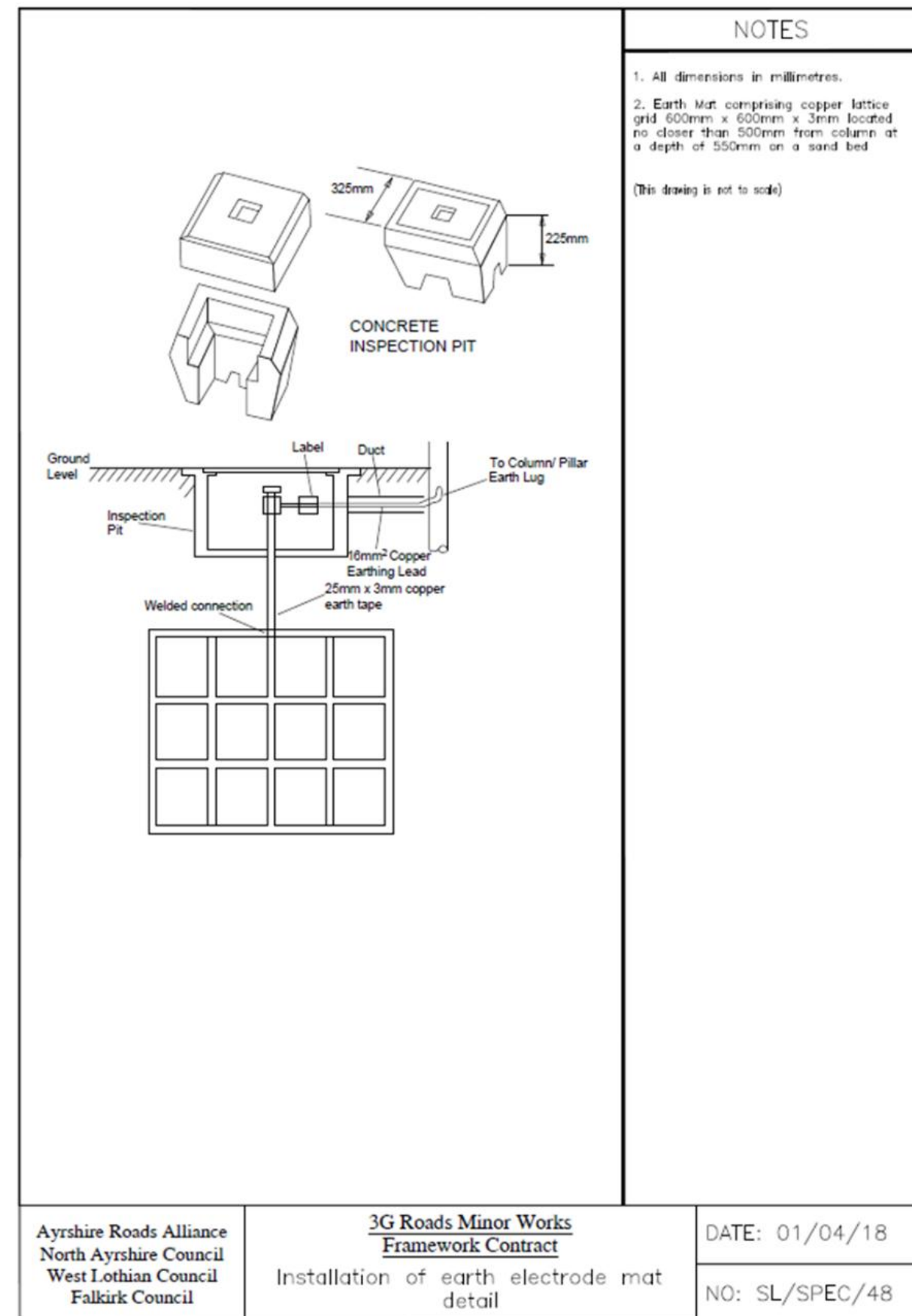
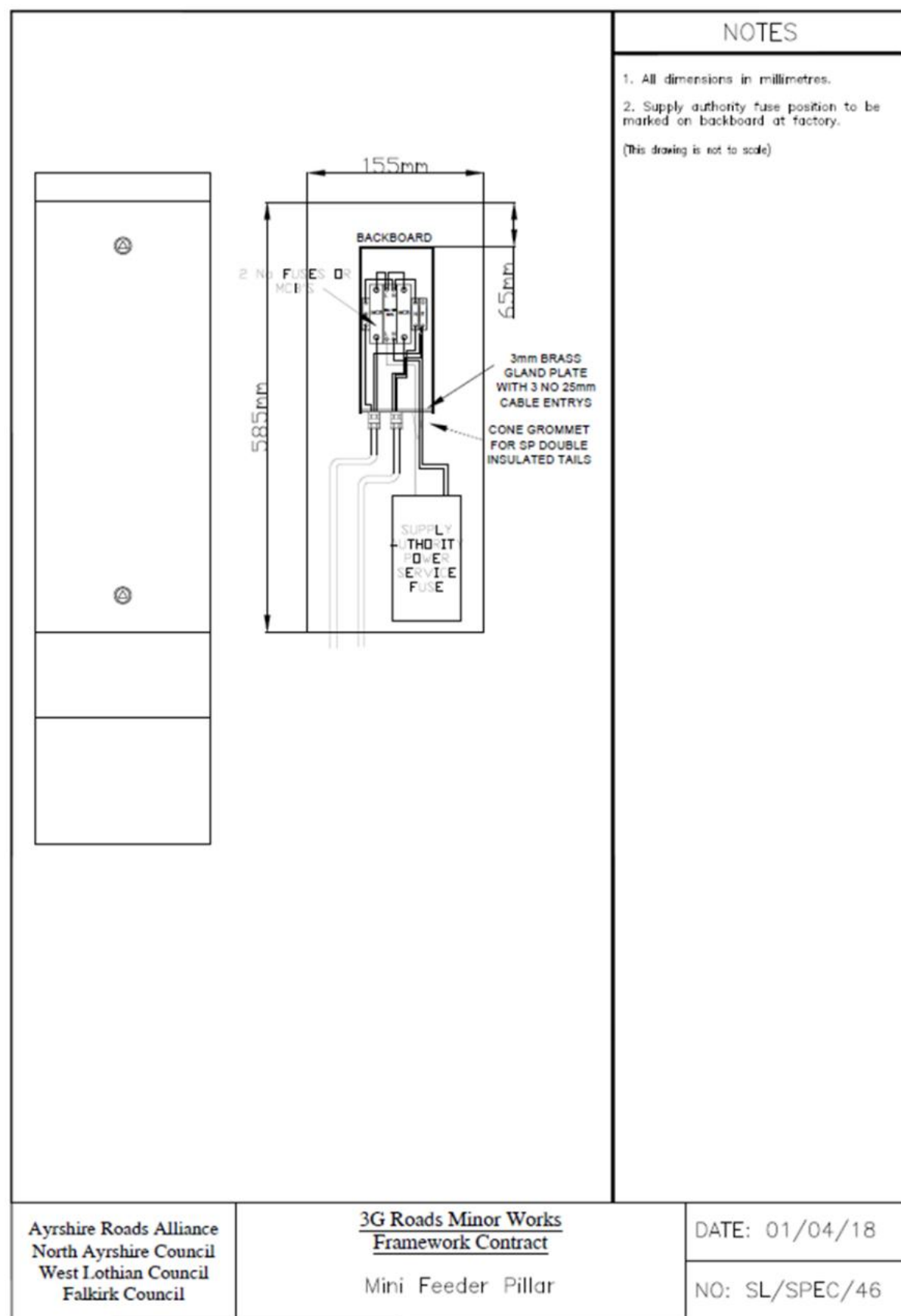
Drawings

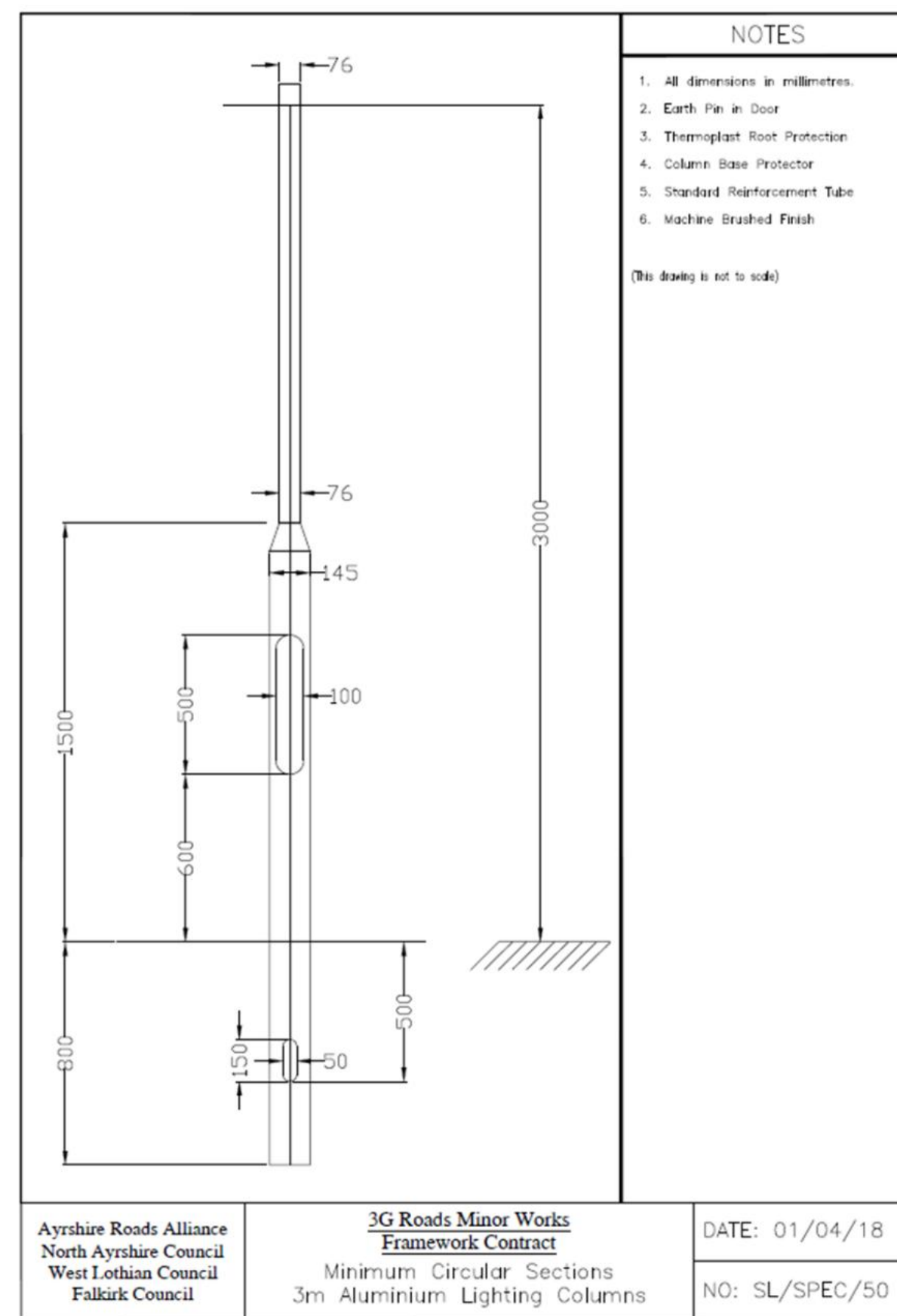
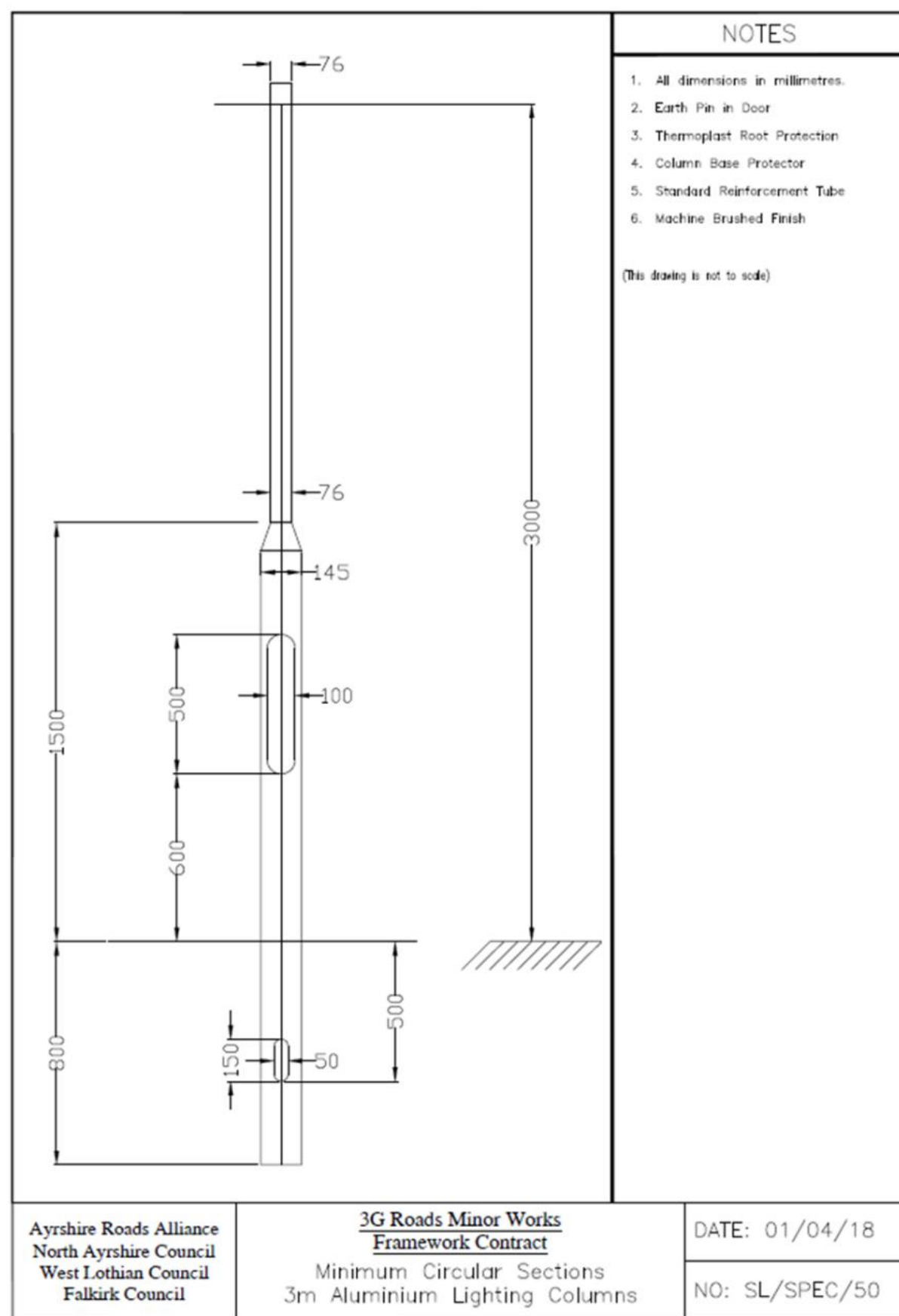


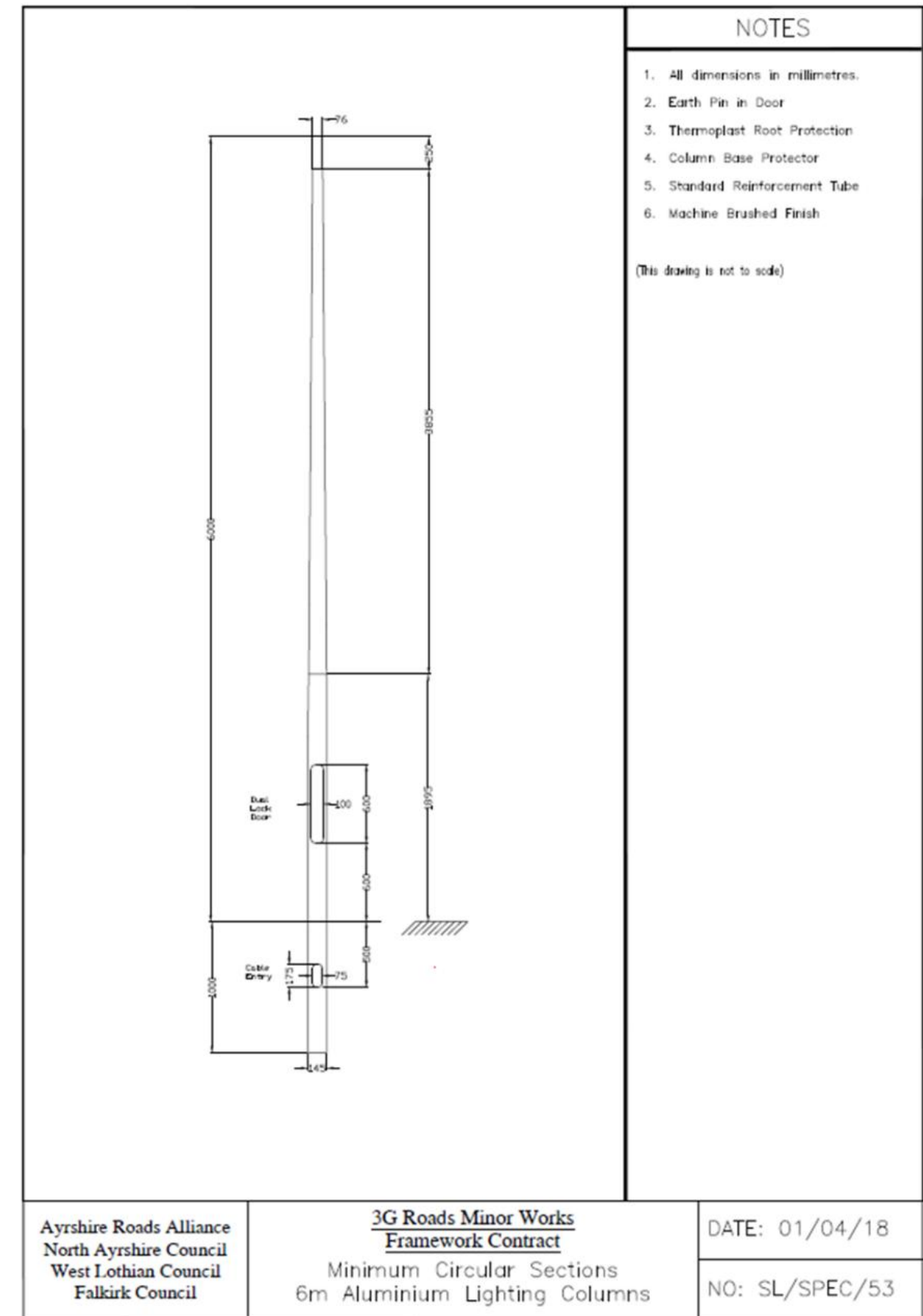
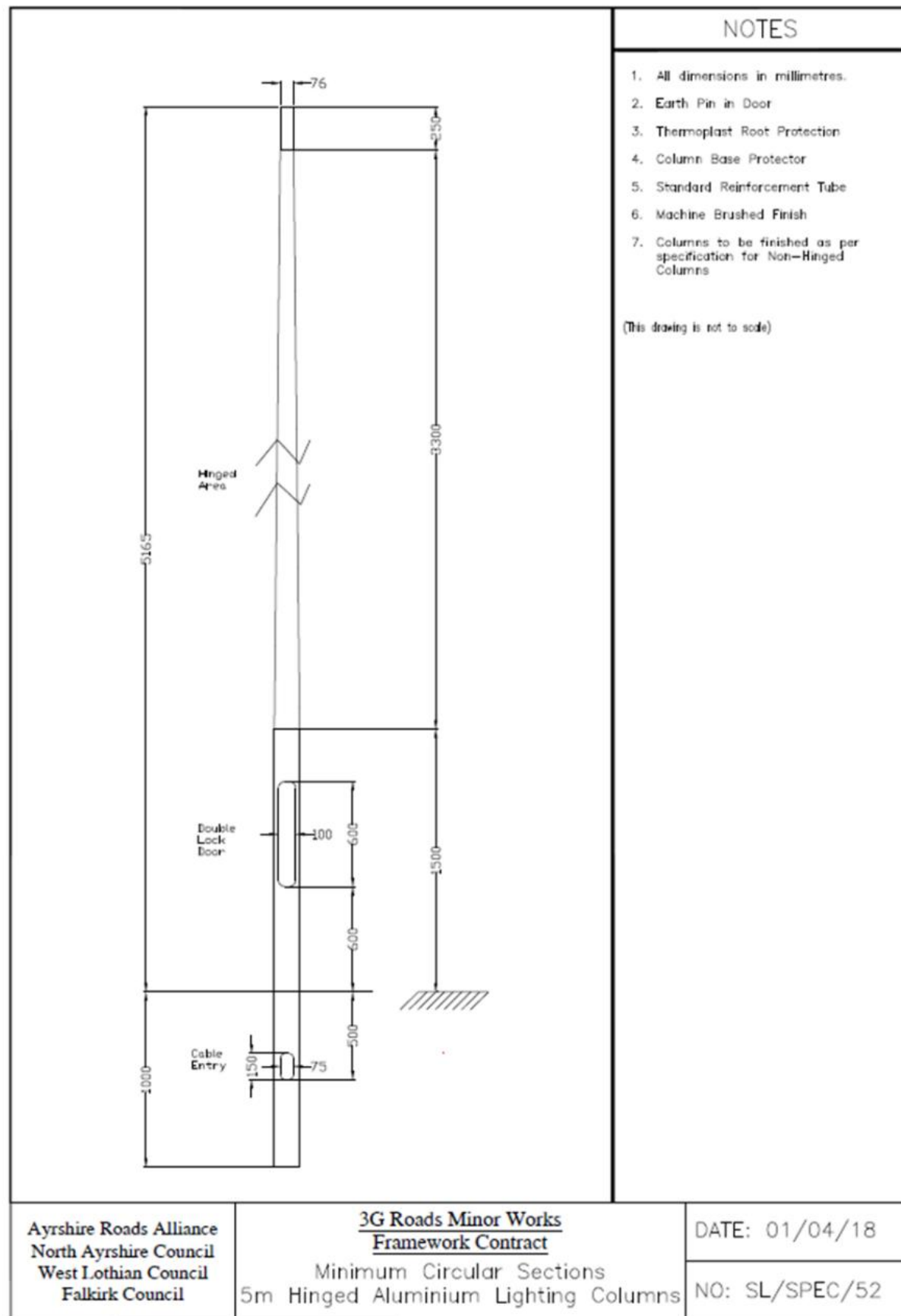


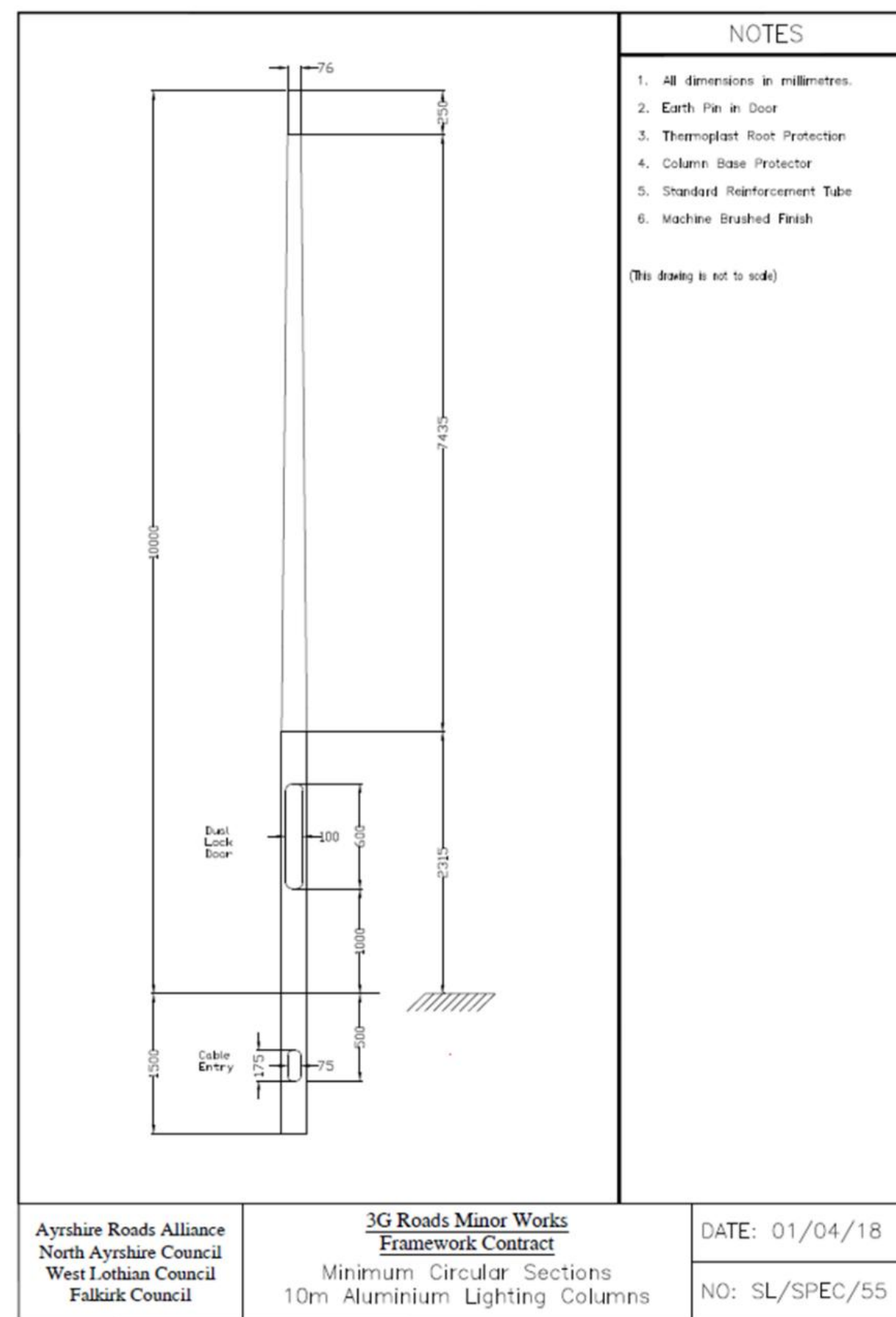
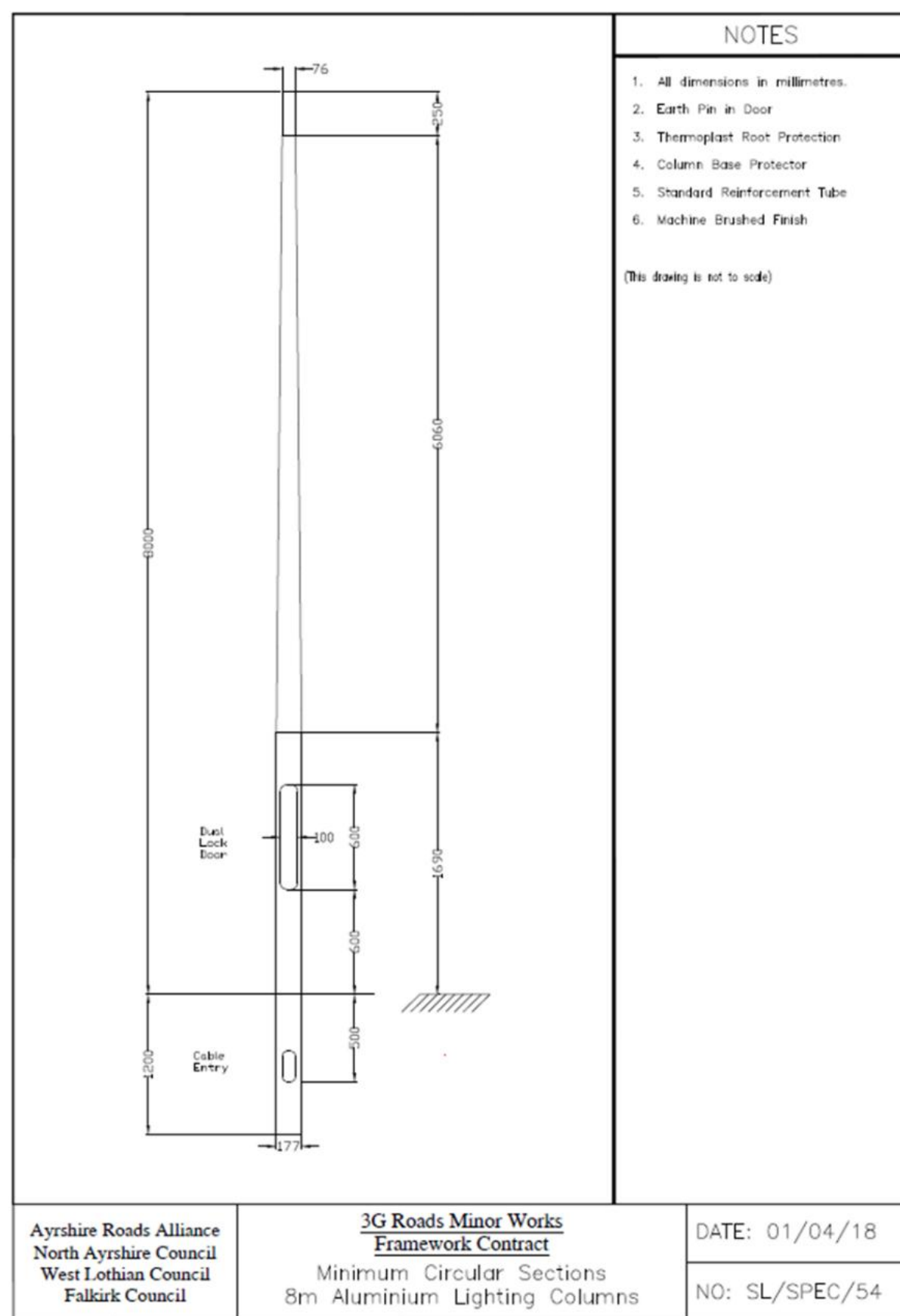


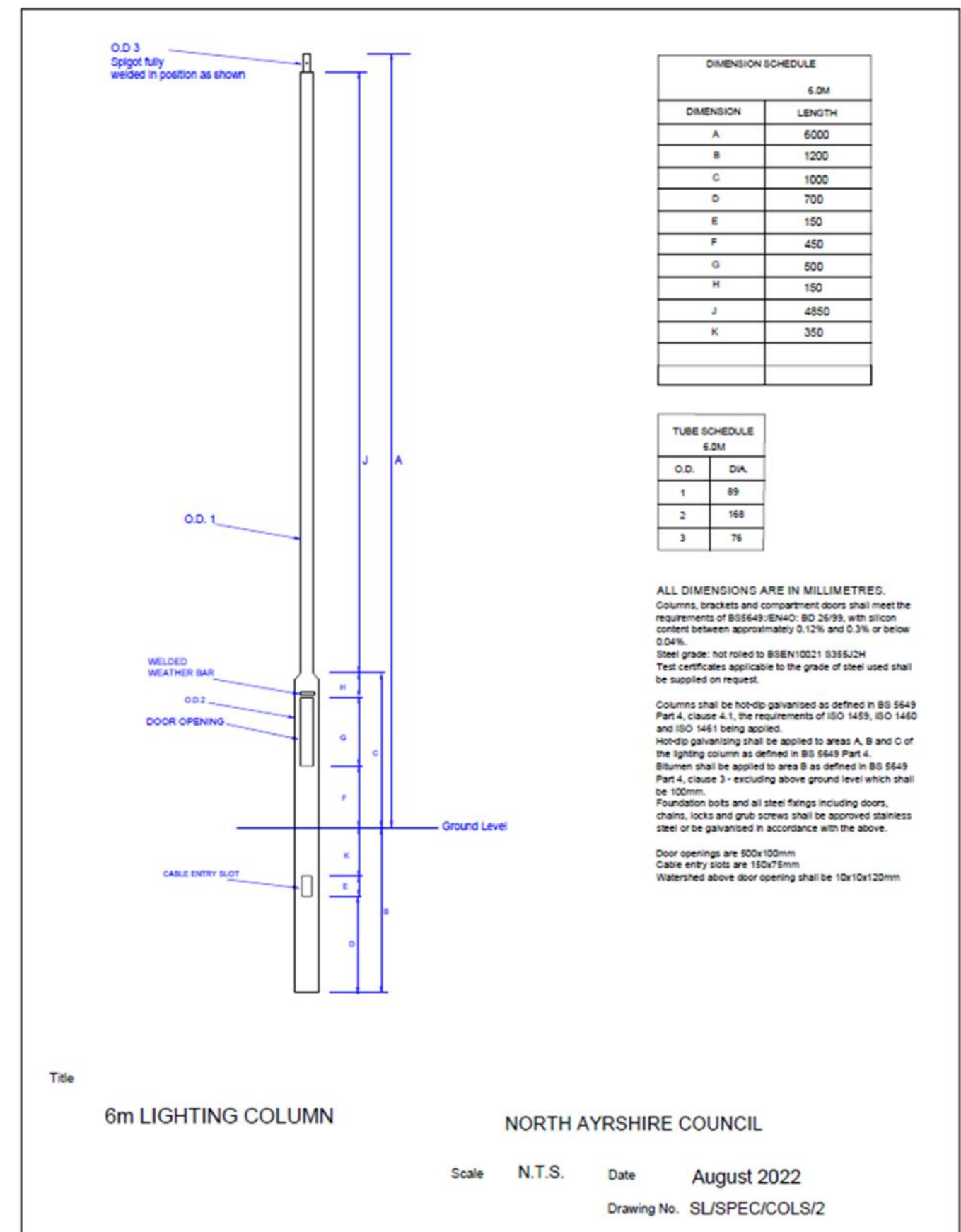
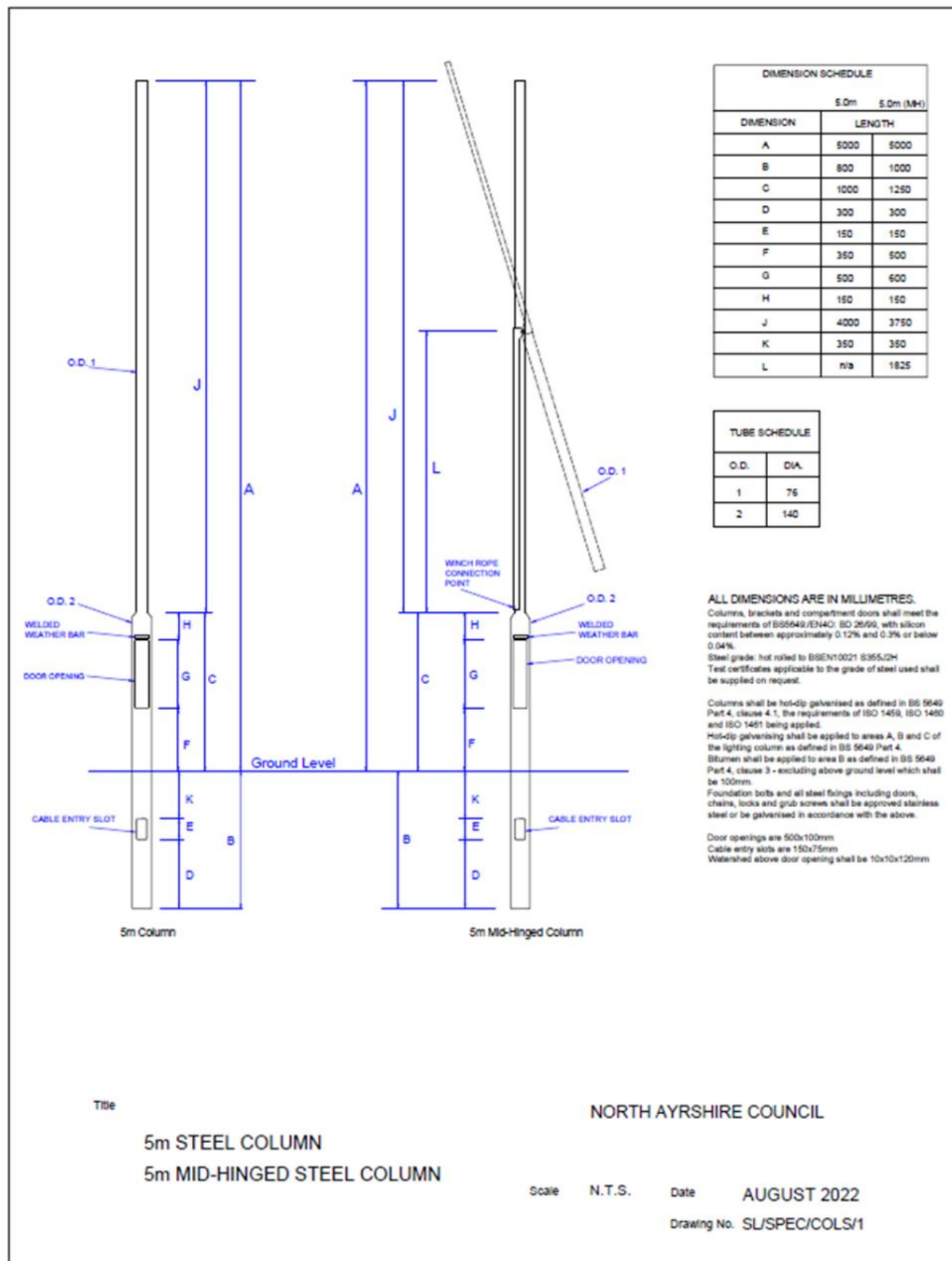








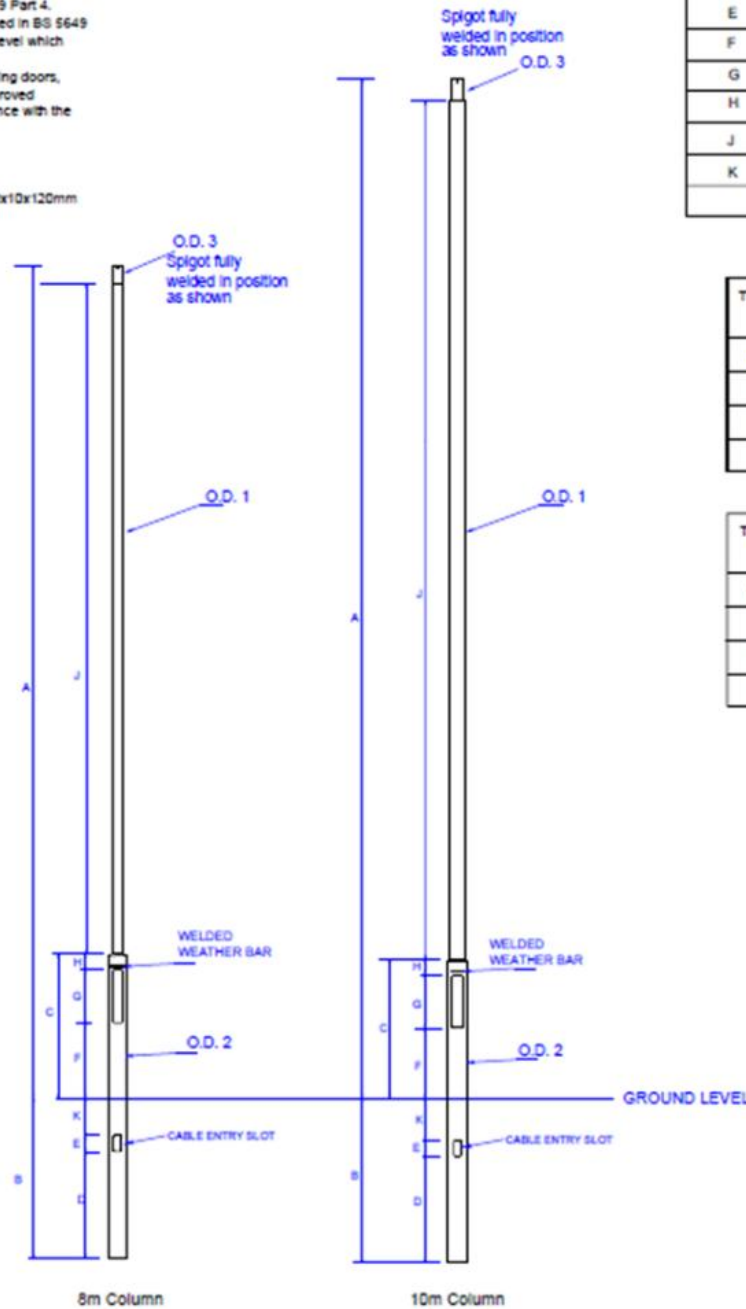




ALL DIMENSIONS ARE IN MILLIMETRES.
Columns, brackets and compartment doors shall meet the requirements of BS5649:EN40: BD 26/99, with silicon content between approximately 0.12% and 0.3% or below 0.04%.
Steel grade: hot rolled to BSEN10021 S355J2H
Test certificates applicable to the grade of steel used shall be supplied on request.

Columns shall be hot-dip galvanised as defined in BS 5649 Part 4, clause 4.1, the requirements of ISO 1459, ISO 1460 and ISO 1461 being applied.
Hot-dip galvanising shall be applied to areas A, B and C of the lighting column as defined in BS 5649 Part 4.
Bitumen shall be applied to area B as defined in BS 5649 Part 4, clause 3 - excluding above ground level which shall be 100mm.
Foundation bolts and all steel fixings including doors, chains, locks and grub screws shall be approved stainless steel or be galvanised in accordance with the above.

Door openings are 500x100mm
Cable entry slots are 150x75mm
Watershed above door opening shall be 10x10x120mm



DIMENSION SCHEDULE		
DIMENSION	LENGTH	
	8.0M	10.0M
A	8000	10000
B	1500	1500
C	1250	1250
D	1000	1000
E	150	150
F	600	500
G	500	500
H	150	150
J	6450	8400
K	350	350

TUBE SCHEDULE 8.0M		
O.D.	DIA.	
1	114	
2	168	
3	101	

TUBE SCHEDULE 10.0M		
O.D.	DIA.	
1	139	
2	193	
3	127	

Title
8m STEEL LIGHTING COLUMN
10m STEEL LIGHTING COLUMN
NORTH AYRSHIRE COUNCIL
Scale N.T.S. Date August 2022
Drawing No. SL/SPEC/COLS/3

ALL DIMENSIONS ARE IN MILLIMETRES.
Columns, brackets and compartment doors shall meet the requirements of BS5649:EN40: BD 26/99, with silicon content between approximately 0.12% and 0.3% or below 0.04%.
Steel grade: hot rolled to BSEN10021 S355J2H
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TUBE SCHEDULE 8.0M		
O.D.	DIA.	
1	114	
2	168	
3	101	

TUBE SCHEDULE 10.0M		
O.D.	DIA.	
1	139	
2	193	
3	127	

DIMENSION SCHEDULE		
DIMENSION	LENGTH	
	8.0M	10.0M
A	8000	10000
B	1500	1500
C	1250	1250
D	1000	1000
E	150	150
F	600	500
G	500	500
H	150	150
J	6450	8400
K	350	350

North Ayrshire Supplementary Street Design Guide

Appendix F – Standard Construction Details

Version 1: 2024



Version Control

Issue	Date	Nature of Change/Pages Affected
Version 1	xxxxxxx	Issue of Supplementary Street Development Guide



Contents

- 1.1 Introduction 2
- 1.2 Using the Standard Details 2
- 1.3 List of Standard Drawings 2

1.1 Introduction

North Ayrshire Council has produced a set of standard details that can be used in the submission of construction consents within North Ayrshire. Our standard construction details provide useful information for construction consent applications. These can either be duplicated for consents within the area or referenced in any submitted consent. The developer is responsible for ensuring that the standard details are relevant for their construction consent submission.

1.2 Using the Standard Details

If the standard details are copied into construction consent submissions, please add the following to the drawings.

“The standard details (Version ‘x’) within this submission are obtained from North Ayrshire Council’s standard details, with their permission. North Ayrshire Council disclaim all responsibility and accept no liability (including in negligence) for the consequences for any person using these standard details.”

1.3 List of Standard Drawings

No.	Code	Drawing No.	Title	Revision	Date
001	CD	NAC/001/CD	STANDARD FOOTWAY/CARRIAGEWAY CONSTRUCTION DEPTHS	C	30/05/24
Kerb Details					
101	HB1	NAC/101/HB1	PRECAST CONCRETE KERB TYPES - STANDARD 125x255mm HALF BATTER KERB (HB1)	A	19/08/19
102	SP1	NAC/102/SP1	PRECAST CONCRETE KERB TYPES - STANDARD 125x255mm SPLAYED KERB (SP1)	A	19/08/19
103	BN1 - 4	NAC/103/BNK	PRECAST CONCRETE KERB TYPES - STANDARD 125x255mm BULLNOSED KERB (Various Upstand)	A	19/08/19
104	BN5	NAC/104/BN5	PRECAST CONCRETE KERB TYPES -STANDARD 125x150mm BULLNOSED KERB (BN5)	A	19/08/19
105	CS	NAC/105/CS	PRECAST CONCRETE KERB TYPES - STANDARD 125x225mm SQUARE CHANNEL KERB (CS)	A	19/08/19
106	RT	NAC/106/RT	PRECAST CONCRETE KERB TYPES - STANDARD 50x150mm ROUND TOP EDGING KERB (RT)	A	19/08/19
107	FT	NAC/107/FT	PRECAST CONCRETE KERB TYPES - STANDARD 50x150mm FLAT TOP EDGING KERB (FT)	A	19/08/19
108	TR	NAC/108/TR	PRECAST CONCRETE KERB TYPES - STANDARD TRIEF KERB (TR)	A	19/08/19
Typical Sections					
201	FCA	NAC/201/FCA	STREET TYPE 1, 2 OR 3 WITH FOOTWAY (100mm kerb upstand)	B	30/05/24
202	FCB	NAC/202/FCB	STREET TYPE 3 OR 4 WITH FOOTWAY (30mm kerb upstand)	B	30/05/24
203	DM4	NAC/203/DM4	STREET TYPE 4 WITH DEMARCATION ZONE	B	30/05/24
204	SC4	NAC/204/SC4	STREET TYPE 4 WITH SERVICE STRIP (50mm kerb upstand)	C	30/05/24
205	DW2	NAC/205/DW2	STREET TYPE 1, 2 OR 3 AT DRIVEWAY/ACCESS	D	30/05/24
206	DW3	NAC/206/DW3	STREET TYPE 4 AT DRIVEWAY/ACCESS	D	30/05/24
207	SNA1	NAC/207/SNA1	STREET TYPE 1, 2 OR 3 - NO ADJACENT ADOPTABLE ASSET (100mm kerb upstand)	B	30/05/24
208	SNA2	NAC/208/SNA2	STREET TYPE 3 or 4 - NO ADJACENT ADOPTABLE ASSET (50mm kerb upstand)	B	30/05/24

209	SFT	NAC/209/SFT	TYPICAL STREET WITH GULLY AND ADJACENT FILTER TRENCH	B	09/06/21
210	RFP	NAC/210/RFP	TYPICAL FOOTPATH WITH FILTER TRENCH	A	20/08/19
211	OVR	NAC/211/OVR	BLOCK PAVED OVERRUN CONSTRUCTION DETAIL	B	02/05/24
212	TRCS	NAC/212/TRCS	TRANSITION FEATURE TO A TYPE 3 OR 4 STREET	C	19/09/24
213	PAR	NAC/213/PAR	STANDARD FOOTWAY/OFF STREET PARKING BAYS CONSTRUCTION	B	30/05/24
Utilities and Drainage					
301	SER	NAC/301/SER	RECOMMENDED POSITIONING OF UTILITY APPARATUS IN A 2 METRE FOOTWAY	A	20/08/19
302	GUL	NAC/302/GUL	PRECAST CONCRETE TRAPPED STREET GULLY - 450 mm NOMINAL BORE	A	20/08/19
303	MH1	NAC/303/MH1	TYPE B MANHOLE - MAXIMUM DEPTH 3 METRES (to be used within carriageway)	A	20/08/19
304	MH2	NAC/304/MH2	TYPE A MANHOLE - DEPTH 3 TO 6 METRES (to be used within carriageway)	A	20/08/19
305	CTP	NAC/305/CTP	CATCHPIT (to be used outwith carriageway)	A	20/08/19
306	ROD	NAC/306/ROD	RODDING EYE DETAIL	A	20/08/19
307	CPD	NAC/307/CPD	CARRIER PIPE DETAIL - PIPE BEDDING DETAIL	A	20/08/19
308	FLT1	NAC/308/FLT1	FILTER TRENCH CONSTRUCTION - SECTION	A	20/08/19
309	FLT2	NAC/309/FLT2	FILTER TRENCH CONSTRUCTION - PLAN	B	09/06/21
310	HCH	NAC/310/HCH	HYDROBRAKE CHAMBER	A	20/08/19
311	PS	NAC/311/PS	TYPICAL SECTION THROUGH POND MARGIN	A	21/08/19
312	PB	NAC/312/PB	TYPICAL SECTION THROUGH BASIN	A	21/08/19
313	PI	NAC/313/PI	DETENTION POND INLET HEADWALL DETAIL	A	21/08/19
314	PO	NAC/314/PO	DETENTION POND OUTLET HEADWALL DETAIL	A	21/08/19
315	PSG	NAC/315/PSG	DETENTION POND OUTFALL SAFETY GRILLE DETAIL	A	21/08/19
316	PPF	NAC/316/PPF	DETENTION POND/BASIN PERIMETER FENCE DETAIL	A	21/08/19
317	SWP	NAC/317/SWP	STANDARD WET SWALE/CARRIAGEWAY CONSTRUCTION	A	21/08/19
318	SWS	NAC/318/SWS	STANDARD WET SWALE/CARRIAGEWAY CONSTRUCTION	A	21/08/19
319	SDP	NAC/319/SDP	STANDARD DRY SWALE/CARRIAGEWAY CONSTRUCTION	A	21/08/19
320	SDS	NAC/320/SDS	STANDARD DRY SWALE/CARRIAGEWAY CONSTRUCTION	A	21/08/19
Footway					
401	TPS	NAC/401/TPS	TACTILE PAVING AT SIGNALS	A	21/08/19
402	TPC	NAC/402/TPC	TACTILE PAVING AT PEDESTRIAN CROSSING POINTS	A	21/08/19
403	BS	NAC/403/BS	STANDARD BUS STOP CONSTRUCTION	A	21/08/19

404	DW1	NAC/404/DW1	STANDARD PRIVATE DRIVEWAY ACCESS (FOOTWAY)	B	25/02/20
405	SMA	NAC/405/SMA	SINGLE MINOR COMMERCIAL ACCESS, HOUSING COURT OR CAR PARK UP TO 50 SPACES	A	21/08/19
406	MCA	NAC/406/MCA	MINOR COMMERCIAL ACCESS OR CAR PARK OVER 50 SPACES	A	21/08/19
407	MAC	NAC/407/MAC	MAJOR COMMERCIAL ACCESS	A	21/08/19
408	DWD	NAC/408/DWD	MINIMUM DRIVEWAY DIMENSIONS	A	21/08/19
409	PCR	NAC/409/PCR	DROPPED KERB DETAIL AT DESIGNATED PEDESTRIAN CROSSING	B	10/01/20
410	DW4	NAC/410/DW4	STANDARD PRIVATE DRIVEWAY ACCESS (SERVICE STRIP)	B	23/09/20
Miscellaneous					
501	CAP	NAC/501/CAP	CAPPING LAYER REQUIREMENTS: SUBJECT TO FROST SUSCEPTIBILITY	A	21/08/19
502	BOL	NAC/502/BOL	BOLLARD DETAIL	A	21/08/19
503	TRE	NAC/503/TRE	TREE PIT DETAIL WITH CONTAINMENT	A	21/08/19
504	SCJ	NAC/504/SCJ	STEPPED CARRIAGEWAY JOINT	B	02/05/24
505	POS	NAC/505/POS	SIGNPOST FOUNDATION DETAIL	A	21/08/19
506	SNP	NAC/506/SNP	STREET NAMEPLATE DETAIL	A	21/08/19

NOTES

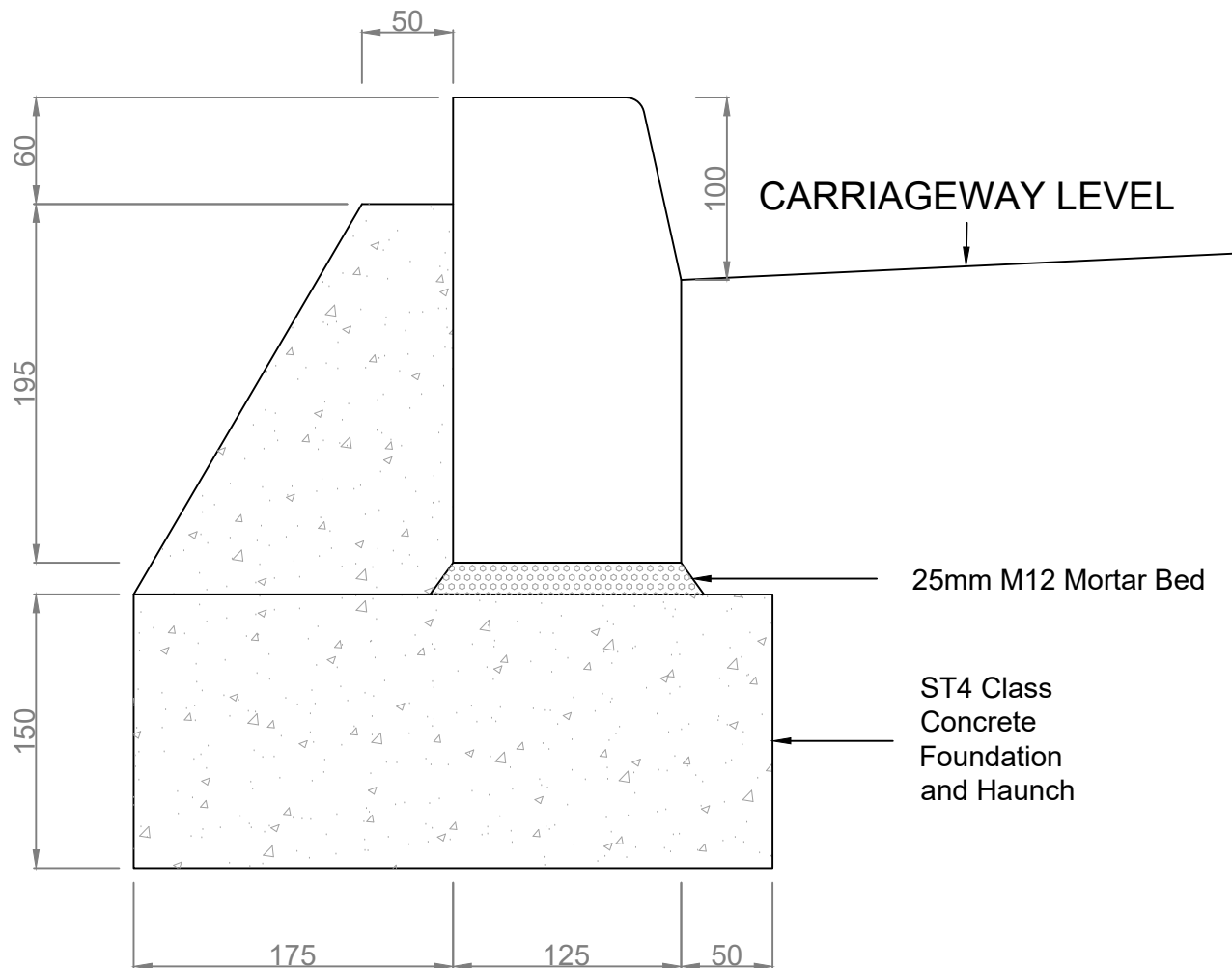
1. All dimensions in millimetres.
2. For construction works in Arran HRA should be substituted for the following:
HRA 30/14 to AC 10 close surf 100/150
HRA 15/10 to AC 6 close surf 100/150
3. Depending on CBR values a capping layer may be required. Refer to Drg. No. NAC/501/CAP.
4. Block Paving to be in accordance with BS 7533-101.

Carriageway Construction

Road Type	Sub-Base	Base Course	Binder Course	Surface Course
1 Connector Streets	300mm Granular Sub-base Type 1 (cl 803)	140mm Dense Base Course Asphalt Concrete Recipe Mixture (cl 906) (AC 32 Dense Base 100/150 rec)	60mm Dense Binder Course Asphalt Concrete Recipe Mixture (cl 906) (AC 20 Dense Bin 100/150 rec)	40mm Hot Rolled Asphalt Surface Course (Recipe Mixture) (cl 910) (HRA 30/14 F surf 40/60) Black 14/20mm Coated Chipping 40/60 PSV 60 (cl 915)
2 Local Residential Streets	300mm Granular Sub-base Type 1 (cl 803)	100mm Dense Base Course Asphalt Concrete Recipe Mixture (cl 906) (AC 32 Dense Base 100/150 rec)	60mm Dense Binder Course Asphalt Concrete Recipe Mixture (cl 906) (AC 20 Dense Bin 100/150 rec)	40mm Hot Rolled Asphalt Surface Course (Recipe Mixture) (cl 910) (HRA 30/14 F surf 40/60) Black 14/20mm Coated Chipping 40/60 PSV 60 (cl 915)
3 Residential Link Streets	300mm Granular Sub-base Type 1 (cl 803)	80mm Dense Base Course Asphalt Concrete Recipe Mixture (cl 906) (AC 32 Dense Base 100/150 rec)	50mm Dense Binder Course Asphalt Concrete Recipe Mixture (cl 906) (AC 20 Dense Bin 100/150 rec)	40mm Hot Rolled Asphalt Surface Course (Recipe Mixture) (cl 910) (HRA 30/14 F surf 40/60)
		130mm Dense Binder Course Asphalt Concrete Recipe Mixture (cl 906) (AC 20 dense bin 100/150 rec)		Red 14/20mm Uncoated Chipping 40/60 PSV 60 (cl 915)
4 (a) Shared Surface Streets	300mm Granular Sub-base Type 1 (cl 803)	80mm Dense Base Course Asphalt Concrete Recipe Mixture (cl 906) (AC 32 Dense Base 100/150 rec)	50mm Dense Binder Course Asphalt Concrete Recipe Mixture (cl 906) (AC 20 Dense Bin 100/150 rec)	40mm Hot Rolled Asphalt Surface Course (Recipe Mixture) (cl 910) (HRA 30/14 F surf 40/60)
		130mm Dense Binder Course Asphalt Concrete Recipe Mixture (cl 906) (AC 20 dense bin 100/150 rec)		Red 14/20mm Uncoated Chipping 40/60 PSV 60 (cl 915)
4 (b)	400mm Granular Sub-base Type 1 (cl 803)		50mm Bedding Layer of Sharp Sand or Crushed Rock (Appendix 7/1)	200 x 100 x 80mm Concrete Block Paving (cl 1043)

Footway/path, Cycle Track Construction

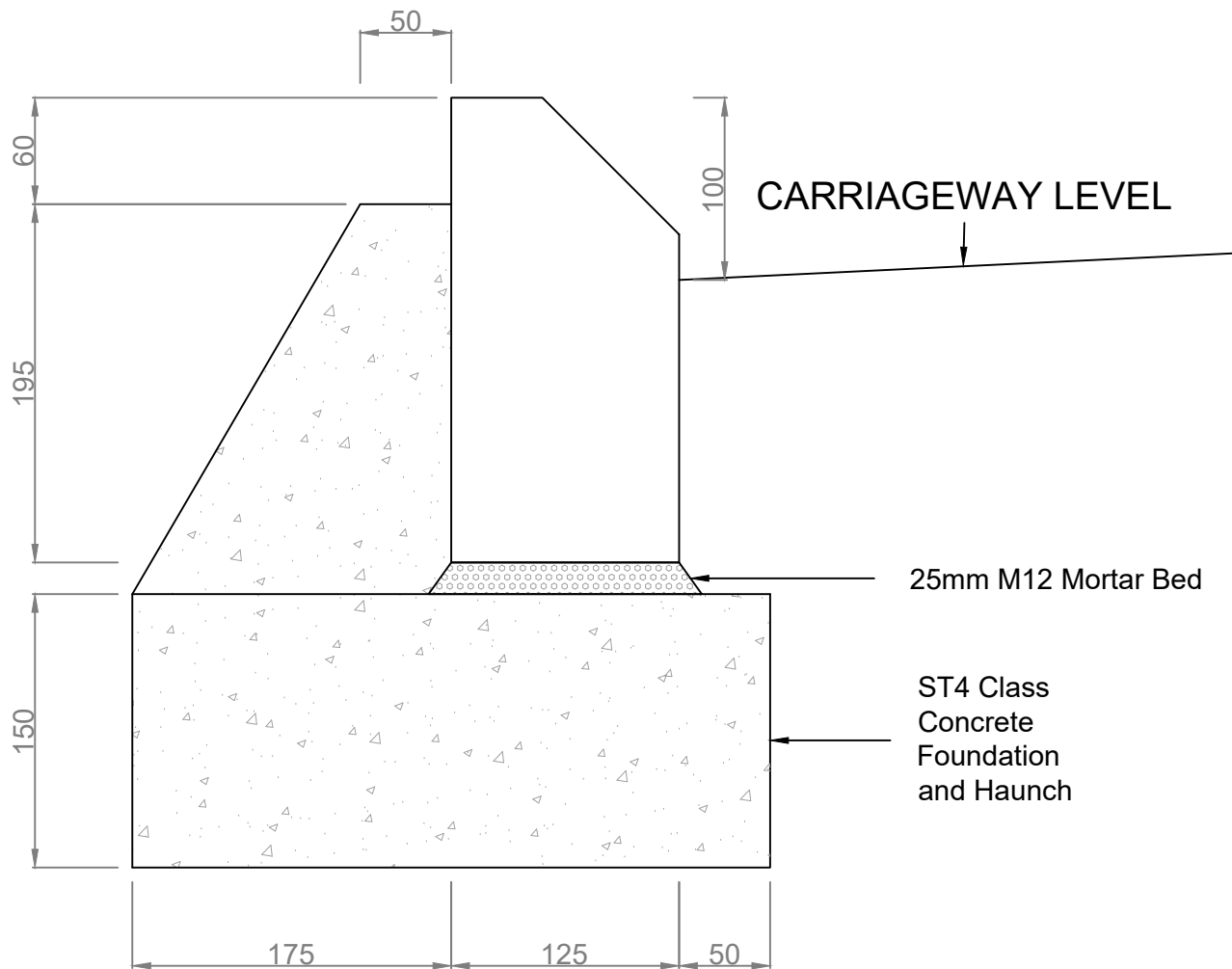
Type	Sub-Base	Binder Course	Surface Course
Flexible Surfacing (Urban)	150mm Granular Sub-base Type 1 (cl 803)	50mm Dense Binder Course Asphalt Concrete Recipe Mixture (cl 906) (AC 20 dense bin 100/150 rec)	30mm Hot Rolled Asphalt Surface Course Recipe Mixture (cl 910) (HRA 15/10 F surf 40/60) Prior To Compaction 6mm Or 10mm Limestone Chippings Shall Be Applied To The Surface At A Nominal Of 1 Kg/m ²
Flexible Surfacing (Rural)	200mm Granular Sub-base Type 1 (cl 803) or recycled suitable material (eg planings)	40mm Close Graded Asphalt Concrete (cl 912) (AC 14 close surf 100/150)	25mm Hot Rolled Asphalt Surface Course Recipe Mixture (cl 910) (HRA 15/10 F surf 40/60) Prior To Compaction 6mm Or 10mm Limestone Chippings Shall Be Applied To The Surface At A Nominal Of 1 Kg/m ² or subject to the agreement of NAC 25mm Close Graded Asphalt Concrete Surface Course (cl 912) (AC 10 close surf 100/150)
		Combined 50mm Close Graded Asphalt Concrete Surface course (cl 912) (AC 10 close surf 100/150)	
Block Paving or Paviers	150mm Granular Sub-base Type 1 (cl 803)	40±10 mm Bedding Layer of Sharp Sand or Crushed Rock Fines (Appendix 11/1)	200 x 100 x 65mm thick Rectangular Concrete Block Paving (cl 11 07) or Concrete Pavers (cl 1107)



NOTES

1. All dimensions in millimetres. (This drawing is not to scale)
2. Kerb details to comply with BS EN 1340.
3. Standard Kerb size 125mm x 255mm
4. Standard Kerb upstand 100mm or otherwise directed
5. Kerbs to be hydraulically pressed.
6. Kerb foundation and haunch to be concrete class ST4, 30 slump. Foundation slump may be reduced if kerbs laid wet.
7. Kerbs to be laid and bedded on a layer of M12 mortar not less than 10mm and not more than 40mm thick. Alternatively, kerbs may be laid directly on newly placed concrete foundation.
8. All kerbs to be abutted, except kerbs laid to a radius of less than 40m, which shall be laid with an average gap of 6mm and pointed with M12 mortar.
9. For curves of radius 12m or less, kerbs of appropriate radius shall be used as per BS EN 1340.

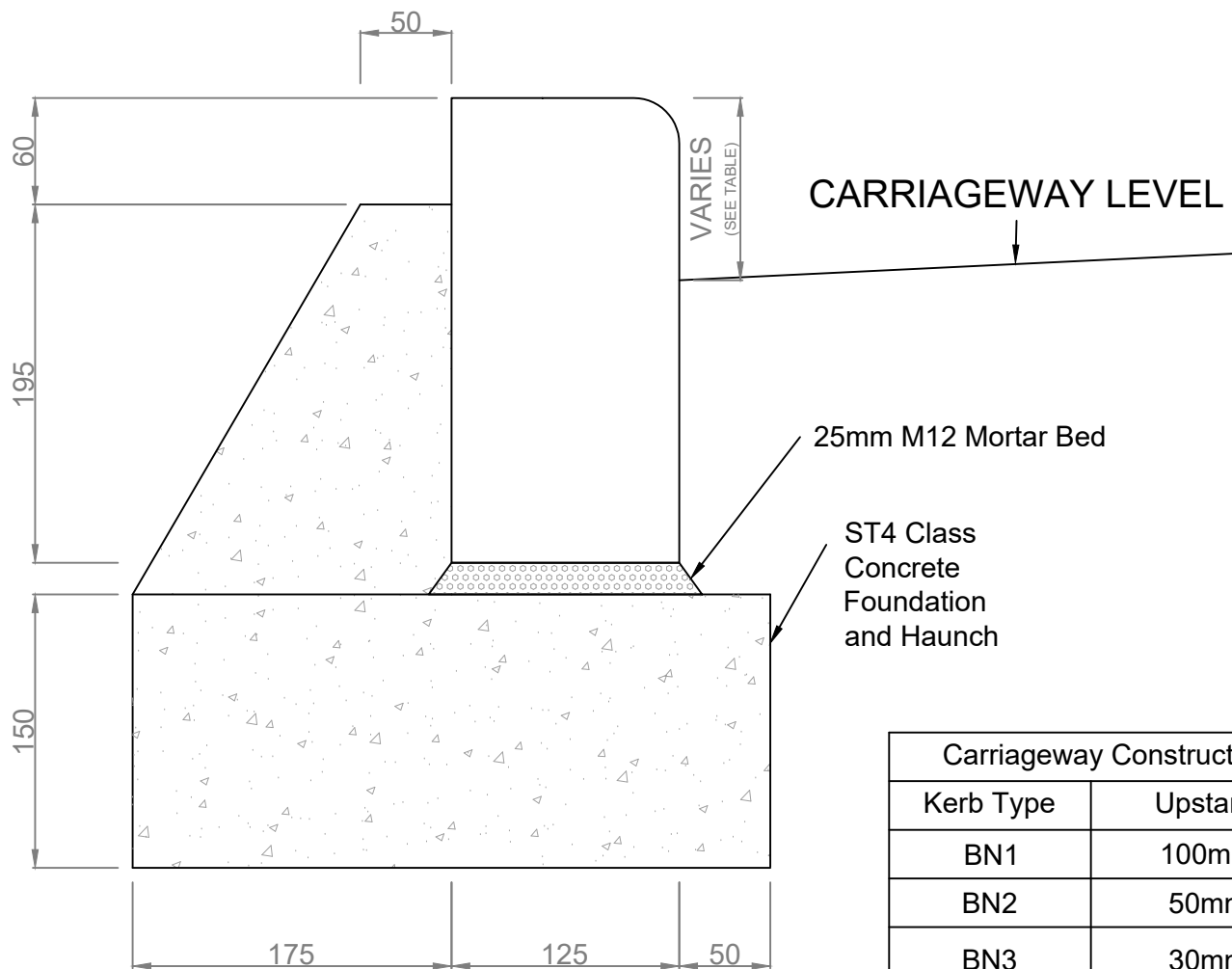
(This drawing is not to scale)



NOTES

1. All dimensions in millimetres. (This drawing is not to scale)
2. Kerb details to comply with BS EN 1340.
3. Standard Kerb size 125mm x 255mm
4. Standard Kerb upstand 100mm or otherwise directed
5. Kerbs to be hydraulically pressed.
6. Kerb foundation and haunch to be concrete class ST4, 30 slump. Foundation slump may be reduced if kerbs laid wet.
7. Kerbs to be laid and bedded on a layer of M12 mortar not less than 10mm and not more than 40mm thick. Alternatively, kerbs may be laid directly on newly placed concrete foundation.
8. All kerbs to be abutted, except kerbs laid to a radius of less than 40m, which shall be laid with an average gap of 6mm and pointed with M12 mortar.
9. For curves of radius 12m or less, kerbs of appropriate radius shall be used as per BS EN 1340.

(This drawing is not to scale)



25mm M12 Mortar Bed

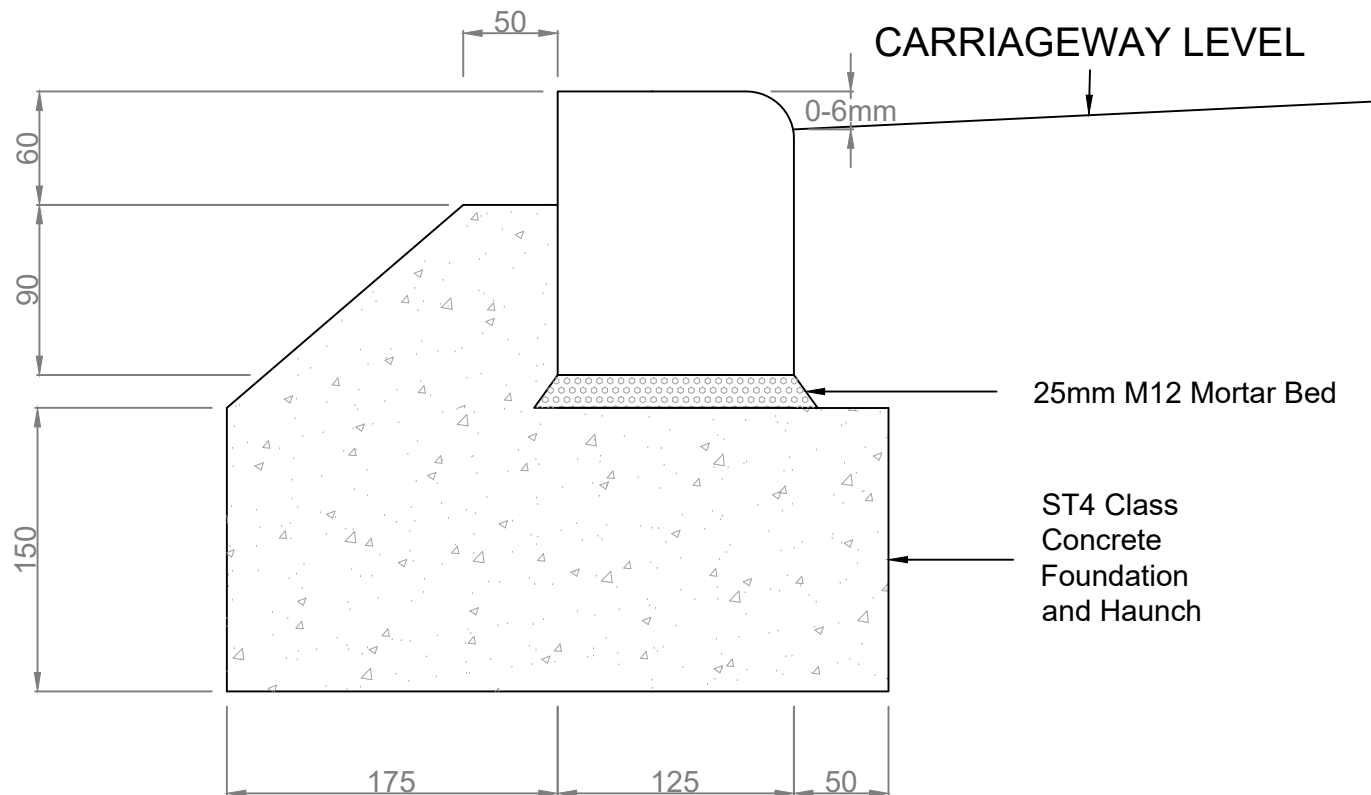
ST4 Class
Concrete
Foundation
and Haunch

Carriageway Construction	
Kerb Type	Upstand
BN1	100mm
BN2	50mm
BN3	30mm
BN4	20mm
BN5	See NAC/104/BN5

NOTES

1. All dimensions in millimetres. (This drawing is not to scale)
2. Kerb details to comply with BS EN 1340.
3. Standard Kerb size 125mm x 255mm
4. Kerb upstand to be noted using Type Reference from the table shown
5. Kerbs to be hydraulically pressed.
6. Kerb foundation and haunch to be concrete class ST4, 30 slump. Foundation slump may be reduced if kerbs laid wet.
7. Kerbs to be laid and bedded on a layer of M12 mortar not less than 10mm and not more than 40mm thick. Alternatively, kerbs may be laid directly on newly placed concrete foundation.
8. All kerbs to be abutted, except kerbs laid to a radius of less than 40m, which shall be laid with an average gap of 6mm and pointed with M12 mortar.
9. For curves of radius 12m or less, kerbs of appropriate radius shall be used as per BS EN 1340.

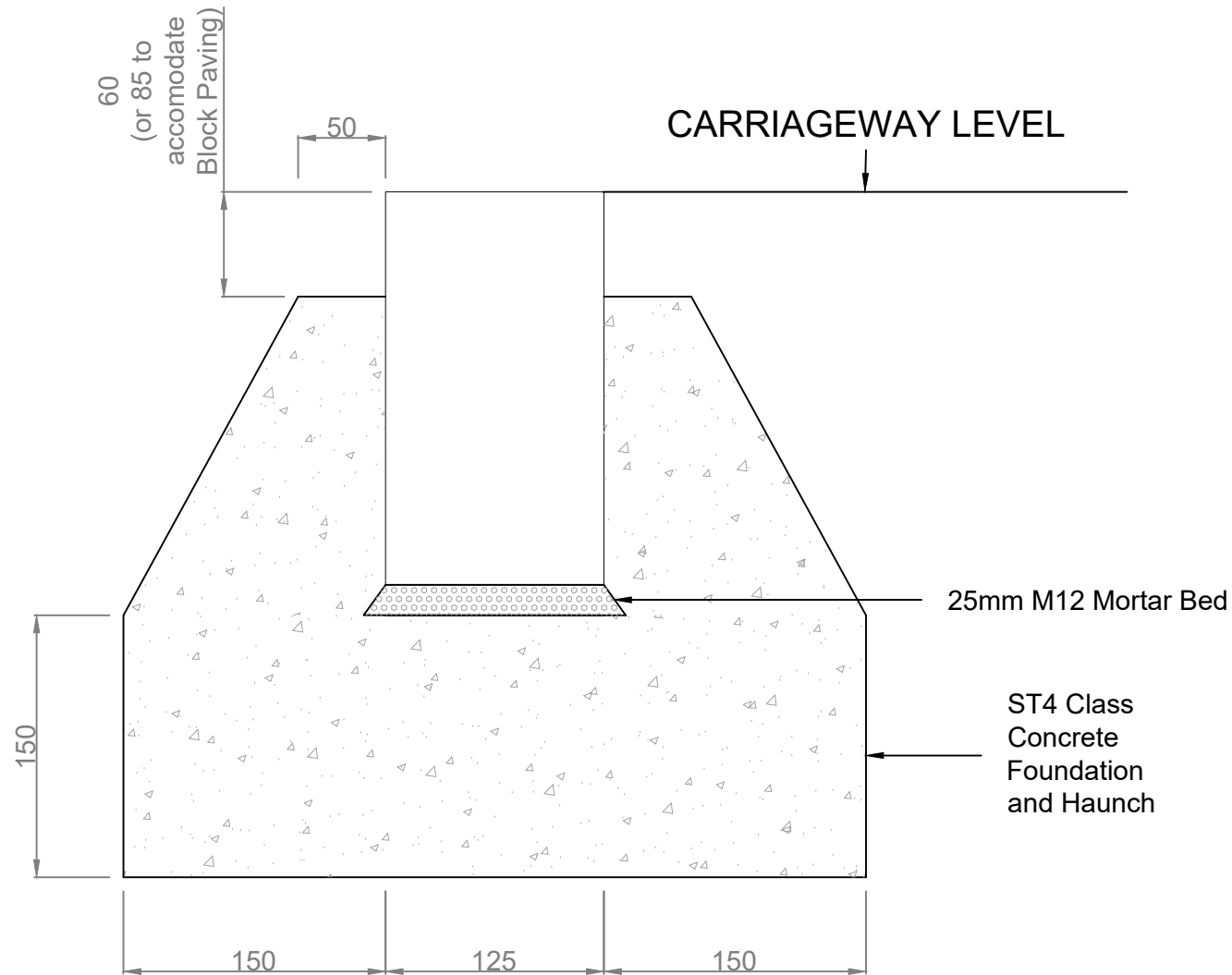
(This drawing is not to scale)



NOTES

1. All dimensions in millimetres. (This drawing is not to scale)
2. Kerb details to comply with BS EN 1340.
3. Standard Kerb size 125mm x 150mm
4. Standard Kerb upstand 0-6mm at Pedestrian Crossing
5. Kerbs to be hydraulically pressed.
6. Kerb foundation and haunch to be concrete class ST4, 30 slump. Foundation slump may be reduced if kerbs laid wet.
7. Kerbs to be laid and bedded on a layer of M12 mortar not less than 10mm and not more than 40mm thick. Alternatively, kerbs may be laid directly on newly placed concrete foundation.
8. All kerbs to be abutted, except kerbs laid to a radius of less than 40m, which shall be laid with an average gap of 6mm and pointed with M12 mortar.
9. For curves of radius 12m or less, kerbs of appropriate radius shall be used as per BS EN 1340.

(This drawing is not to scale)



NOTES

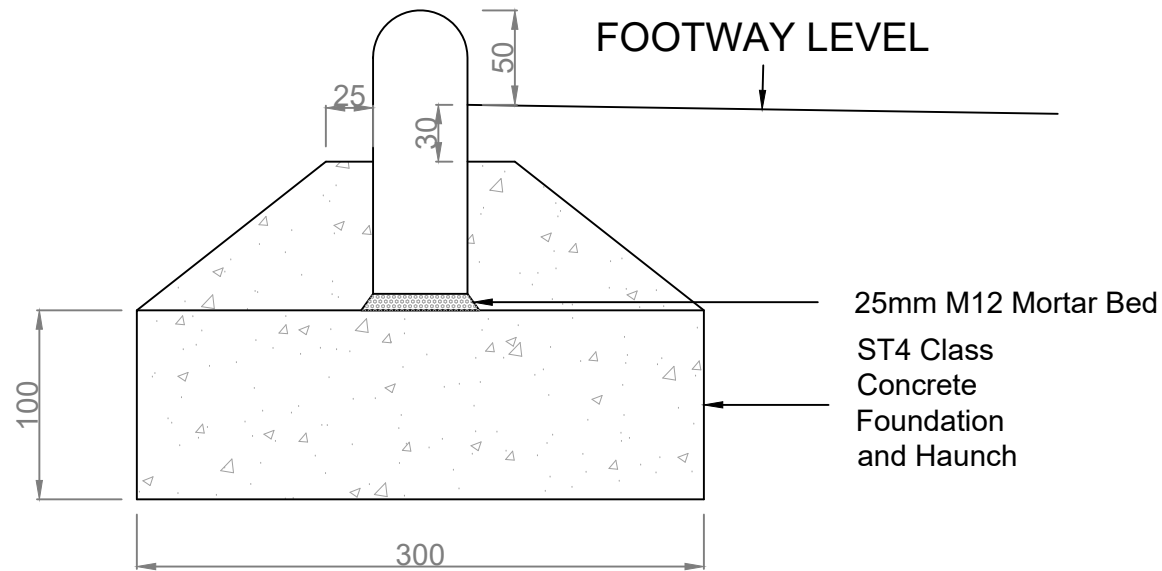
1. All dimensions in millimetres. (This drawing is not to scale)
2. Kerb details to comply with BS EN 1340.
3. Standard Kerb size 125mm x 225mm
4. Standard Kerb upstand 0mm or otherwise directed
5. Kerbs to be hydraulically pressed.
6. Kerb foundation and haunch to be concrete class ST4, 30 slump. Foundation slump may be reduced if kerbs laid wet.
7. Kerbs to be laid and bedded on a layer of M12 mortar not less than 10mm and not more than 40mm thick. Alternatively, kerbs may be laid directly on newly placed concrete foundation.
8. All kerbs to be abutted, except kerbs laid to a radius of less than 40m, which shall be laid with an average gap of 6mm and pointed with M12 mortar.
9. For curves of radius 12m or less, kerbs of appropriate radius shall be used as per BS EN 1340.

(This drawing is not to scale)

NOTES

1. All dimensions in millimetres. (This drawing is not to scale)
2. Kerb details to comply with BS EN 1340.
3. Standard Edging Kerb size 50mm x 150mm
4. Standard Kerb upstand 50mm or otherwise directed
5. Kerbs to be hydraulically pressed.
6. Kerb foundation and haunch to be concrete class ST4, 30 slump. Foundation slump may be reduced if kerbs laid wet.
7. Kerbs to be laid and bedded on a layer of M12 mortar not less than 10mm and not more than 40mm thick. Alternatively, kerbs may be laid directly on newly placed concrete foundation.
8. All kerbs to be abutted, except kerbs laid to a radius of less than 40m, which shall be laid with an average gap of 6mm and pointed with M12 mortar.
9. For curves of radius 12m or less, kerbs of appropriate radius shall be used as per BS EN 1340.

(This drawing is not to scale)



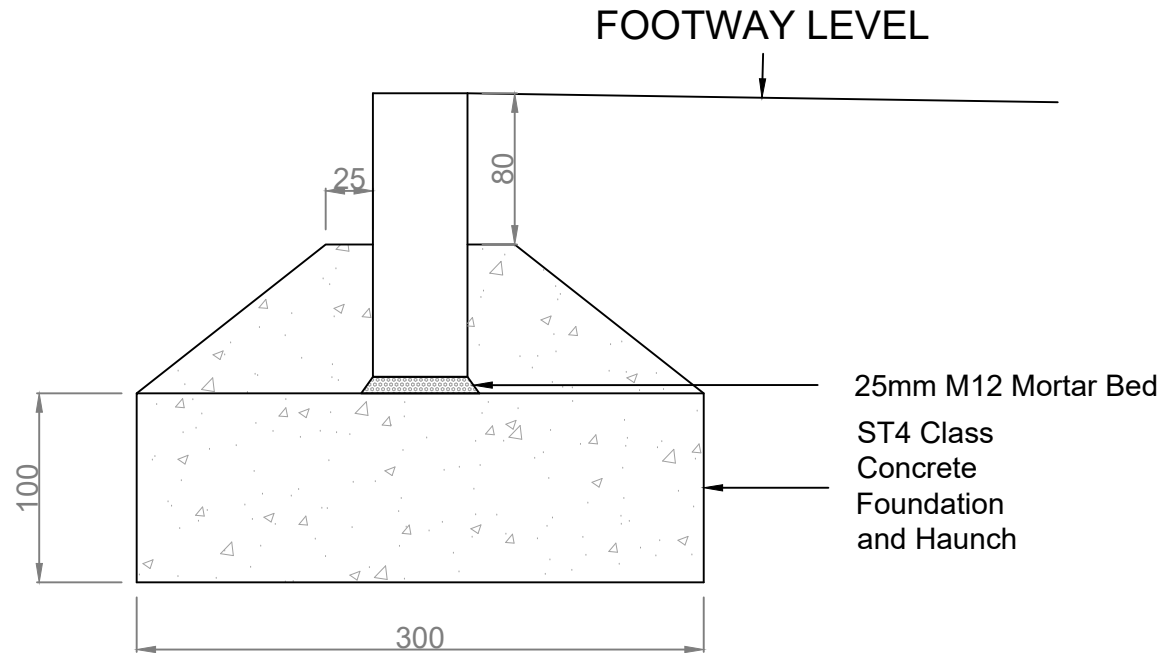
PRECAST CONCRETE KERB TYPES STANDARD 50x150mm ROUND TOP EDGING KERB (RT)

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NOTES

1. All dimensions in millimetres. (This drawing is not to scale)
2. Kerb details to comply with BS EN 1340.
3. Standard Edging Kerb size 50mm x 150mm
4. Standard Kerb upstand 0mm or otherwise directed
5. Kerbs to be hydraulically pressed.
6. Kerb foundation and haunch to be concrete class ST4, 30 slump. Foundation slump may be reduced if kerbs laid wet.
7. Kerbs to be laid and bedded on a layer of M12 mortar not less than 10mm and not more than 40mm thick. Alternatively, kerbs may be laid directly on newly placed concrete foundation.
8. All kerbs to be abutted, except kerbs laid to a radius of less than 40m, which shall be laid with an average gap of 6mm and pointed with M12 mortar.
9. For curves of radius 12m or less, kerbs of appropriate radius shall be used as per BS EN 1340.

(This drawing is not to scale)



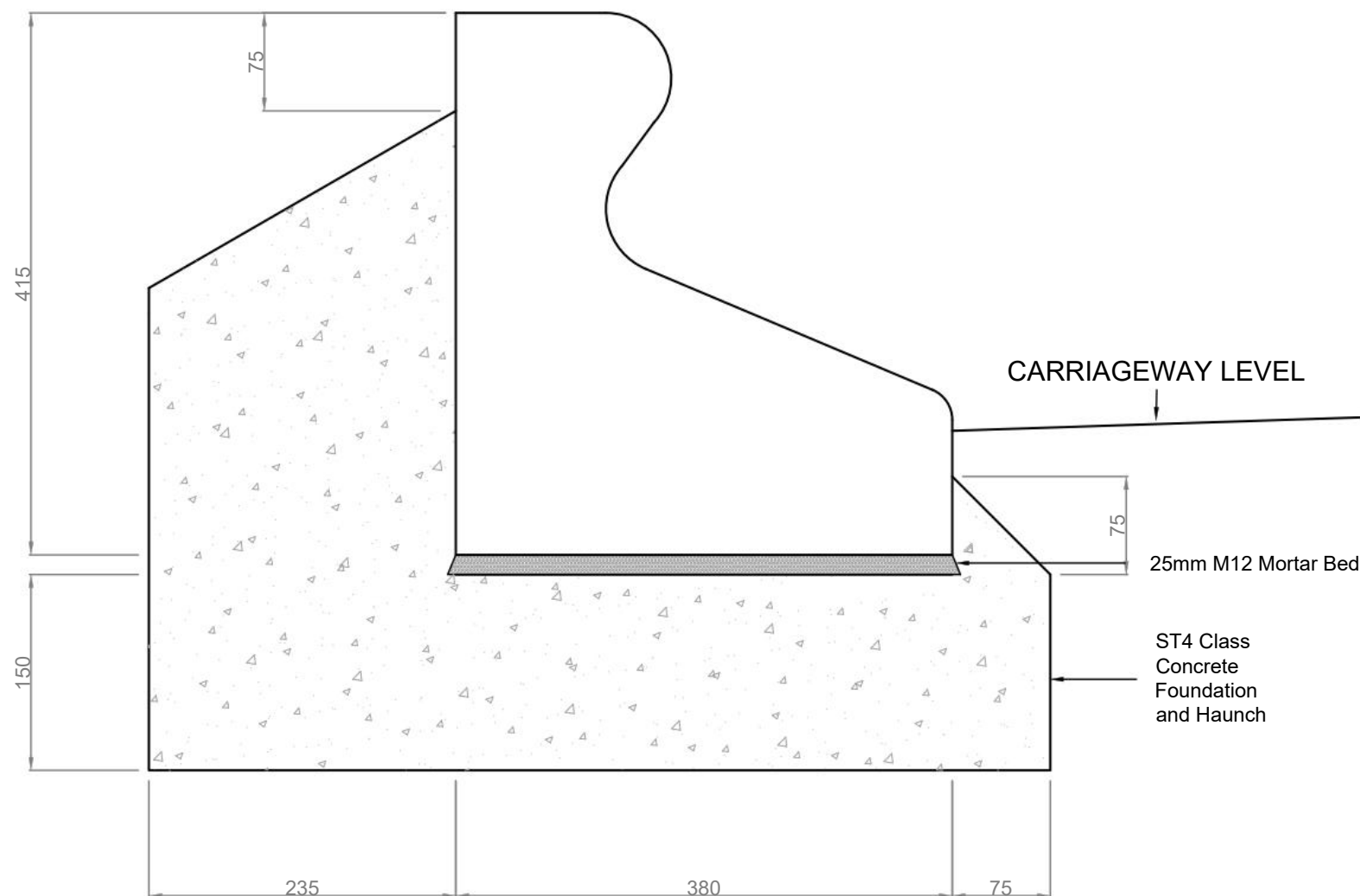
PRECAST CONCRETE KERB TYPES STANDARD 50x150mm FLAT TOP EDGING KERB (FT)

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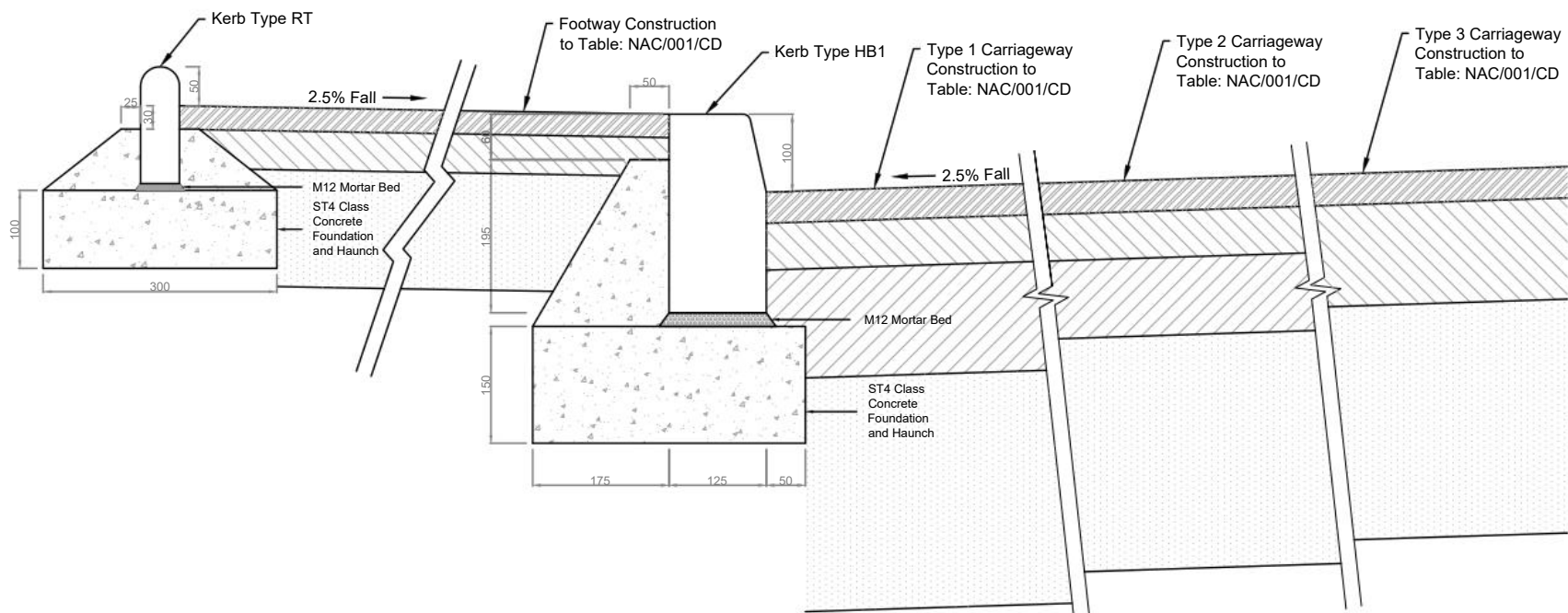
NOTES





1. All dimensions in millimetres. (This drawing is not to scale)
2. Kerb details to comply with BS EN 1340.
3. Kerbs to be hydraulically pressed.
4. Kerb foundation and haunch to be concrete class ST4, 30 slump. Foundation slump may be reduced if kerbs laid wet.
5. Kerbs to be laid and bedded on a layer of M12 mortar not less than 10mm and not more than 40mm thick. Alternatively, kerbs may be laid directly on newly placed concrete foundation.
6. All kerbs to be abutted, except kerbs laid to a radius of less than 40m, which shall be laid with an average gap of 6mm and pointed with M12 mortar.
7. For curves of radius 12m or less, kerbs of appropriate radius shall be used as per BS EN 1340.

(This drawing is not to scale)



PRECAST CONCRETE KERB TYPES STANDARD TRIEF KERB (TR)



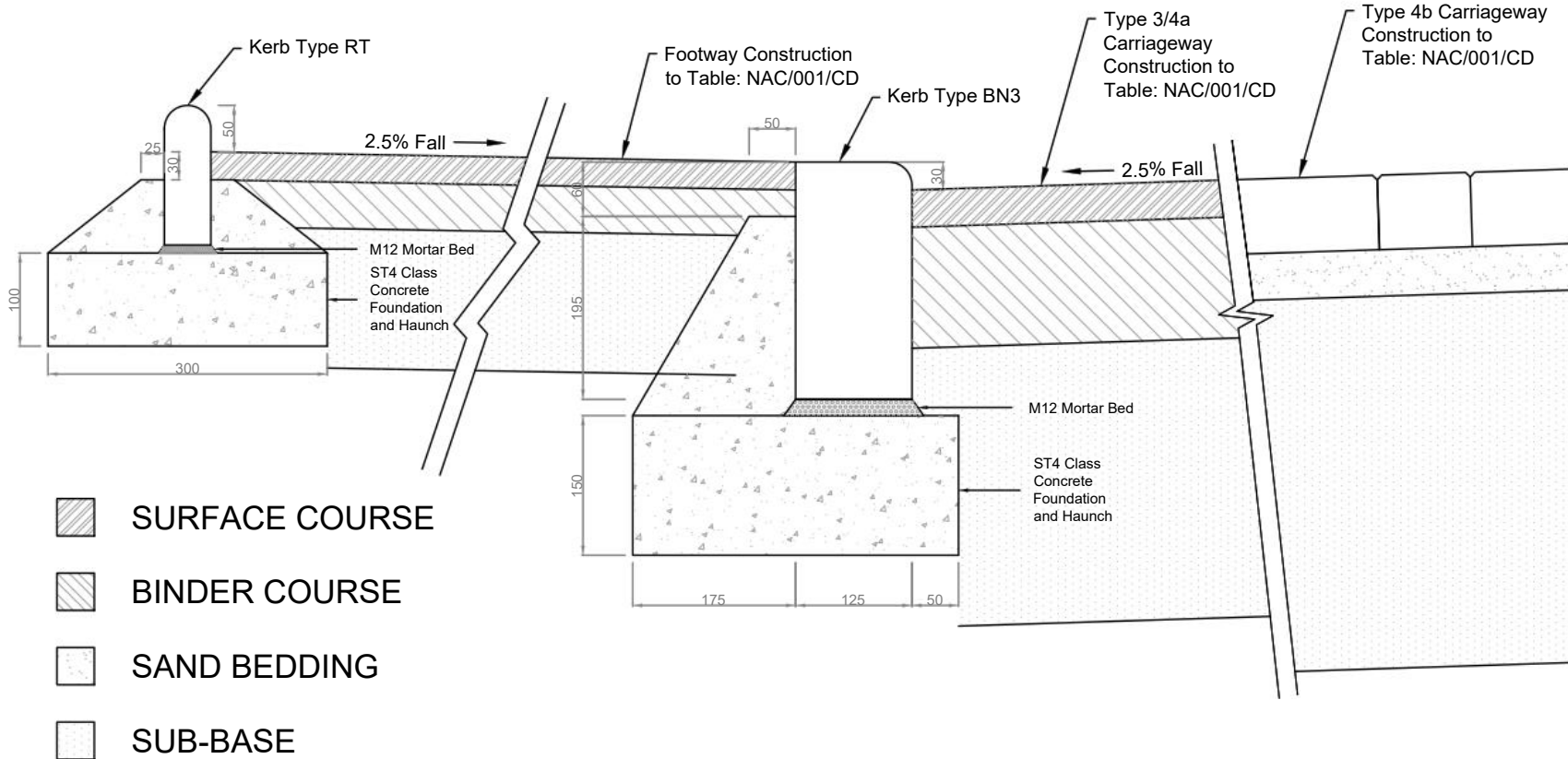
-  SURFACE COURSE
-  BINDER COURSE
-  BASE COURSE
-  SUB-BASE

Carriageway Construction					
Road Type		Sub-Base	Base Course	Binder Course	Surface Course
1	Connector Streets	300mm Granular Sub-base Type 1 (cl 803)	140mm Dense Base Course Asphalt Concrete (Recipe Mixture (cl 906), (AC 32 dense base 100/150 rec)	60mm Dense Binder Course Asphalt Concrete (Recipe Mixture) (cl 906), (AC 20 dense bin 100/150 rec)	40mm Hot Rolled Asphalt Surface Course (Recipe Mixture) (cl 910), (HRA 30/14 F surf 40/60) with Black 14/20mm Coated Chipping 40/60 PSV 60 (cl 915)
2	Local Residential Streets	300mm Granular Sub-base Type 1 (cl 803)	100mm Dense Base Course Asphalt Concrete (Recipe Mixture (cl 906), (AC 32 dense base 100/150 rec)	60mm Dense Binder Course Asphalt Concrete (Recipe Mixture) (cl 906), (AC 20 dense bin 100/150 rec)	40mm Hot Rolled Asphalt Surface Course (Recipe Mixture) (cl 910), (HRA 30/14 F surf 40/60) with Black 14/20mm Coated Chipping 40/60 PSV 60 (cl 915)
3	Residential Link Streets	300mm Granular Sub-base Type 1 (cl 803)	80mm Dense Base Course Asphalt Concrete (Recipe Mixture (cl 906), (AC 32 dense base 100/150 rec)	50mm Dense Binder Course Asphalt Concrete (Recipe Mixture) (cl 906), (AC 20 dense bin 100/150 rec)	40mm Hot Rolled Asphalt Surface Course (Recipe Mixture) (cl 910), (HRA 30/14 F surf 40/60) with Red 14/20mm Uncoated Chipping 40/60 PSV 60 (cl 915)
			130mm Dense Binder Course Asphalt Concrete (Recipe Mixture) (cl 906), (AC 20 dense bin 100/150 rec)		

NOTES

- All dimensions in millimetres. (This drawing is not to scale)
- New Kerbing details to comply with drawing as stated
- Full Construction Information for Carriageway to Table NAC/001/CD
- Full Construction Information for Footway to Table NAC/001/CD

(This drawing is not to scale)



NOTES

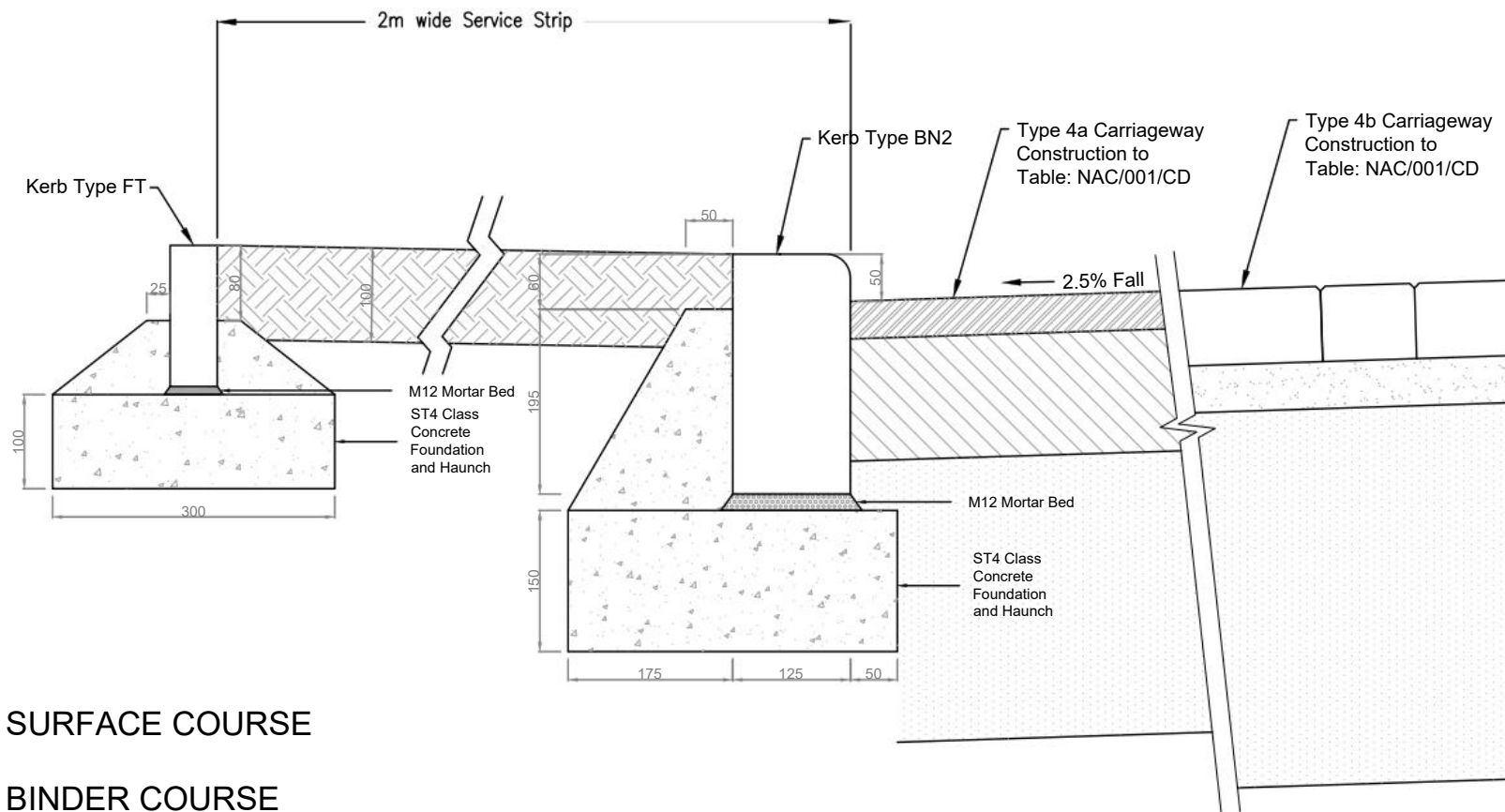
1. All dimensions in millimetres. (This drawing is not to scale)
2. New Kerbing details to comply with drawing as stated
3. Full Construction Information for Carriageway to Table NAC/001/CD
4. Full Construction Information for Footway to Table NAC/001/CD






(This drawing is not to scale)

Carriageway Construction				
Road Type		Sub-Base	Base Course	Surface Course
3	Residential Link Streets	300mm Granular Sub-base Type 1 (cl 803)	80mm Dense Base Course Asphalt Concrete (Recipe Mixture (cl 906), (AC 32 dense base 100/150 rec)	40mm Hot Rolled Asphalt Surface Course (Recipe Mixture) (cl 910), (HRA 30/14 F surf 40/60) with Red 14/20mm Uncoated Chipping 40/60 PSV 60 (cl 915)
			130mm Dense Binder Course Asphalt Concrete (Recipe Mixture) (cl 906), (AC 20 dense bin 100/150 rec)	
4 (a)	Shared Surface Streets	300mm Granular Sub-base Type 1 (cl 803)	80mm Dense Base Course Asphalt Concrete (Recipe Mixture (cl 906), (AC 32 dense base 100/150 rec)	40mm Hot Rolled Asphalt Surface Course (Recipe Mixture) (cl 910), (HRA 30/14 F surf 40/60) with Red 14/20mm Uncoated Chipping 40/60 PSV 60 (cl 915)
			130mm Dense Binder Course Asphalt Concrete (Recipe Mixture) (cl 906), (AC 20 dense bin 100/150 rec)	
4 (b)		400mm Granular Sub-base Type 1 (cl 803)	50mm Bedding Layer of Sharp Sand or Crushed Rock (Appendix 7/1)	200 x 100 x 80mm thick Concrete Rectangular Block Paving (cl 1043)

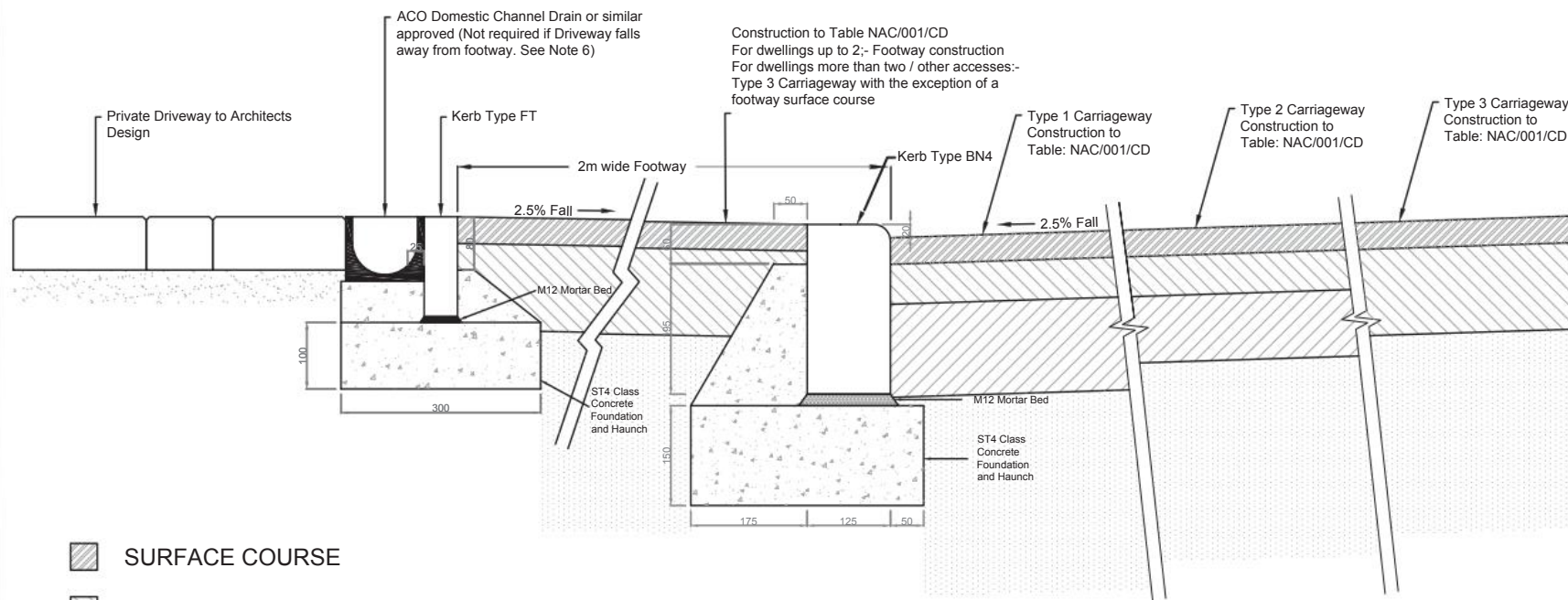
NOTES





1. All dimensions in millimetres. (This drawing is not to scale)
 2. New Kerbing details to comply with drawing as stated
 3. Full Construction Information for Carriageway to Table NAC/001/CD
- (This drawing is not to scale)



-  SURFACE COURSE
-  BINDER COURSE
-  SAND BEDDING
-  SUB-BASE
-  TOP SOIL & GRASS SEED

Carriageway Construction					
Road Type		Sub-Base	Base Course	Binder Course	Surface Course
4 (a)	Shared Surface Streets	300mm Granular Sub-base Type 1 (cl 803)	80mm Dense Base Course Asphalt Concrete (Recipe Mixture (cl 906), (AC 32 dense base 100/150 rec)	50mm Dense Binder Course Asphalt Concrete (Recipe Mixture) (cl 906), (AC 20 dense bin 100/150 rec)	40mm Hot Rolled Asphalt Surface Course (Recipe Mixture) (cl 910), (HRA 30/14 F surf 40/60) with Red 14/20mm Uncoated Chipping 40/60 PSV 60 (cl 915)
			130mm Dense Binder Course Asphalt Concrete (Recipe Mixture) (cl 906), (AC 20 dense bin 100/150 rec)		
4 (b)		400mm Granular Sub-base Type 1 (cl 803)		50mm Bedding Layer of Sharp Sand or Crushed Rock (Appendix 7/1)	200 x 100 x 80mm thick Concrete Rectangular Block Paving (cl 1043)



-  SURFACE COURSE
-  BINDER COURSE
-  BASE COURSE
-  SUB-BASE

Carriageway Construction				
Road Type	Sub-Base	Base Course	Binder Course	Surface Course
1 Connector Streets	300mm Granular Sub-base Type 1 (cl 803)	140mm Dense Base Course Asphalt Concrete (Recipe Mixture (cl 906), (AC 32 dense base 100/150 rec)	60mm Dense Binder Course Asphalt Concrete (Recipe Mixture) (cl 906), (AC 20 dense bin 100/150 rec)	40mm Hot Rolled Asphalt Surface Course (Recipe Mixture) (cl 910), (HRA 30/14 F surf 40/60) with Black 14/20mm Coated Chipping 40/60 PSV 60 (cl 915)
2 Local Residential Streets	300mm Granular Sub-base Type 1 (cl 803)	100mm Dense Base Course Asphalt Concrete (Recipe Mixture (cl 906), (AC 32 dense base 100/150 rec)	60mm Dense Binder Course Asphalt Concrete (Recipe Mixture) (cl 906), (AC 20 dense bin 100/150 rec)	40mm Hot Rolled Asphalt Surface Course (Recipe Mixture) (cl 910), (HRA 30/14 F surf 40/60) with Black 14/20mm Coated Chipping 40/60 PSV 60 (cl 915)
3 Residential Link Streets	300mm Granular Sub-base Type 1 (cl 803)	80mm Dense Base Course Asphalt Concrete (Recipe Mixture (cl 906), (AC 32 dense base 100/150 rec)	50mm Dense Binder Course Asphalt Concrete (Recipe Mixture) (cl 906), (AC 20 dense bin 100/150 rec)	40mm Hot Rolled Asphalt Surface Course (Recipe Mixture) (cl 910), (HRA 30/14 F surf 40/60) with Red 14/20mm Uncoated Chipping 40/60 PSV 60 (cl 915)
		130mm Dense Binder Course Asphalt Concrete (Recipe Mixture) (cl 906), (AC 20 dense bin 100/150 rec)		

NOTES

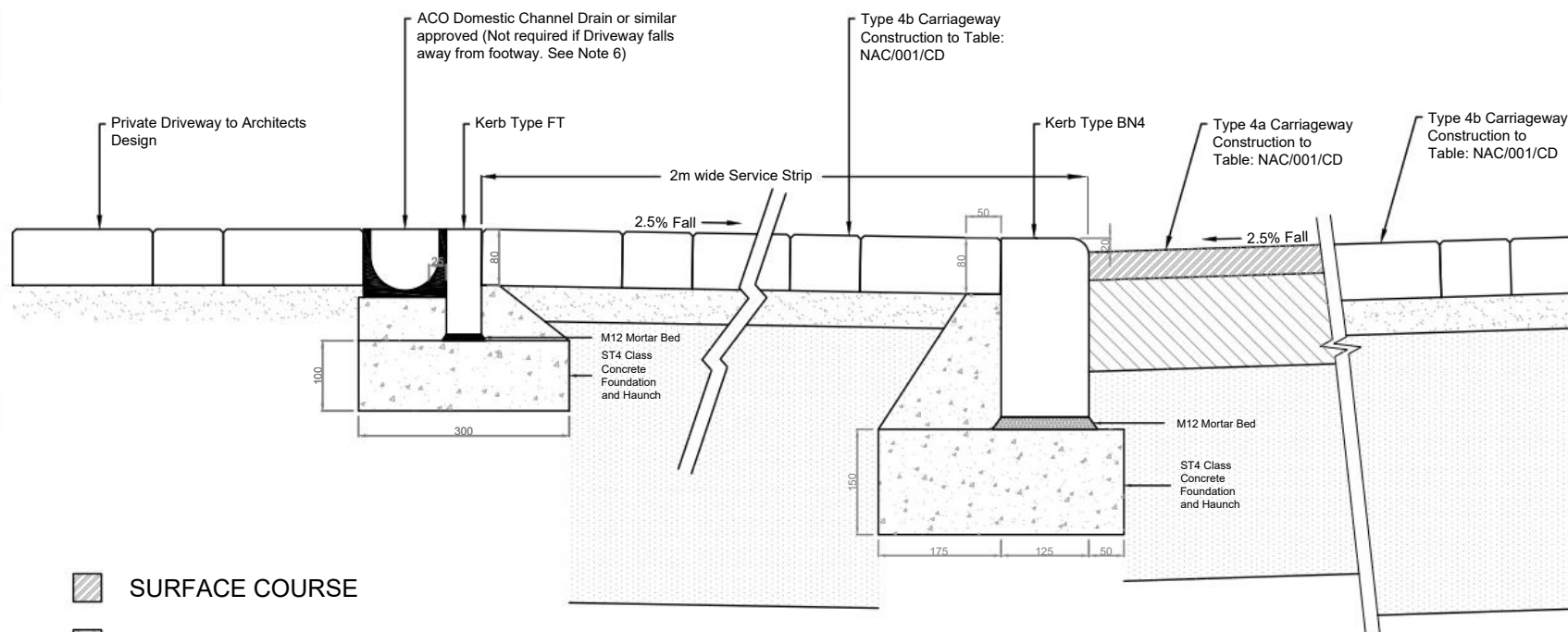
- All dimensions in millimetres. (This drawing is not to scale)
- This drawing should be read in conjunction with drawing NAC/404/DW1
- New Kerbing details to comply with drawing as stated
- Full Construction Information for Carriageway to Table NAC/001/CD
- Full Construction Information for Footway to Table NAC/001/CD
- Where the gradient of the Private Driveway slopes towards the Public Footway, a Drainage Channel as depicted must be installed. It is not required if the Private Driveway slopes into the private grounds.





(This drawing is not to scale)

NOTES

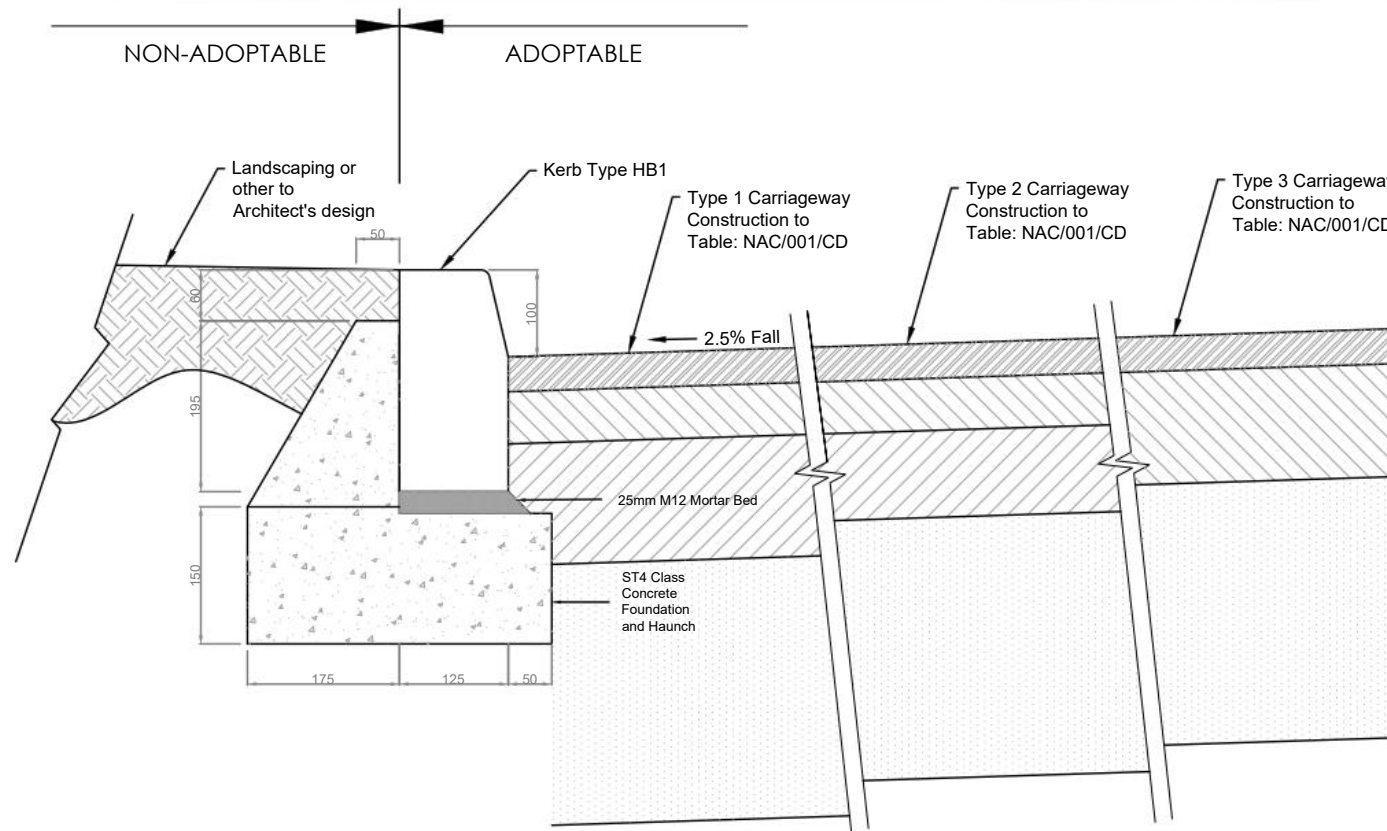
1. All dimensions in millimetres. (This drawing is not to scale)
2. This drawing should be read in conjunction with drawing NAC/410/DW4
3. New Kerbing details to comply with drawing as stated
4. Full Construction Information for Carriageway to Table NAC/001/CD
5. Full Construction Information for Footway to Table NAC/001/CD
6. Where the gradient of the Private Driveway slopes towards the Public Footway, a Drainage Channel as depicted must be installed. It is not required if the Private Driveway slopes into the private grounds.

(This drawing is not to scale)



-  SURFACE COURSE
-  BINDER COURSE
-  SAND BEDDING
-  SUB-BASE





Carriageway Construction				
Road Type	Sub-Base	Base Course	Binder Course	Surface Course
4 (a)	300mm Granular Sub-base Type 1 (cl 803)	80mm Dense Base Course Asphalt Concrete (Recipe Mixture) (cl 906), (AC 32 dense base 100/150 rec)	50mm Dense Binder Course Asphalt Concrete (Recipe Mixture) (cl 906), (AC 20 dense bin 100/150 rec)	40mm Hot Rolled Asphalt Surface Course (Recipe Mixture) (cl 910), (HRA 30/14 F surf 40/60) with Red 14/20mm Uncoated Chipping 40/60 PSV 60 (cl 915)
		130mm Dense Binder Course Asphalt Concrete (Recipe Mixture) (cl 906), (AC 20 dense bin 100/150 rec)		
4 (b)	400mm Granular Sub-base Type 1 (cl 803)		50mm Bedding Layer of Sharp Sand or Crushed Rock (Appendix 7/1)	200 x 100 x 80mm thick Concrete Rectangular Block Paving (cl 1043)



NOTES

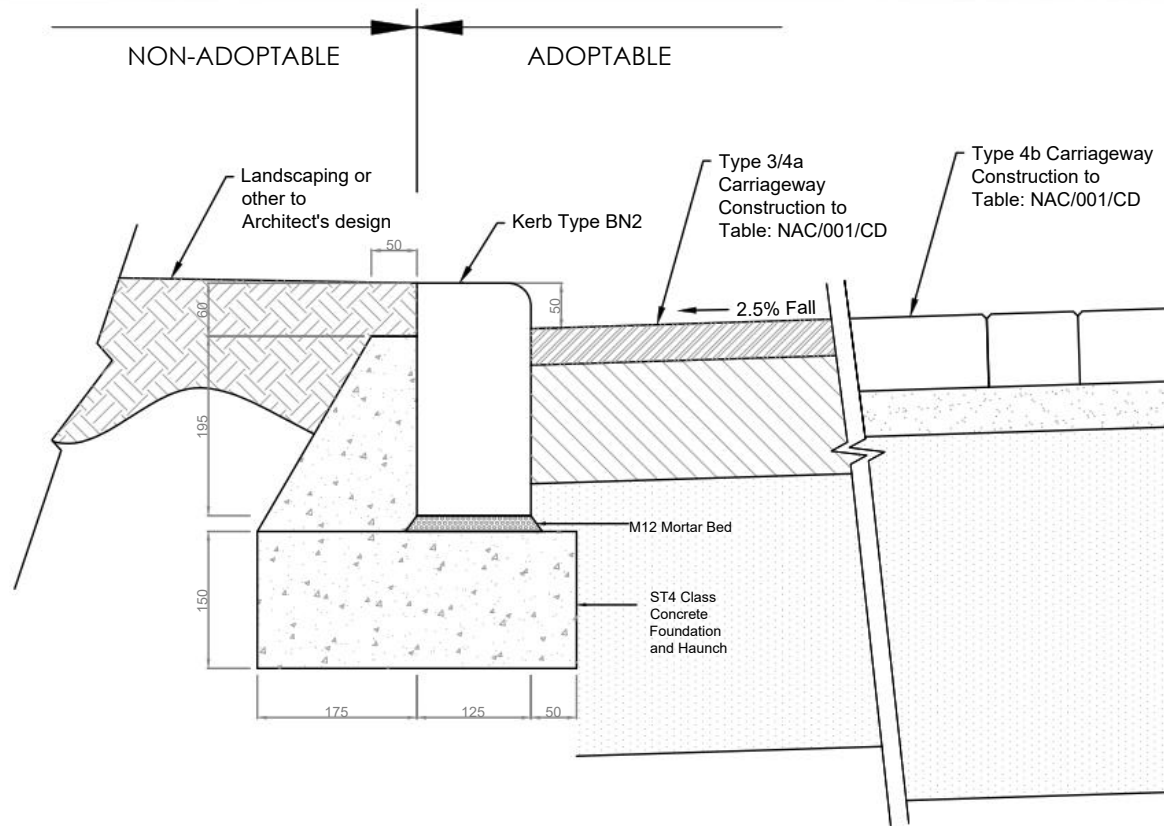
1. All dimensions in millimetres. (This drawing is not to scale)
2. New Kerbing details to comply with drawing as stated
3. Full Construction Information for Carriageway to Table NAC/001/CD

(This drawing is not to scale)

-  SURFACE COURSE
-  BINDER COURSE
-  BASE COURSE
-  SUB-BASE

Carriageway Construction					
Road Type		Sub-Base	Base Course	Binder Course	Surface Course
1	Connector Streets	300mm Granular Sub-base Type 1 (cl 803)	140mm Dense Base Course Asphalt Concrete (Recipe Mixture (cl 906), (AC 32 dense base 100/150 rec)	60mm Dense Binder Course Asphalt Concrete (Recipe Mixture) (cl 906), (AC 20 dense bin 100/150 rec)	40mm Hot Rolled Asphalt Surface Course (Recipe Mixture) (cl 910), (HRA 30/14 F surf 40/60) with Black 14/20mm Coated Chipping 40/60 PSV 60 (cl 915)
2	Local Residential Streets	300mm Granular Sub-base Type 1 (cl 803)	100mm Dense Base Course Asphalt Concrete (Recipe Mixture (cl 906), (AC 32 dense base 100/150 rec)	60mm Dense Binder Course Asphalt Concrete (Recipe Mixture) (cl 906), (AC 20 dense bin 100/150 rec)	40mm Hot Rolled Asphalt Surface Course (Recipe Mixture) (cl 910), (HRA 30/14 F surf 40/60) with Black 14/20mm Coated Chipping 40/60 PSV 60 (cl 915)
3	Residential Link Streets	300mm Granular Sub-base Type 1 (cl 803)	80mm Dense Base Course Asphalt Concrete (Recipe Mixture (cl 906), (AC 32 dense base 100/150 rec)	50mm Dense Binder Course Asphalt Concrete (Recipe Mixture) (cl 906), (AC 20 dense bin 100/150 rec)	40mm Hot Rolled Asphalt Surface Course (Recipe Mixture) (cl 910), (HRA 30/14 F surf 40/60) with Red 14/20mm Uncoated Chipping 40/60 PSV 60 (cl 915)
			130mm Dense Binder Course Asphalt Concrete (Recipe Mixture) (cl 906), (AC 20 dense bin 100/150 rec)		





STREET TYPE 1, 2 OR 3 - NO ADJACENT ADOPTABLE ASSET (100mm kerb upstand)



NOTES

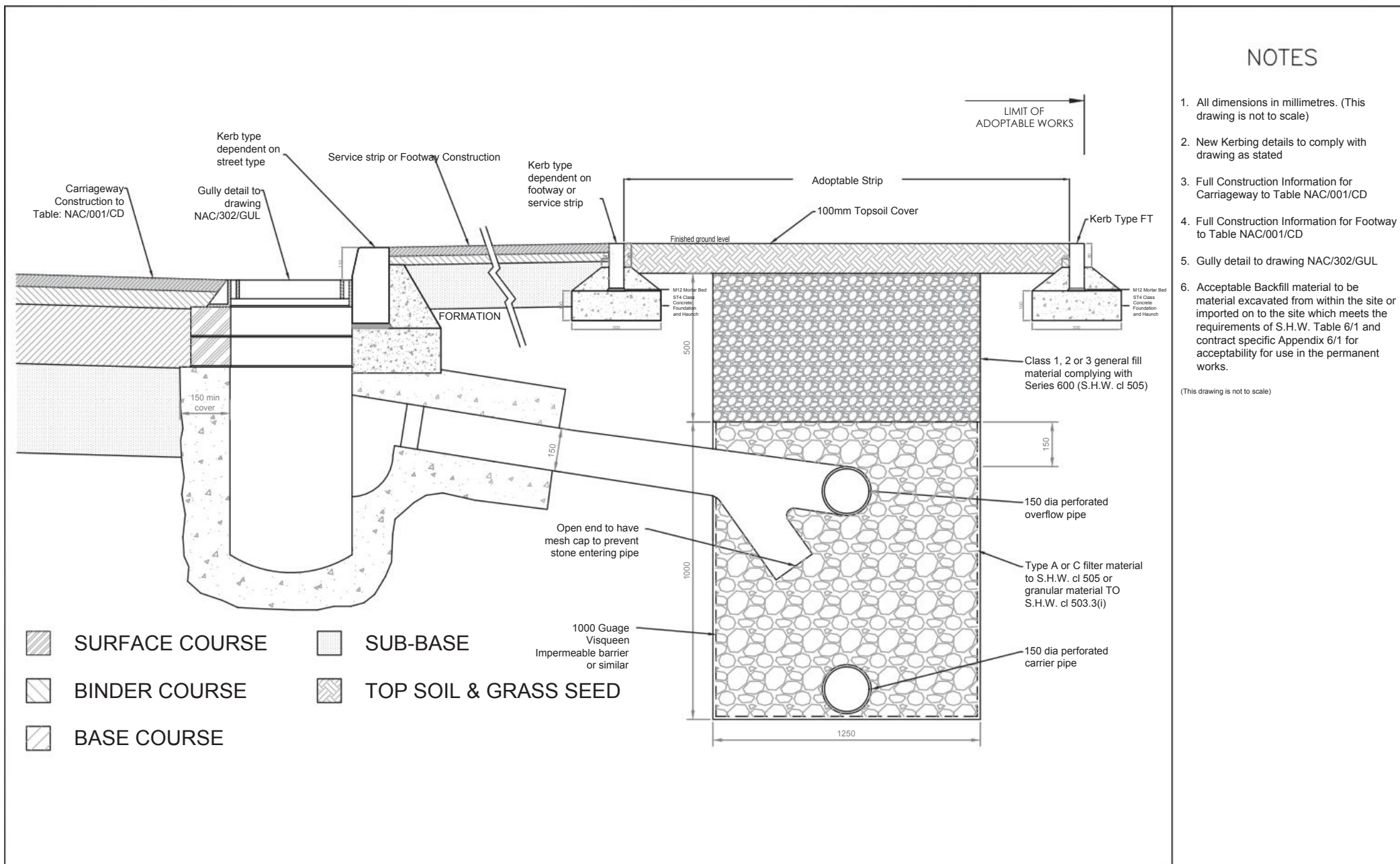
1. All dimensions in millimetres. (This drawing is not to scale)
2. New Kerbing details to comply with drawing as stated
3. Full Construction Information for Carriageway to Table NAC/001/CD

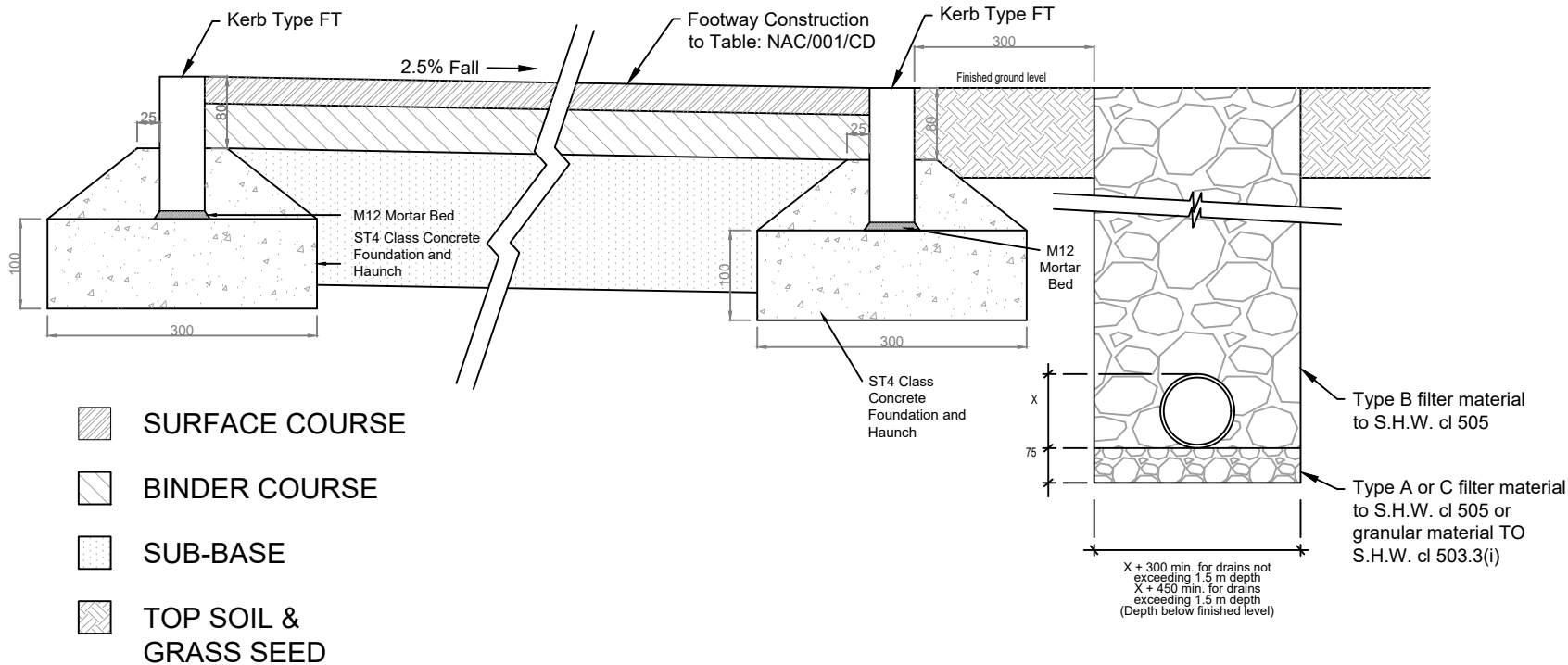
(This drawing is not to scale)

-  SURFACE COURSE
-  BINDER COURSE
-  BASE COURSE
-  SUB-BASE

Carriageway Construction				
Road Type	Sub-Base	Base Course	Binder Course	Surface Course
3 Residential Link Streets	300mm Granular Sub-base Type 1 (cl 803)	80mm Dense Base Course Asphalt Concrete (Recipe Mixture (cl 906), (AC 32 dense base 100/150 rec)	50mm Dense Binder Course Asphalt Concrete (Recipe Mixture) (cl 906), (AC 20 dense bin 100/150 rec)	40mm Hot Rolled Asphalt Surface Course (Recipe Mixture) (cl 910), (HRA 30/14 F surf 40/60) with Red 14/20mm Uncoated Chipping 40/60 PSV 60 (cl 915)
4 (a) Shared Surface Streets	300mm Granular Sub-base Type 1 (cl 803)	80mm Dense Base Course Asphalt Concrete (Recipe Mixture (cl 906), (AC 32 dense base 100/150 rec)	50mm Dense Binder Course Asphalt Concrete (Recipe Mixture) (cl 906), (AC 20 dense bin 100/150 rec)	40mm Hot Rolled Asphalt Surface Course (Recipe Mixture) (cl 910), (HRA 30/14 F surf 40/60) with Red 14/20mm Uncoated Chipping 40/60 PSV 60 (cl 915)
4 (b)	400mm Granular Sub-base Type 1 (cl 803)		50mm Bedding Layer of Sharp Sand or Crushed Rock (Appendix 7/1)	200 x 100 x 80mm thick Concrete Rectangular Block Paving (cl 1043)

STREET TYPE 3 or 4 - NO ADJACENT ADOPTABLE ASSET (50mm kerb upstand)





NOTES

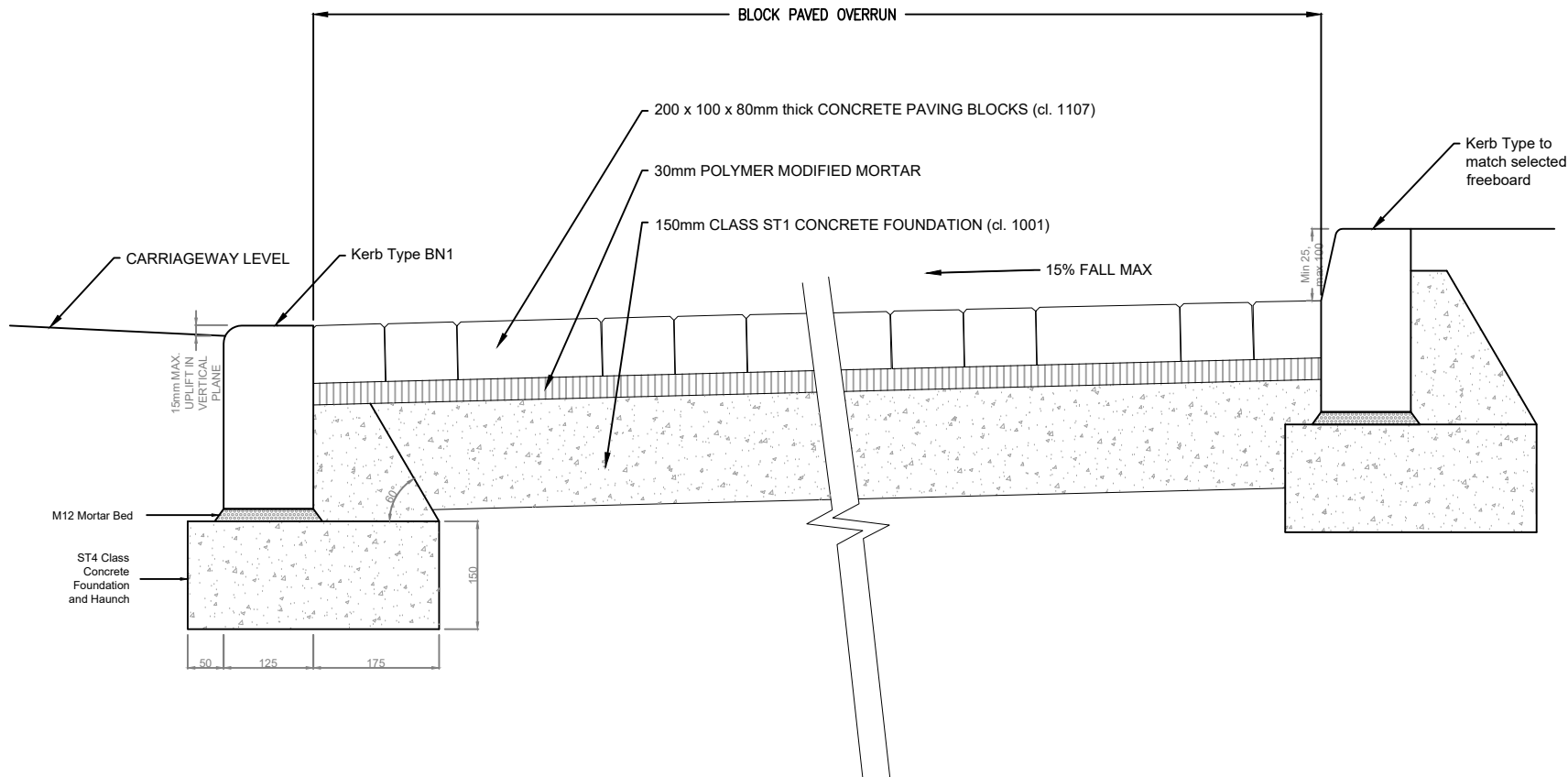
- All dimensions in millimetres. (This drawing is not to scale)
- New Kerbing details to comply with drawing as stated
- Full Construction Information for Footway to Table NAC/001/CD
- Desirably, gradients on footways and footpaths should not exceed 5%, with a nominal maximum of 8%. They should be constructed with crossfall of 3%. Steeper gradients may occasionally be permitted, subject to the provision of a handrail on at least one side and rest platforms at 10 metre intervals.
- Dimension X is the external diameter of the pipe
- This drawing is to be read in conjunction with Appendix 5/1
- Pipes shall comply with the requirements for filter drain pipes in Table 5/1 of the S.H.W.
- Pipes are to be laid with slots or perforations upwards where a concrete bed is used. For other beds the slots shall be orientated as described in Appendix 5/1
- Minimum drain width;
X+300 for drains not exceeding 1.5 m depth
X+450 for drains exceeding 1.5 m depth (Depth below finished level)

(This drawing is not to scale)

NOTES

1. All dimensions in millimetres. (This drawing is not to scale)
2. New Kerbing details to comply with drawing as stated
3. For Construction Information for Carriageway refer to Table NAC/001/CD.
4. Overrun areas should not have any vertical face which exceeds 6 mm in height and sloping areas should not exceed a slope angle of 15°, measured from the surface of the carriageway.

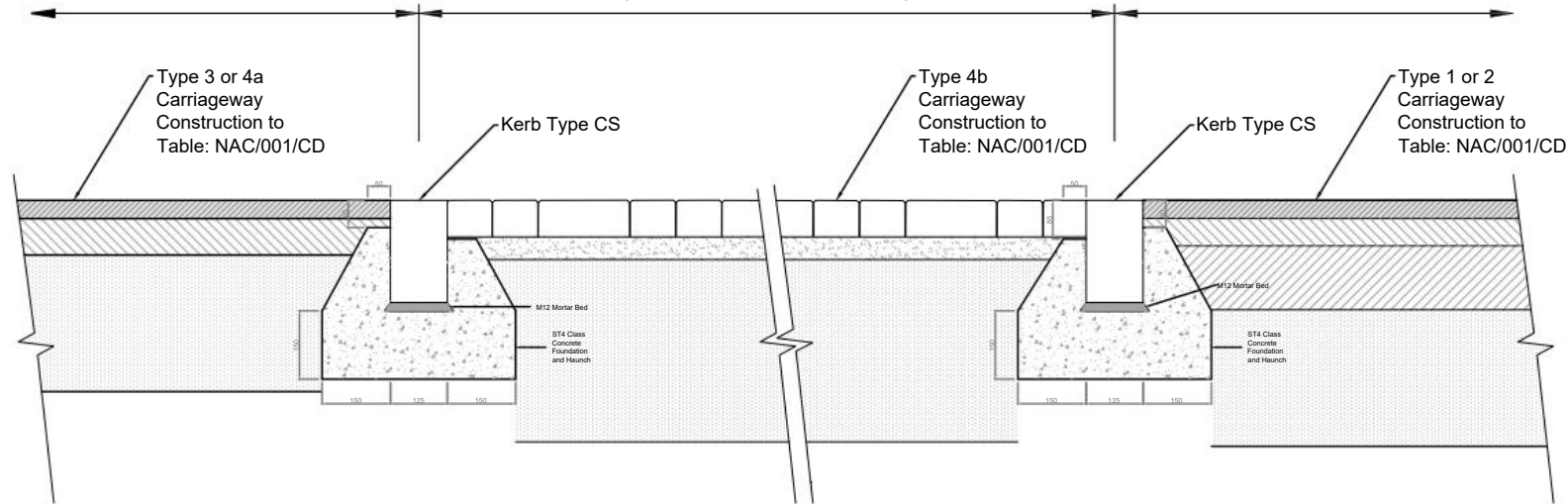
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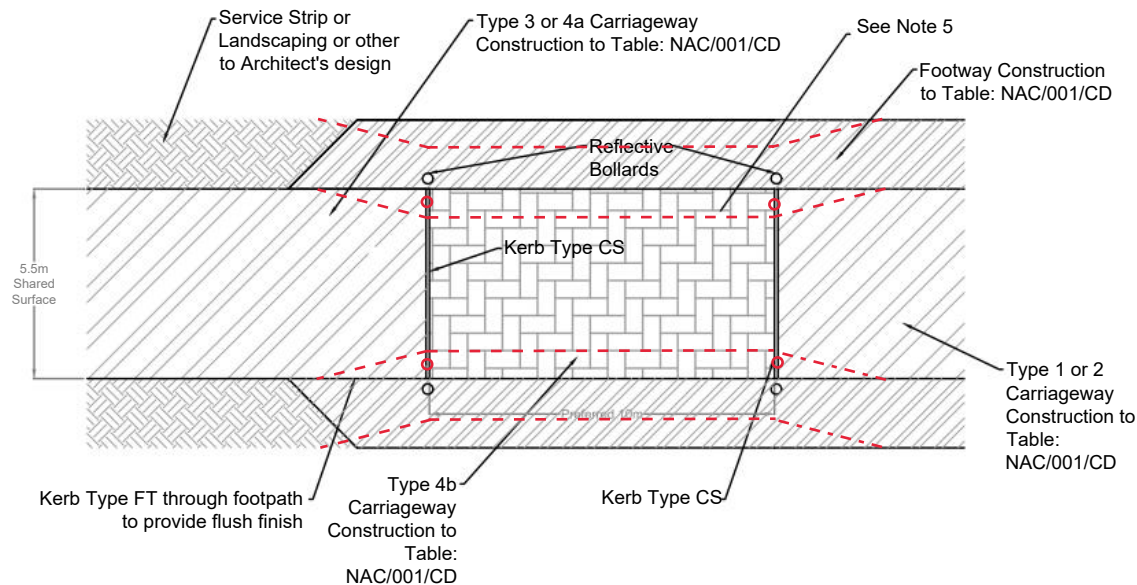
Residential Link/Shared Surface Streets
(TYPE 3 or 4)

BLOCK PAVED TRANSITION
(PREFERRED 10M LONG)

Connector/Local Residential Streets
(TYPE 1 or 2)



-  BLOCK PAVING
-  SURFACE COURSE
-  BINDER COURSE
-  BASE COURSE
-  SUB-BASE
-  SAND BEDDING
-  TOP SOIL & GRASS SEED



NOTES

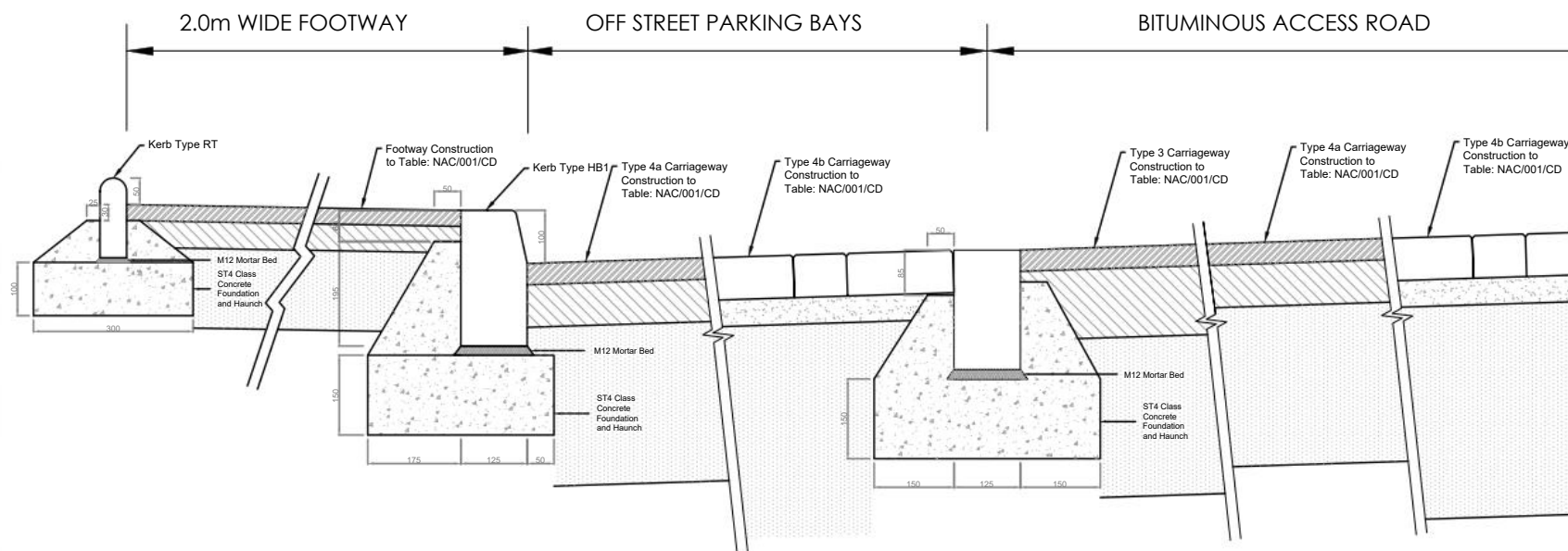
1. All dimensions in millimetres. (This drawing is not to scale)
2. New Kerbing details to comply with drawing as stated
3. Full Construction Information for Carriageway to Table NAC/001/CD
4. Full Construction Information for Footway to Table NAC/001/CD
5. Transition area can also be narrowed and ramped over the length as shown red.

(This drawing is not to scale)

NOTES

1. All dimensions in millimetres. (This drawing is not to scale)
2. New Kerbing details to comply with drawing as stated
3. Full Construction Information for Carriageway to Table NAC/001/CD
4. Full Construction Information for Footway to Table NAC/001/CD

(This drawing is not to scale)

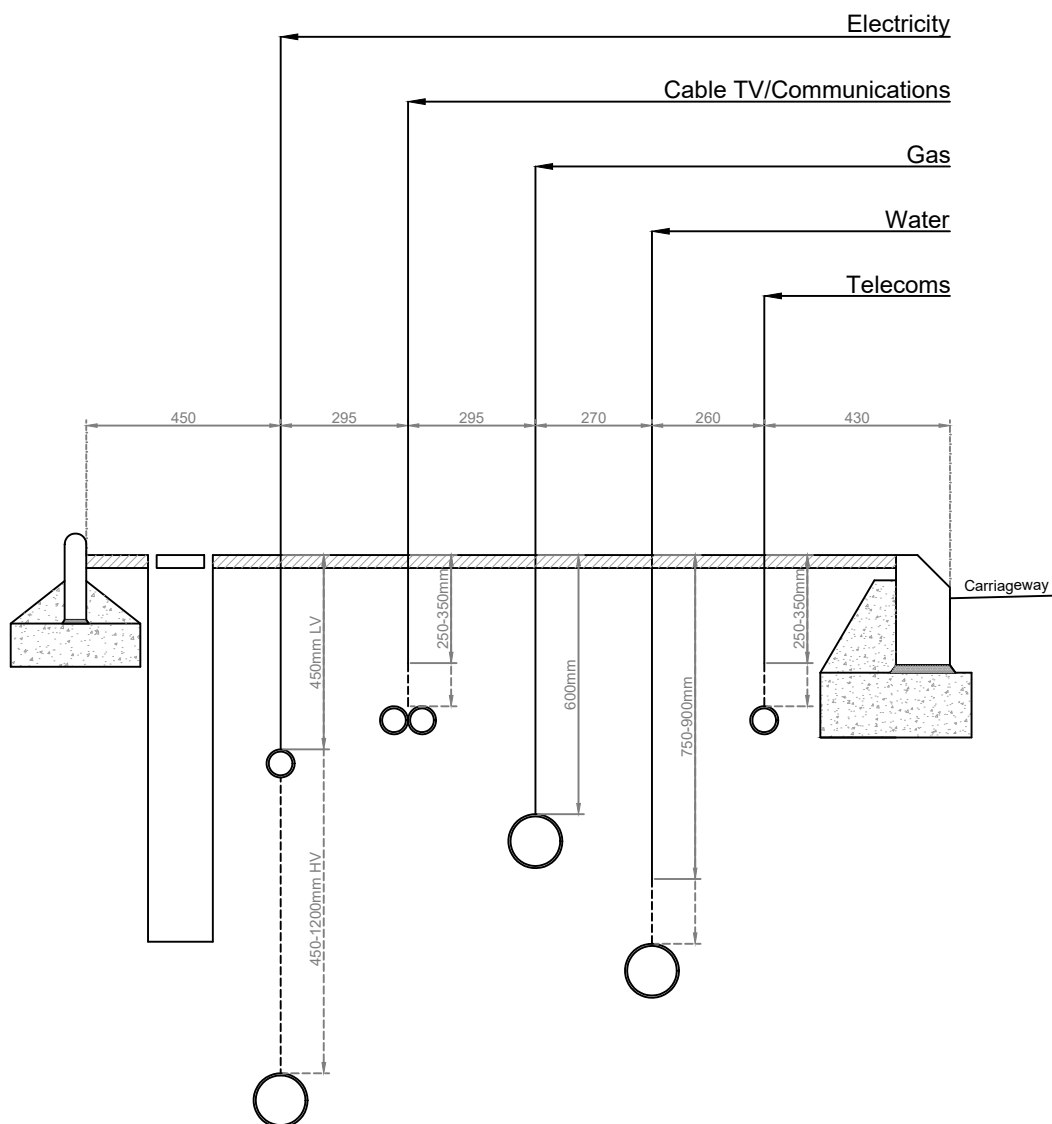


- SURFACE COURSE
- BINDER COURSE
- BASE COURSE
- SUB-BASE
- SAND BEDDING
- FORMATION

Carriageway Construction				
Road Type	Sub-Base	Base Course	Binder Course	Surface Course
3	Residential Link Streets	300mm Granular Sub-base Type 1 (cl 803)	80mm Dense Base Course Asphalt Concrete (Recipe Mixture (cl 906), (AC 32 dense base 100/150 rec)	40mm Hot Rolled Asphalt Surface Course (Recipe Mixture) (cl 910), (HRA 30/14 F surf 40/60) with Red 14/20mm Coated Chipping 40/60 PSV 60 (cl 915)
			130mm Dense Binder Course Asphalt Concrete (Recipe Mixture) (cl 906), (AC 20 dense bin 100/150 rec)	
4 (a)	Shared Surface Streets	300mm Granular Sub-base Type 1 (cl 803)	80mm Dense Binder Course Asphalt Concrete (Recipe Mixture) (cl 906), (AC 20 dense bin 100/150 rec)	40mm Hot Rolled Asphalt Surface Course (Recipe Mixture) (cl 910), (HRA 30/14 F surf 40/60) with Red 14/20mm Coated Chipping 40/60 PSV 60 (cl 915)
4 (b)		400mm Granular Sub-base Type 1 (cl 803)	50mm Bedding Layer of Sharp Sand or Crushed Rock (Appendix 7/1)	200 x 100 x 80mm thick Concrete Rectangular Block Paving (cl 1043) or 200 x 100 x 65mm Concrete Pavers (cl 1107)

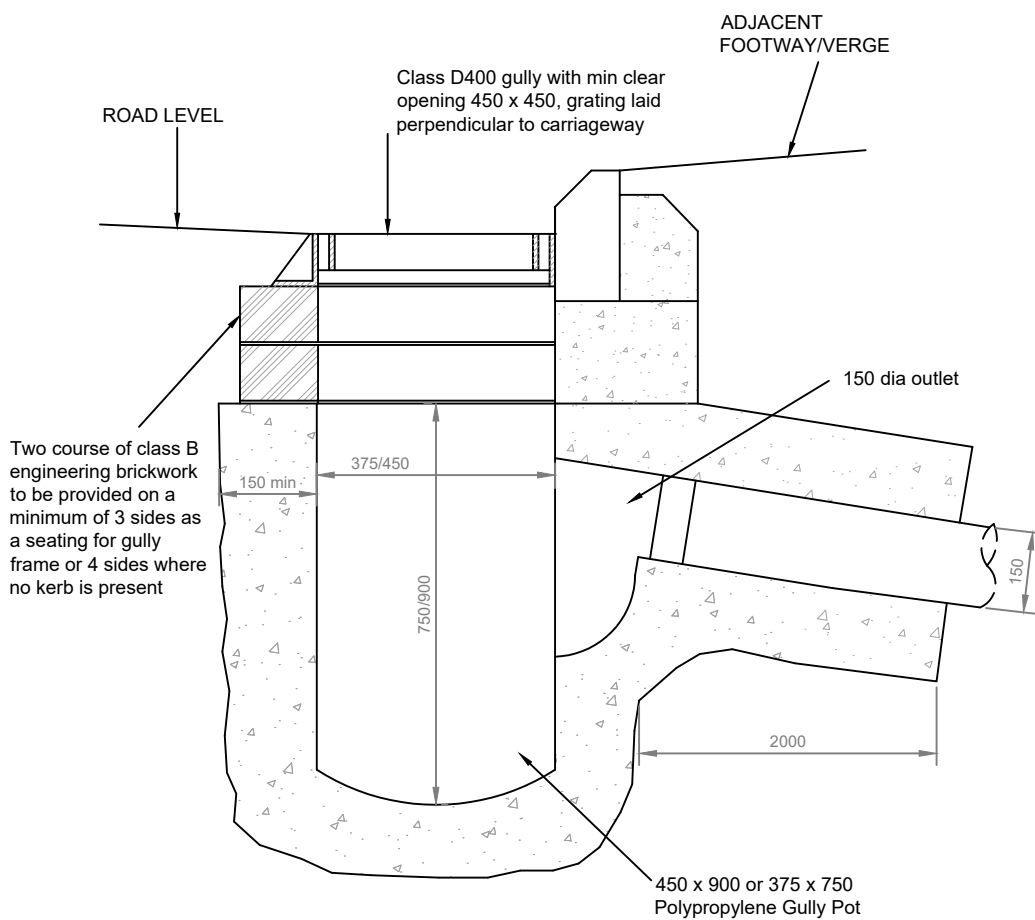
NOTES

1. All dimensions in millimetres.
2. Dimensions taking from the NJUG Guidelines on the Positioning and Colour Coding of Underground Utilities' Apparatus.



NOTES

1. All dimensions in millimetres.
2. Gully grating and frame shall be to BS EN 124
3. Class D400 with Minimum clear opening 450 x 450 bedding and haunched with rapid hardening cement mortar
4. Concrete and bedding mortar to achieve 20N/mm within 2 hours.
5. 150mm Thick ST4 Concrete surround & bed
6. Two course of class B engineering brickwork to be provided on a minimum of 3 sides as a seating for gully frame or 4 sides where no kerb is present
7. 450 x 900 or 375 x 750 Polypropylene Gully Pot
8. Flexible pipe may only be used if agreed by the overseeing organisation



PRECAST CONCRETE TRAPPED STREET GULLY 450 mm NOMINAL BORE

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DRAWING NO

REV

NAC/302/GUL

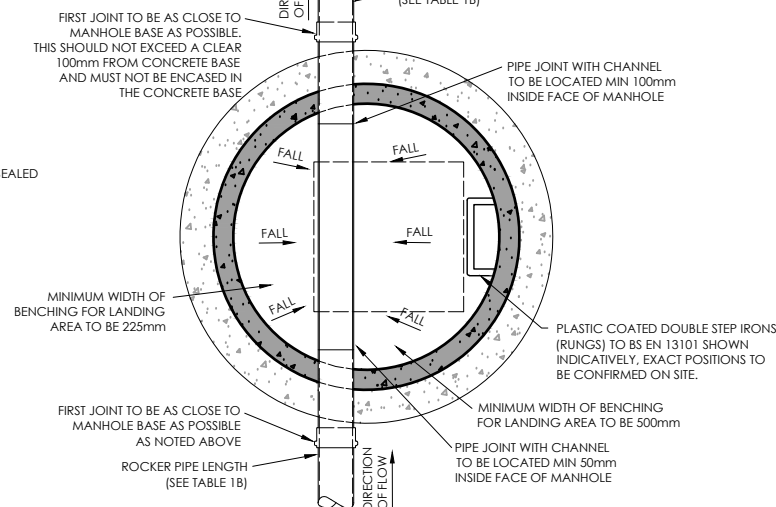
A

NOTES

1. All dimensions in millimeters.
2. Pipelines and manholes to be constructed in accordance with the 'Sewers for Scotland' 3rd edition WRC publication in conjunction with Scottish Water, office specification and requirements.
3. Rocker pipes shall be used for pipes less than 750 nominal diameter entering and leaving manholes. Maximum length not to exceed 600mm unless refer to tables 1B.
4. All precast concrete units to be reinforced and conform to BS EN 124. Step irons to BS EN 13101 double rungs).
5. All joints between p.c. units to be made watertight by the application of cement mortar. "Tokstrip" or other similar approved equal.
6. The lowest chamber ring bearing on the foundation and the highest chamber ring receiving the cover slab shall have plain ends and be bedded in cement mortar.
7. Manhole access hole and step iron positions to be located to give greatest free area of benching immediately below
8. Manhole covers to be class D400 to BS EN 124 double triangular cover & frame 150mm deep with 675mm sq. opening in ductile iron, and bearing the registered certification mark of the British Standards Institution.
9. Step irons not to protrude into 675 square access opening in shaft cover slab.
10. Precast concrete cover slabs to be heavy duty.
11. Top step iron to be located maximum 675mm from the finished manhole cover level.
12. Concrete foundation to be scabbled before placing granolithic finish.
13. All metalwork to be hot-dip galvanised to BS 729 after manufacture.
14. Buried manholes - covers to be set below ground level (600mm in fields and 300mm in gardens) and covered with a sheet of heavy duty polythene, held in place with waterproof protective tape.

TABLE 1B - TYPE 'B' MANHOLE (0-3m d'p)

MANHOLE DIMENSIONS (mm)		
Pipe Dia (largest diameter)	Mh Dia	Rocker pipe length
150	1200	600
225-300	1200	600
375-450	1350	600



NOTE:

MIN. COVER TO PIPES WITHOUT CONCRETE PROTECTION: 1.2m WITHIN ROADWAY, 0.9m WITHIN PARKING.

PIPES WITH LESS THAN THE MIN. COVER SHOULD BE PROTECTED WITH 150mm CONCRETE SURROUND WITH FLEXIBLE JOINTS AT EACH PIPE JOINT.

CONCRETE PROTECTION TO uPVC PIPES: 150 Thk CONCRETE SLAB INSTALLED ABOVE CROWN OF PIPE IN ACCORDANCE WITH SCoW. DETAILS.

ALL PIPES TO HAVE A 150mm THICK CLASS 'S' GRANULAR PIPE SURROUND UNLESS NOTED OTHERWISE.

MANHOLE & SILT TRAP COVERS

ADOPTABLE ROADS/
PRIVATE
CARRIAGEWAY/
PARKING:

DUCTILE IRON HEAVY DUTY DOUBLE
TRIANGULAR CLASS D400
BY PETER SAVAGE Ltd. OR SIMILAR.

PEDESTRIAN AND
LANDSCAPED AREAS:

DUCTILE IRON CLASS B125 MEDIUM
DUTY BY PETER SAVAGE Ltd OR SIMILAR.

- MANHOLE COVERS WITHIN BUILDINGS TO BE DOUBLE SEALED COVERS
- ALL MANHOLE COVERS TO HAVE BS 'KITEMARK'

TYPE B MANHOLE - MAXIMUM DEPTH 3 METRES (to be used within carriageway)

NOTES

1. All dimensions in millimeters.
2. Pipelines and manholes to be constructed in accordance with the 'Sewers for Scotland' 3rd edition WRC publication in conjunction with Scottish Water, office specification and requirements.
3. Rocker pipes shall be used for pipes less than 750 nominal diameter entering and leaving manholes. Maximum length not to exceed 600mm unless refer to tables 1B.
4. All precast concrete units to be reinforced and conform to BS EN 5911. Step irons to BS EN 13101 double rungs).
5. All joints between p.c. units to be made watertight by the application of cement mortar, "Tokstrip" or other similar approved equal.
6. The lowest chamber ring bearing on the foundation and the highest chamber ring receiving the cover slab shall have plain ends and be bedded in cement mortar.
7. Manhole access hole and step iron positions to be located to give greatest free area of benching immediately below
8. Manhole covers to be class D400 to BS EN 124 double triangular cover & frame 150mm deep with 675mm sq. opening in ductile iron, and bearing the registered certification mark of the British Standards Institution.
9. Step irons not to protrude into 675 square access opening in shaft cover slab.
10. Precast concrete cover slabs to be heavy duty.
11. Top step iron to be located maximum 675mm from the finished manhole cover level.
12. Concrete foundation to be scabbled before placing granolithic finish.
13. All metalwork to be hot-dip galvanised to BS 729 after manufacture.
14. Buried manholes - covers to be set below ground level (600mm in fields and 300mm in gardens) and covered with a sheet of heavy duty polythene, held in place with waterproof protective tape.

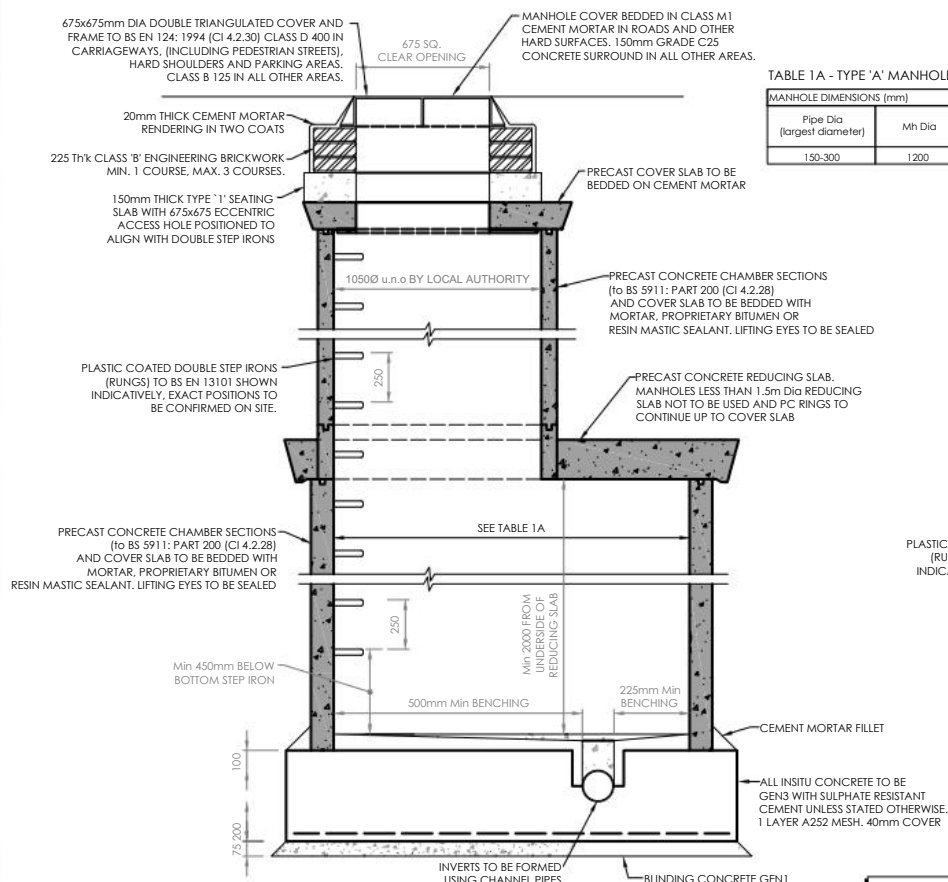
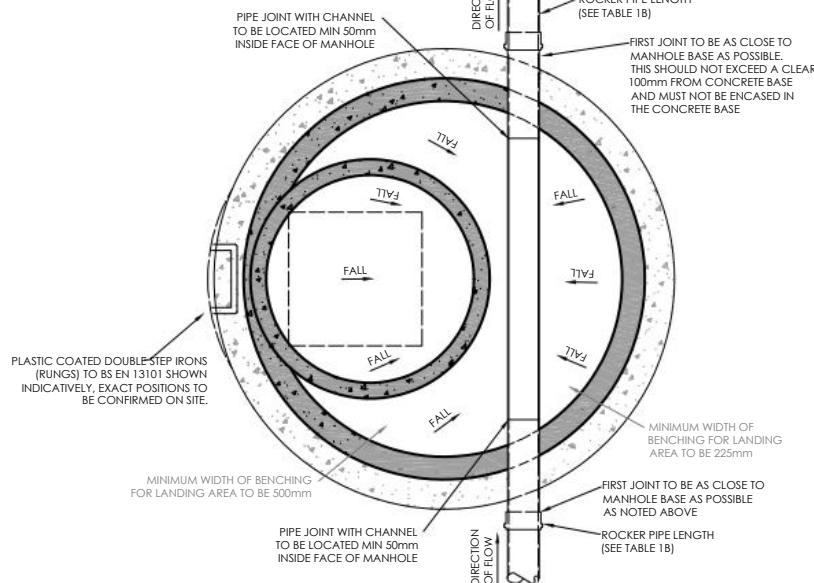


TABLE 1A - TYPE 'A' MANHOLE (3-6m d'p)

MANHOLE DIMENSIONS (mm)		
Pipe Dia (largest diameter)	Mh Dia	Rocker pipe length
150-300	1200	600

PRECAST CONCRETE CHAMBER SECTIONS (to BS 5911: PART 200 (CI 4.2.28) AND COVER SLAB TO BE BEDDED WITH MORTAR, PROPRIETARY BITUMEN OR RESIN MASTIC SEALANT, LIFTING EYES TO BE SEALED



NOTE:
MIN. COVER TO PIPES WITHOUT CONCRETE PROTECTION: 1.2m WITHIN ROADWAY, 0.9m WITHIN PARKING.
PIPES WITH LESS THAN THE MIN. COVER SHOULD BE PROTECTED WITH 150mm CONCRETE SURROUND WITH FLEXIBLE JOINTS AT EACH PIPE JOINT.
CONCRETE PROTECTION TO UPVC PIPES: 150 THK CONCRETE SLAB INSTALLED ABOVE CROWN OF PIPE IN ACCORDANCE WITH S.C.W. DETAILS.
ALL PIPES TO HAVE A 150mm THICK CLASS 'S' GRANULAR PIPE SURROUND UNLESS NOTED OTHERWISE.

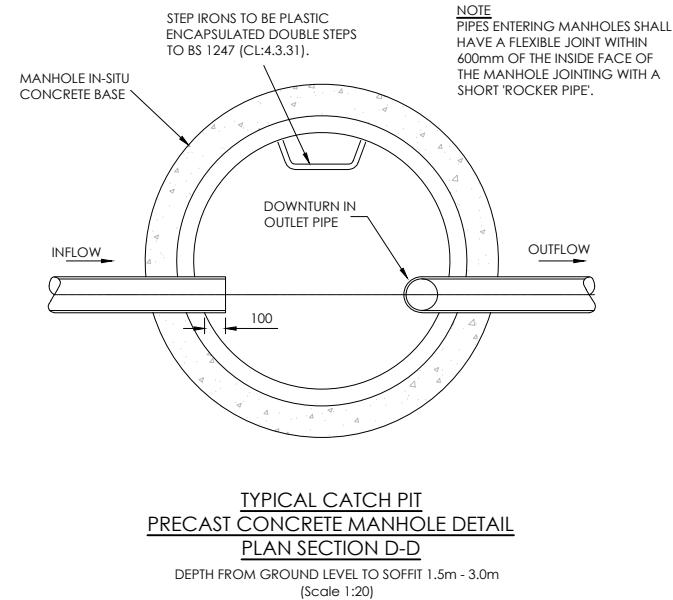
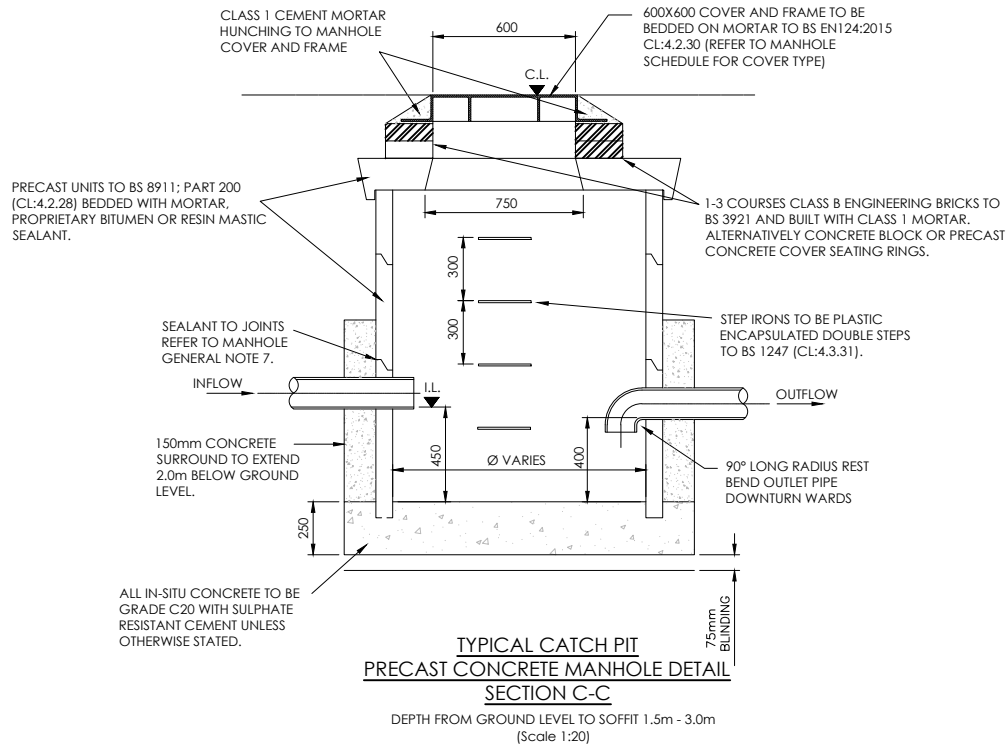
MANHOLE & SILT TRAP COVERS

ADAPTABLE ROADS/PRIVATE CARRIAGEWAY/PARKING:	DUCTILE IRON HEAVY DUTY DOUBLE TRIANGULAR CLASS D400 BY PETER SAVAGE Ltd. OR SIMILAR.
PEDESTRIAN AND LANDSCAPED AREAS:	DUCTILE IRON CLASS B125 MEDIUM DUTY BY PETER SAVAGE Ltd OR SIMILAR.
<ul style="list-style-type: none"> MANHOLE COVERS WITHIN BUILDINGS TO BE DOUBLE SEALED COVERS ALL MANHOLE COVERS TO HAVE BS 'KITEMARK' 	

TYPE A MANHOLE - DEPTH 3 TO 6 METRES (to be used within carriageway)

NOTES

1. All dimensions in millimeters.
2. Pipelines and manholes to be constructed in accordance with the 'Sewers for Scotland' 3rd edition WRC publication in conjunction with Scottish Water, office specification and requirements.
3. Rocker pipes shall be used for pipes less than 750 nominal diameter entering and leaving manholes. Maximum length not to exceed 600mm unless refer to tables 1B.
4. All precast concrete units to be reinforced and conform to BS EN 1247 (CL:4.3.31).
5. All joints between p.c. units to be made watertight by the application of cement mortar, "Tokstrip" or other similar approved equal.
6. The lowest chamber ring bearing on the foundation and the highest chamber ring receiving the cover slab shall have plain ends and be bedded in cement mortar.
7. Manhole access hole and step iron positions to be located to give greatest free area of benching immediately below
8. Manhole covers to be class D400 to BS EN 124 double triangular cover & frame 150mm deep with 675mm sq. opening in ductile iron, and bearing the registered certification mark of the British Standards Institution.
9. Step irons not to protrude into 675 square access opening in shaft cover slab.
10. Precast concrete cover slabs to be heavy duty.
11. Top step iron to be located maximum 675mm from the finished manhole cover level.
12. Concrete foundation to be scabbled before placing granolithic finish.
13. All metalwork to be hot-dip galvanised to BS 729 after manufacture.
14. Buried manholes - covers to be set below ground level (600mm in fields and 300mm in gardens) and covered with a sheet of heavy duty polythene, held in place with waterproof protective tape.

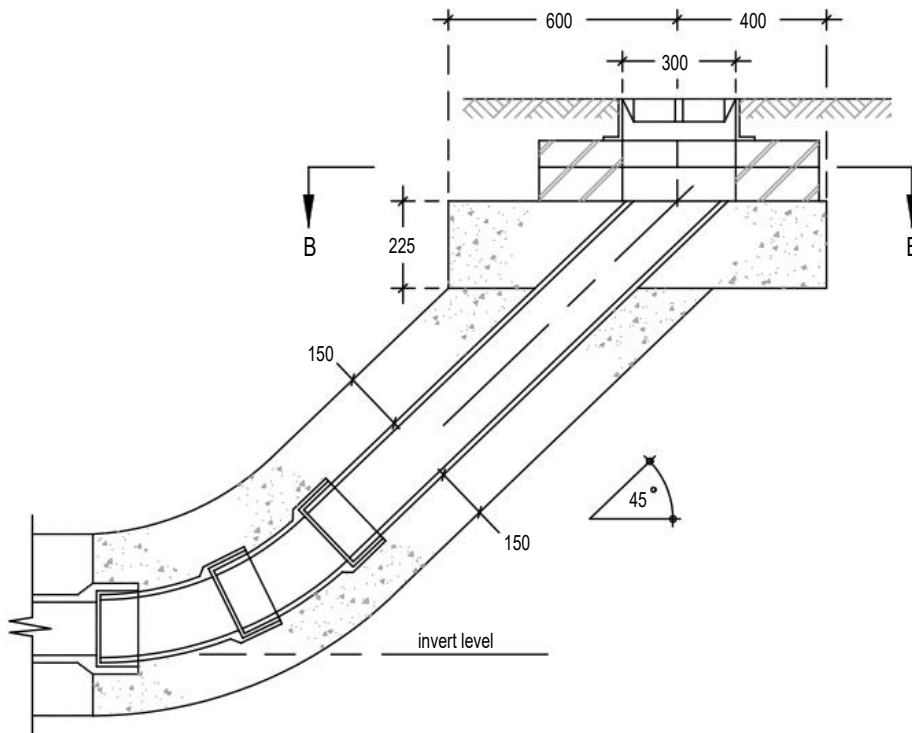


CATCHPIT (to be used outwith carriageway)

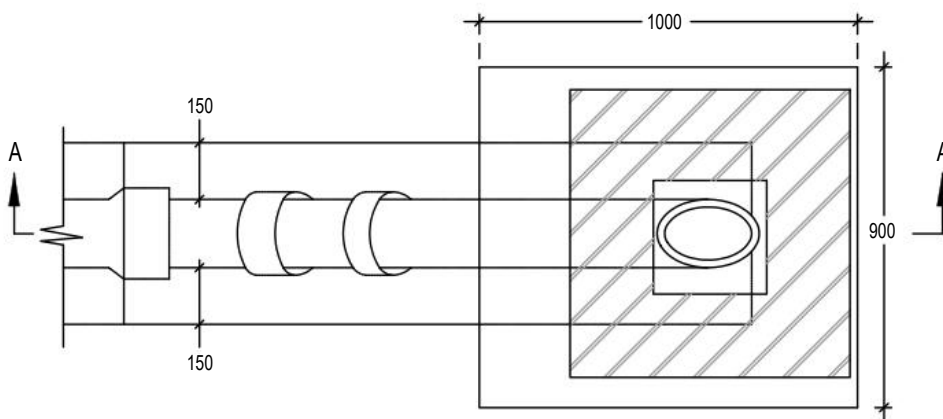
NOTES

1. All dimensions in millimetres.
2. This chamber is for use where the pipe diameter does not exceed 225 mm.
3. Two number 22.5° bends shall be used to connect the drop pipe to the main pipe.
4. The drop pipe and bend shall be surrounded with 150 mm thick concrete GEN 1 with consistence class S1 complying with BS 8500-1:2006 + A1:2012.
5. Except for corrugated pipes, the nearest joint in the main pipe shall form part of an articulated section and be not more than 500 mm from the bend.
6. Chamber base to be cast in situ in concrete GEN 1 with consistence class S3 complying with BS 8500-1:2006 + A1:2012 with a smooth finish to Class U3.
7. The drop pipe shall be cast into chamber base.
8. One to two courses of Class B engineering brick to BS EN 771-1:2003, 225 mm thick to be provided to adjust final level of rodding eye cover.
9. Rodding eye cover to be to BS EN 124:1994, Class D400. All mortar to be M12 except that the cover frame shall be bedded on epoxy resin mortar.
10. For construction of all buried pipes, refer to BS 9295:2010.

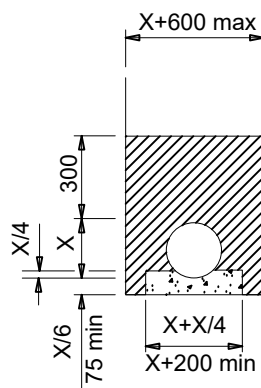
(This drawing is not to scale)



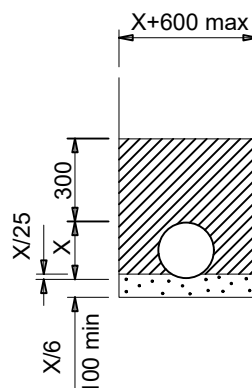
SECTIONAL ELEVATION AA



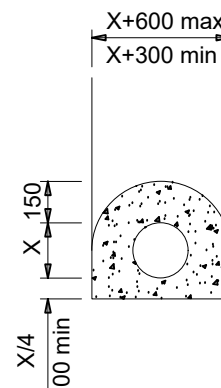
SECTIONAL PLAN BB



TYPE A



TYPE F



TYPE Z

KEY



Granular material to S.H.W.
Clause 503.3(i).



Concrete to S.H.W. Clause 503.3 (iii)



Class 8 material to
S.H.W. Clause 503.3(iv).

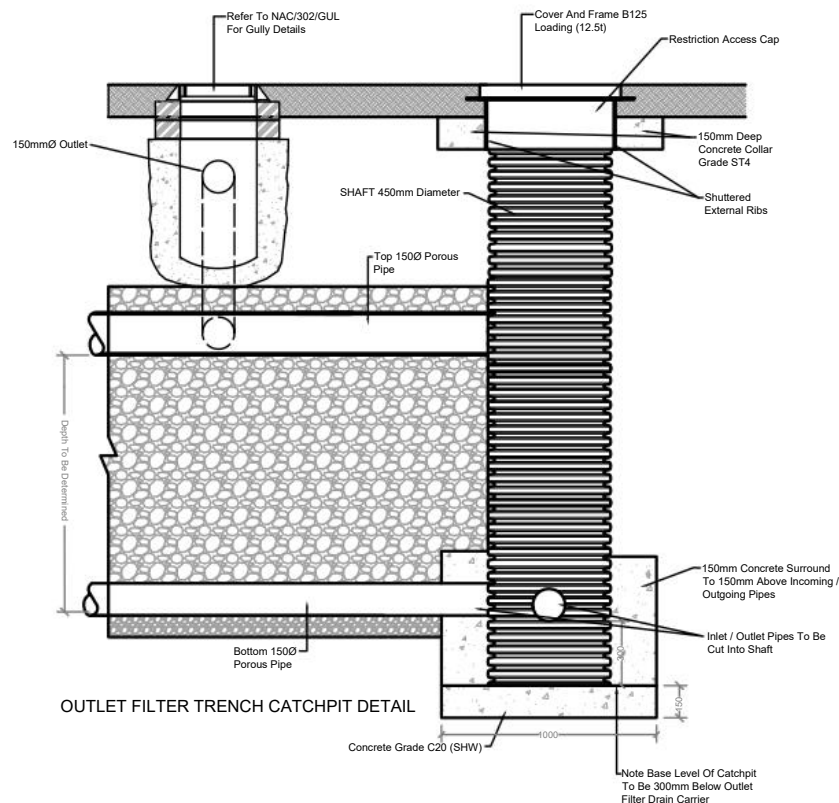
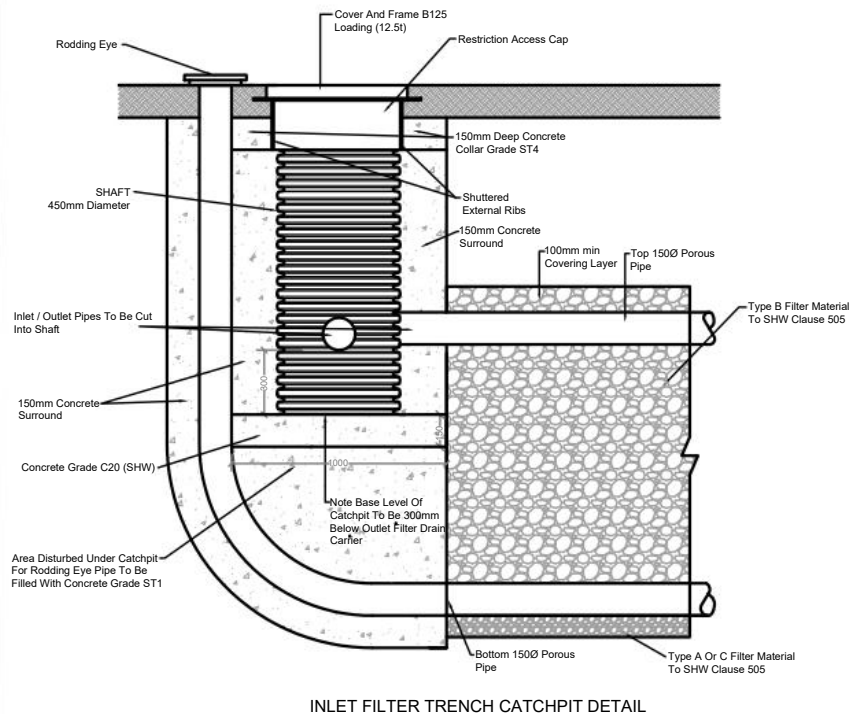
NOTES

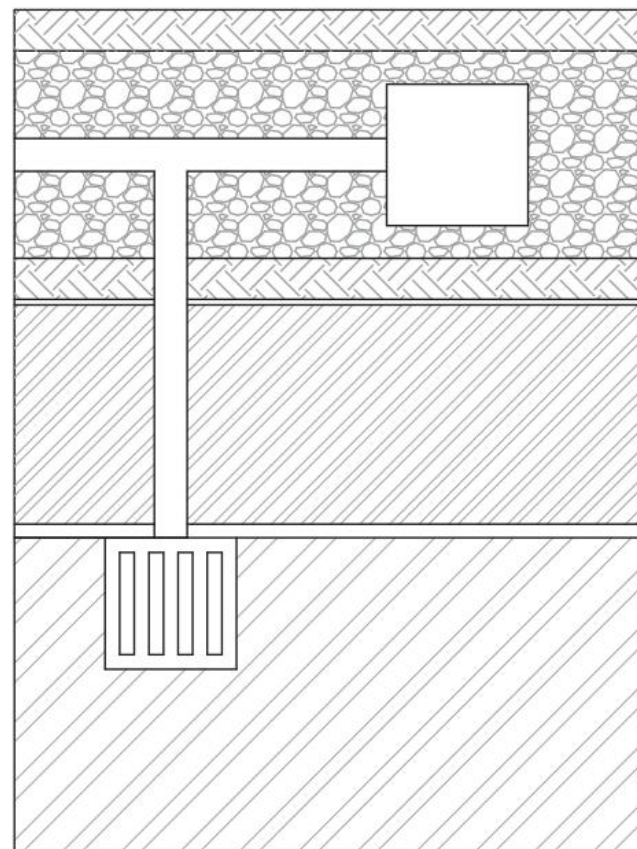
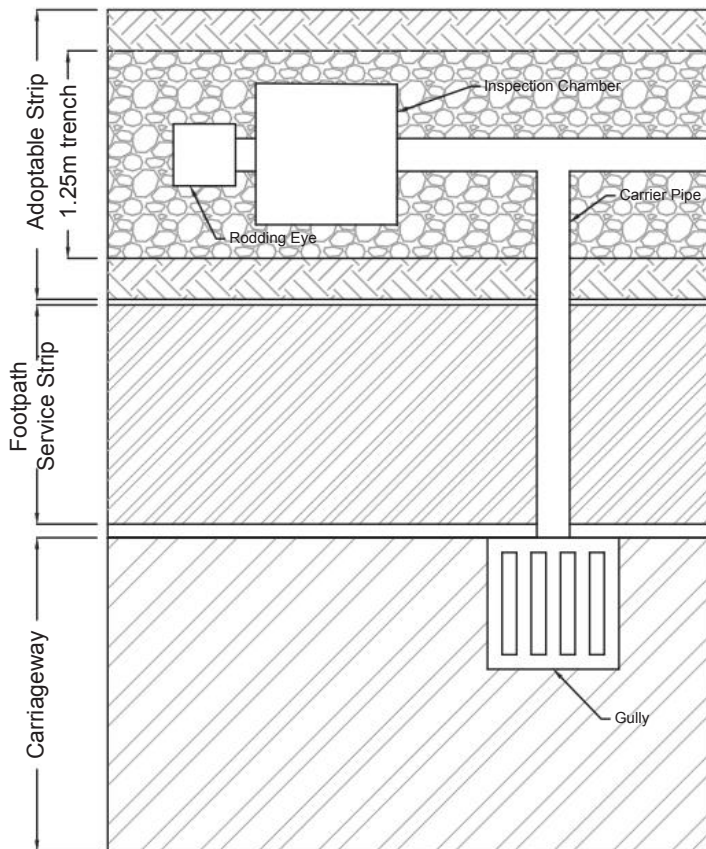
1. All dimensions in millimeters.
2. This drawing is to be read in conjunction with Appendix 5/1.
3. Dimension X is the external diameter of the pipe.
4. The minimum or maximum width of the trench applies on and below a line 300mm above the outside top of the pipe. Above the 300mm line, the trench backfill material shall be as described in Clause 505 of SHW.
5. The concrete bed or surround may extend to the sides of the trench or be of minimum width. Class 8 material is to be used to fill any voids so formed.
6. For Type Z trench the concrete cover may be formed to a radius batter or horizontal surface. Minimum cover of concrete shall be 150mm.

NOTES

1. All dimensions in millimetres. (This drawing is not to scale)
2. New Kerbing details to comply with drawing as stated
3. Full Construction Information for Carriageway to Table NAC/001/CD
4. Full Construction Information for Footway to Table NAC/001/CD
5. This drawing to be read in junction with drawing NAC/309/FLT2
6. Gully detail to drawing NAC/302/GUL
7. Acceptable Backfill material to be material excavated from within the site or imported on to the site which meets the requirements of S.H.W. Table 6/1 and contract specific Appendix 6/1 for acceptability for use in the permanent works.

(This drawing is not to scale)

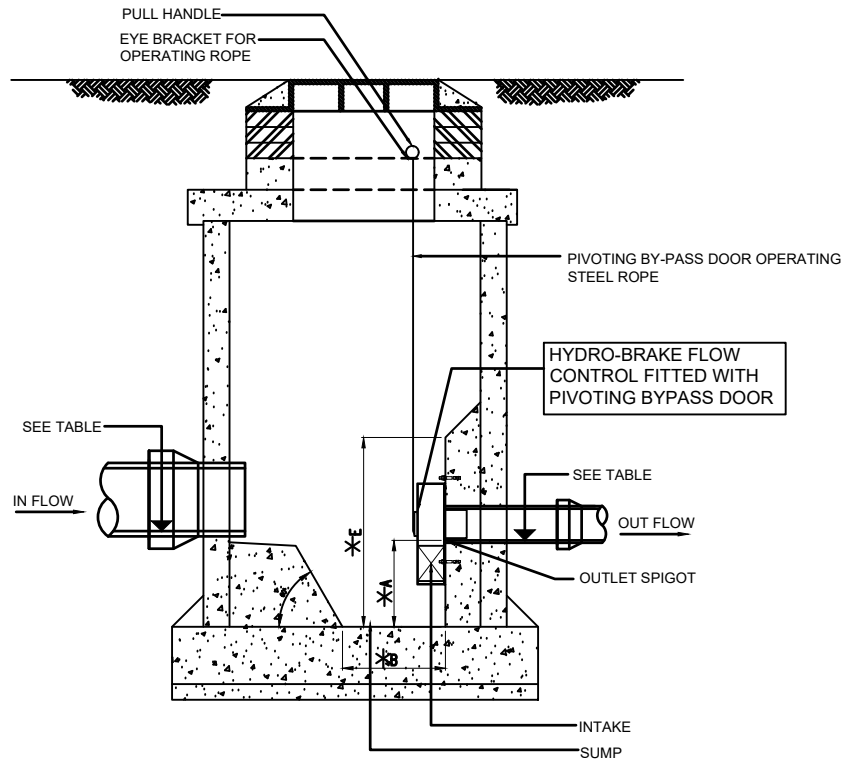




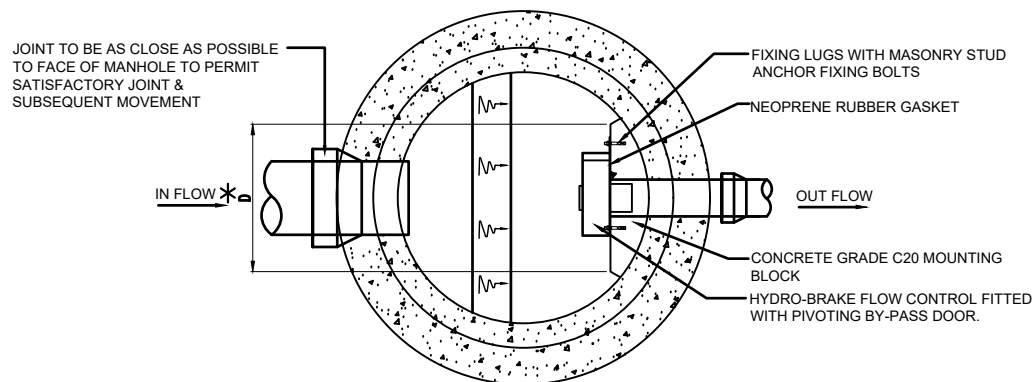
NOTES

1. All dimensions in millimetres. (This drawing is not to scale)
2. New Kerbing details to comply with drawing as stated
3. Full Construction Information for Carriageway to Table NAC/001/CD
4. Full Construction Information for Footway to Table NAC/001/CD
5. This drawing to be read in junction with drawing NAC/308/FLT1
6. Gully detail to drawing NAC/302/GUL
7. Acceptable Backfill material to be material excavated from within the site or imported on to the site which meets the requirements of S.H.W. Table 6/1 and contract specific Appendix 6/1 for acceptability for use in the permanent works.

(This drawing is not to scale)

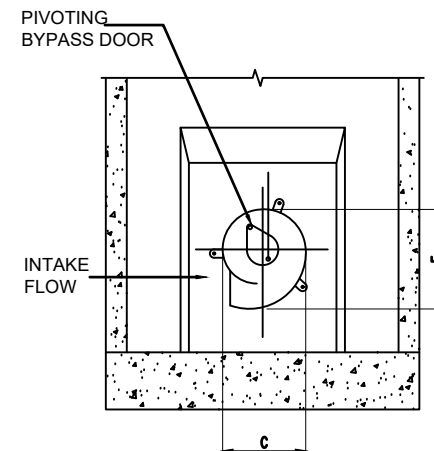


PRECAST CONCRETE HYDRO-BRAKE MANHOLE



PLAN ON HYDRO-BRAKE MANHOLE

TABLE							
INTERNAL DIAMETER OF LOWER PIPE (mm)	INTERNAL DIAMETER OF UPPER PIPE (mm)	'X' mm	'Z' mm	'H' mm	'A' mm	'D' mm	'W' mm
150	150	150	150	375	300	652	1156
150	225	150	150	375	300	704	1239
150	300	150	150	375	300	748	1328
150	375	250	150	375	400	880	1610
150	450	250	150	375	400	921	1693
150	525	250	150	375	400	962	1775
150	600	275	150	375	425	1028	1908
225	225	150	150	375	300	736	1322
225	300	150	150	375	300	781	1411
225	375	250	150	375	400	922	1693
225	450	250	150	375	400	963	1776
225	525	250	150	375	400	1004	1858
225	600	275	150	375	425	1071	1991
300	300	150	150	375	300	825	1500
300	375	250	150	375	400	966	1782
300	450	250	150	375	400	1007	1865
300	525	250	150	375	400	1048	1947
300	600	275	150	375	425	1115	2080



SECTION ON HYDRO-BRAKE

NOTES

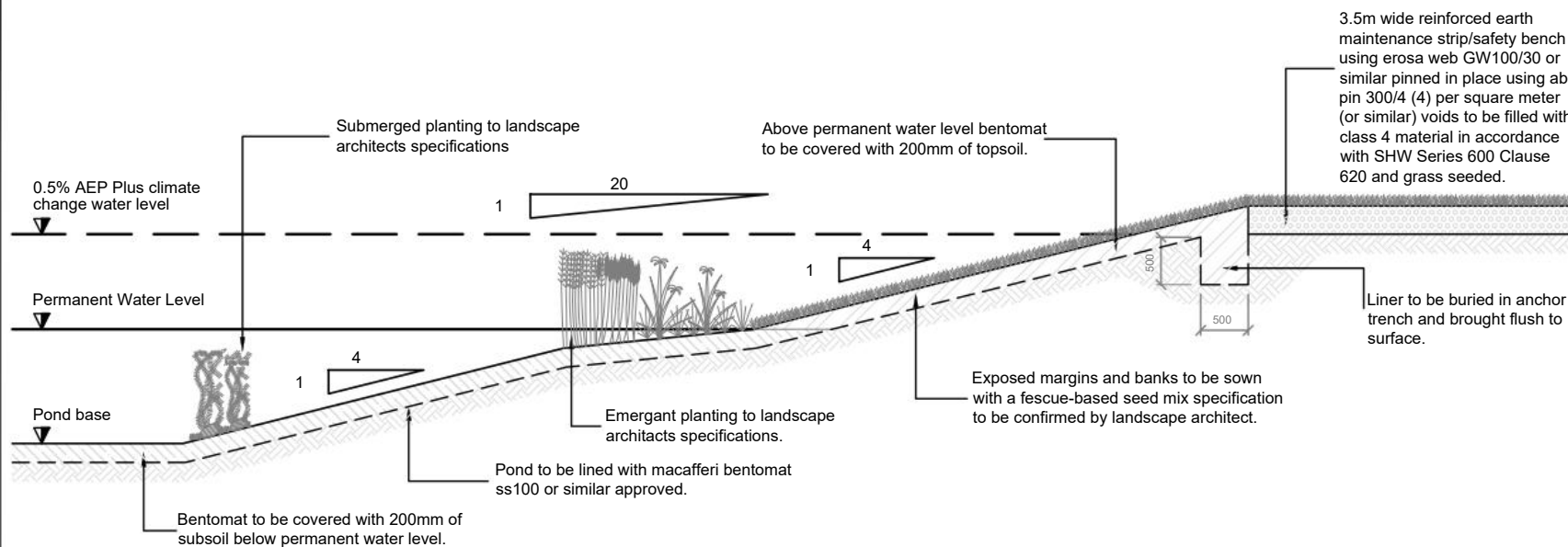
1. All dimensions in millimeters.
2. All Hydrobrakes should provide the flow capacities indicated on drainage layout drawings.
3. The minimum orifice size for all hydrobrake to be 75mm diameter and calculations provided by supplier to engineer for approval.

HYDROBRAKE CHAMBER

NOTES

1. All dimensions in millimetres. (This drawing is not to scale)

(This drawing is not to scale)

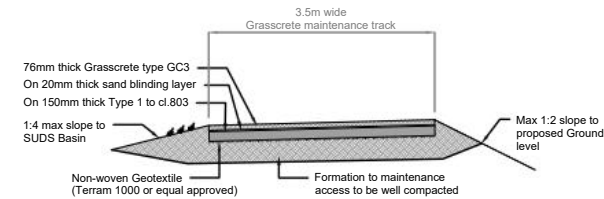


TYPICAL SECTION THROUGH POND MARGIN

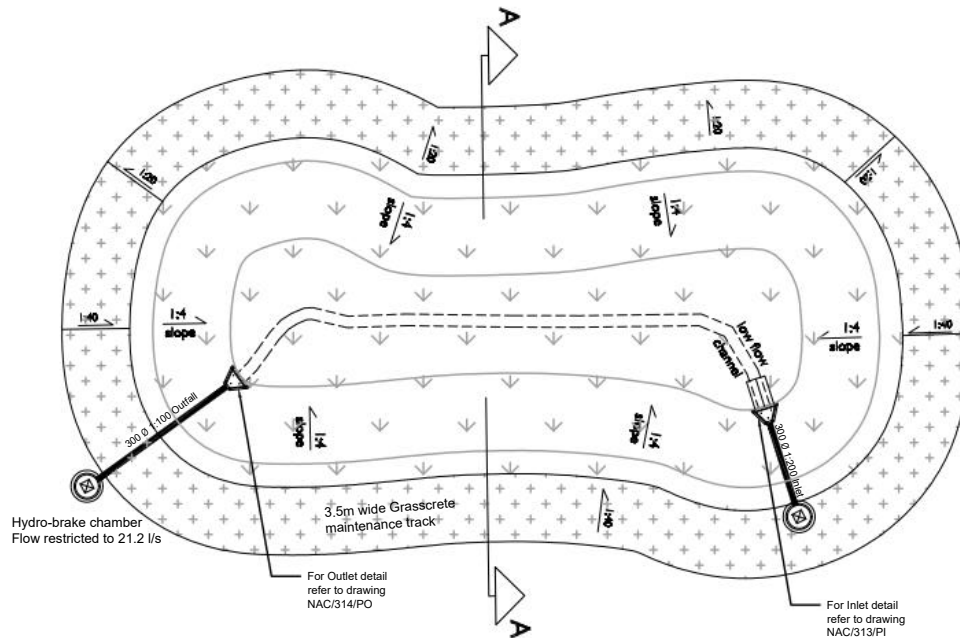
NOTES

1. All dimensions in millimetres. (This drawing is not to scale)
2. For Inlet detail refer to drawing NAC/313/PI
3. For Outlet detail refer to drawing NAC/314/PO

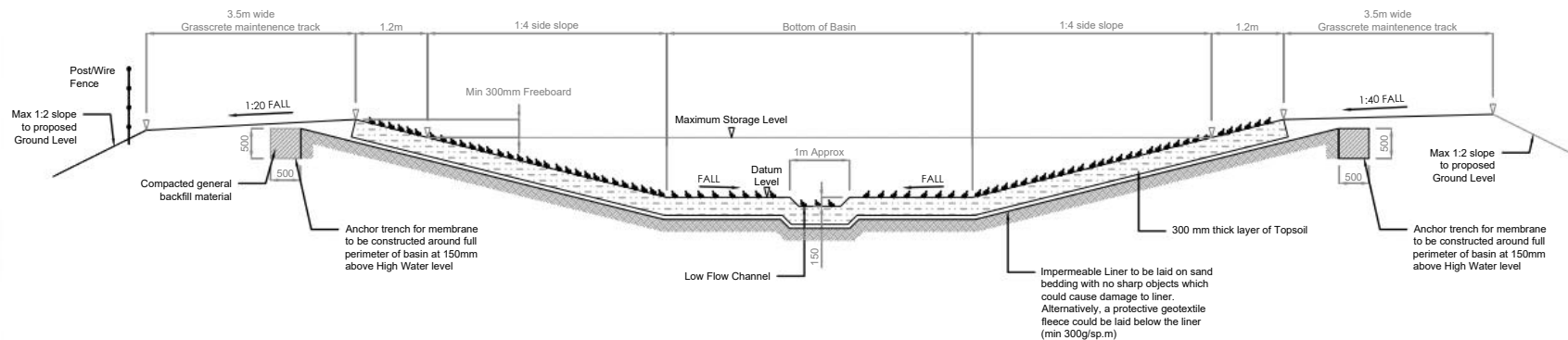
(This drawing is not to scale)



TYPICAL SECTION - GRASSCRETE MAINTENANCE TRACK



TYPICAL PLAN - SUDS BASIN



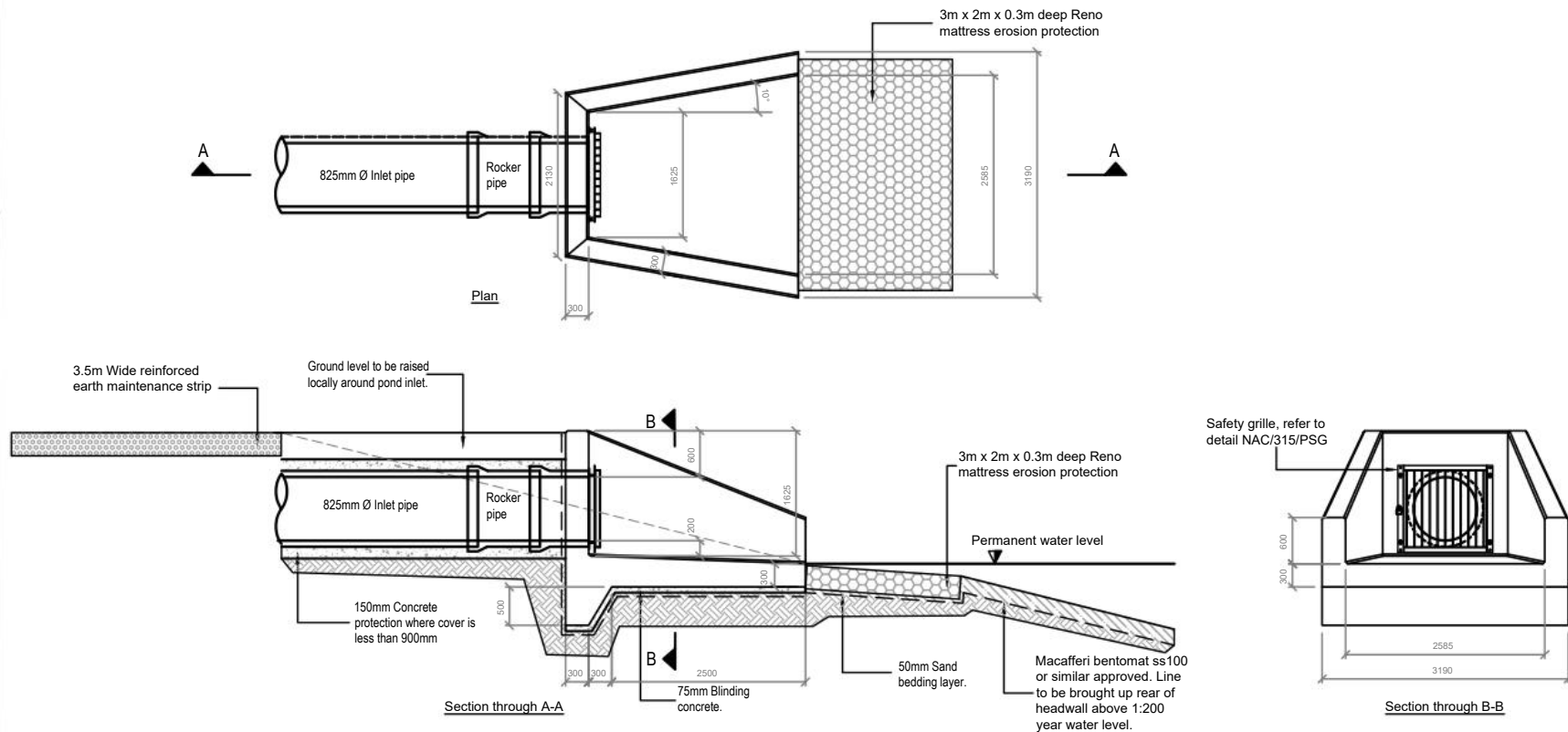
TYPICAL SECTION A-A THROUGH SUDS BASIN

TYPICAL SECTION THROUGH BASIN

NOTES

1. All dimensions in millimetres. (This drawing is not to scale)
2. This drawing should be read in conjunction with drawings NAC/312/PB, NAC/314/PO and NAC/315/PSG

(This drawing is not to scale)

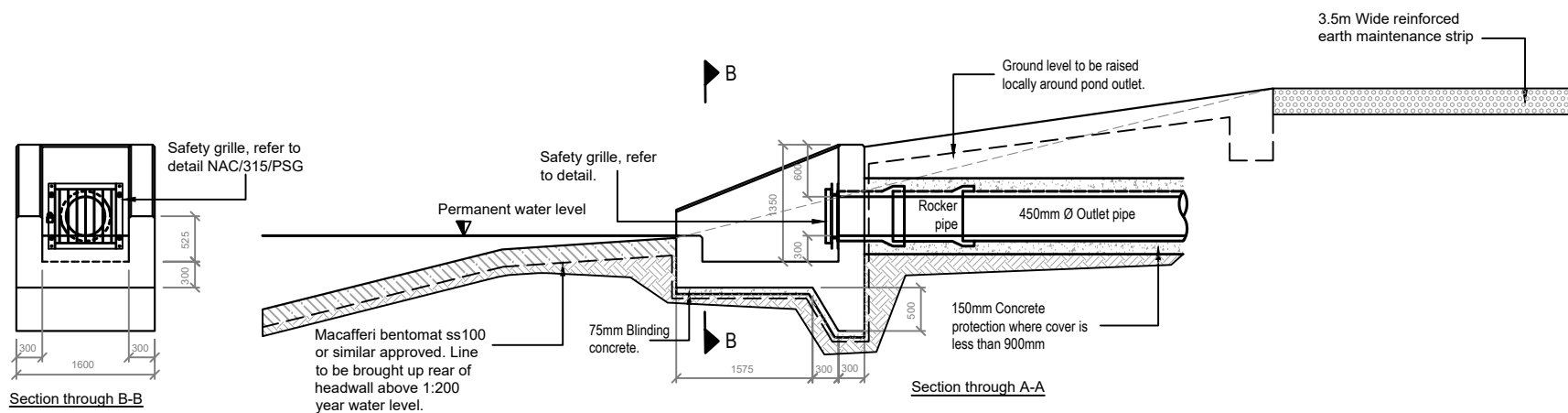
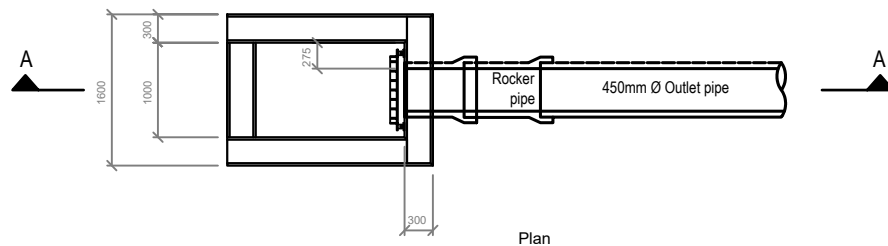


DETENTION POND INLET HEADWALL DETAIL

NOTES

1. All dimensions in millimetres. (This drawing is not to scale)
2. This drawing should be read in conjunction with drawings NAC/312/PB, NAC/313/PI and NAC/315/PSG

(This drawing is not to scale)

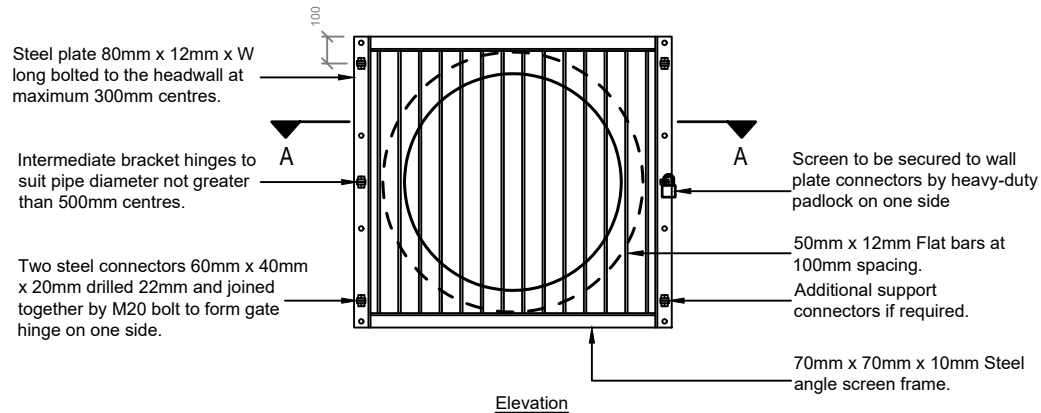


DETENTION POND OUTLET HEADWALL DETAIL

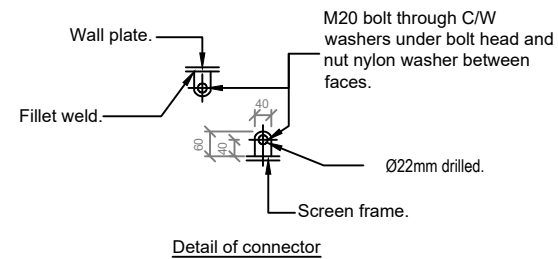
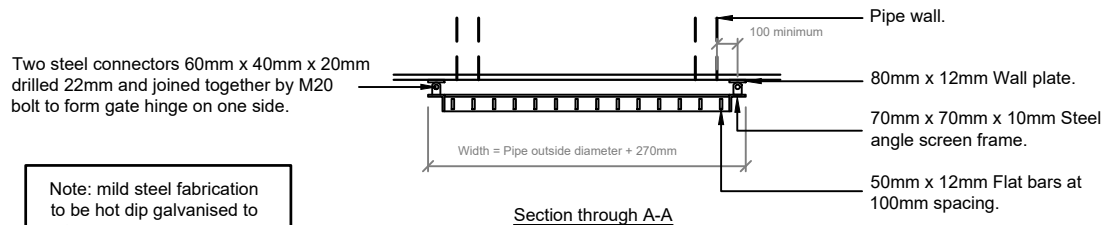
NOTES

1. All dimensions in millimetres. (This drawing is not to scale)
2. This drawing should be read in conjunction with drawings NAC/312/PB, NAC/313/PI and NAC/314/PO

(This drawing is not to scale)



825mm Ø Pipe external diameter taken as 985mm
 450mm Ø Pipe external diameter taken as 575mm
 External diameter based on available pipe dimensions to be confirmed on site



Note: mild steel fabrication
 to be hot dip galvanised to
 BS EN 1461

NOTES

1. All dimensions in millimetres. (This drawing is not to scale)

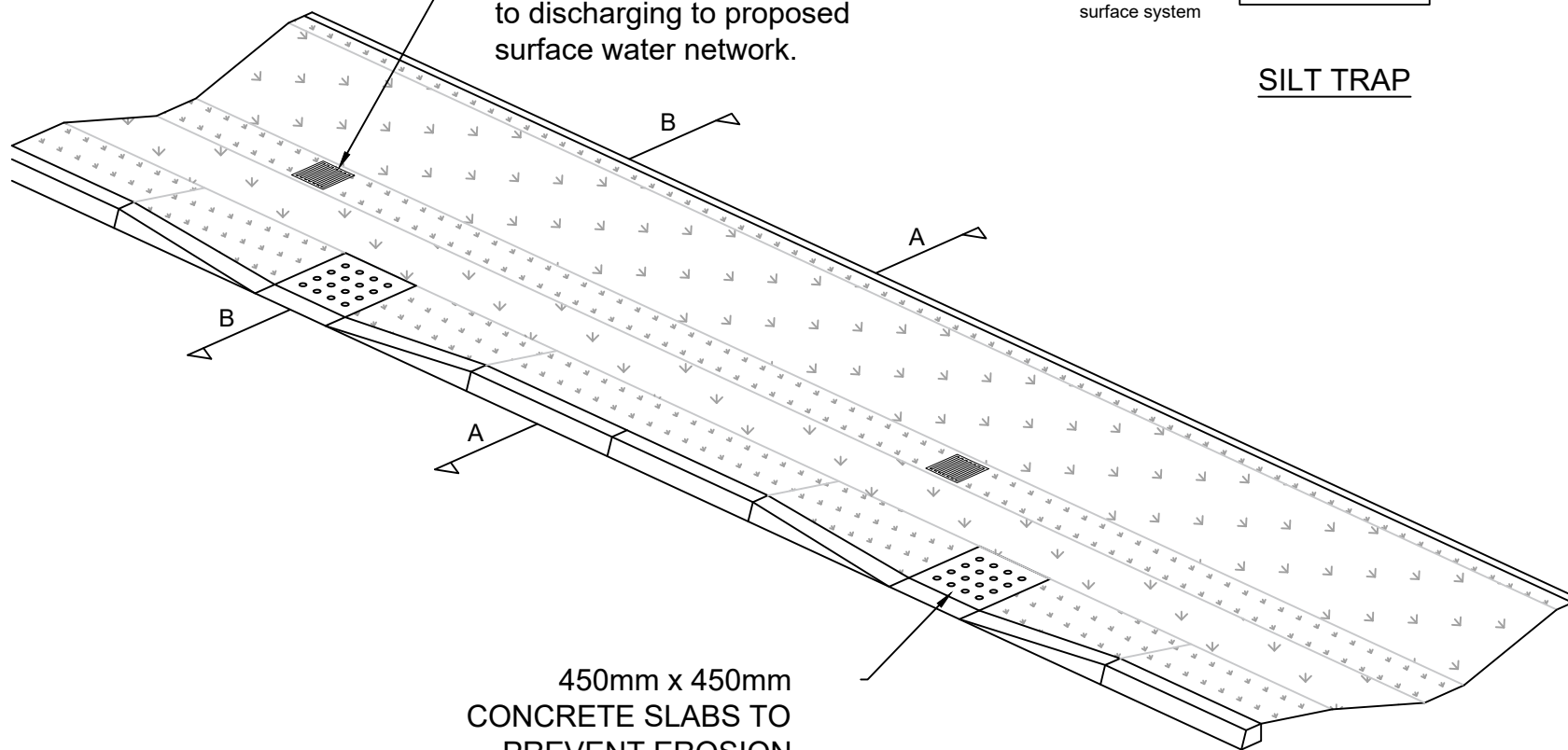
(This drawing is not to scale)

150mmØ perforated
pipe between chambers.

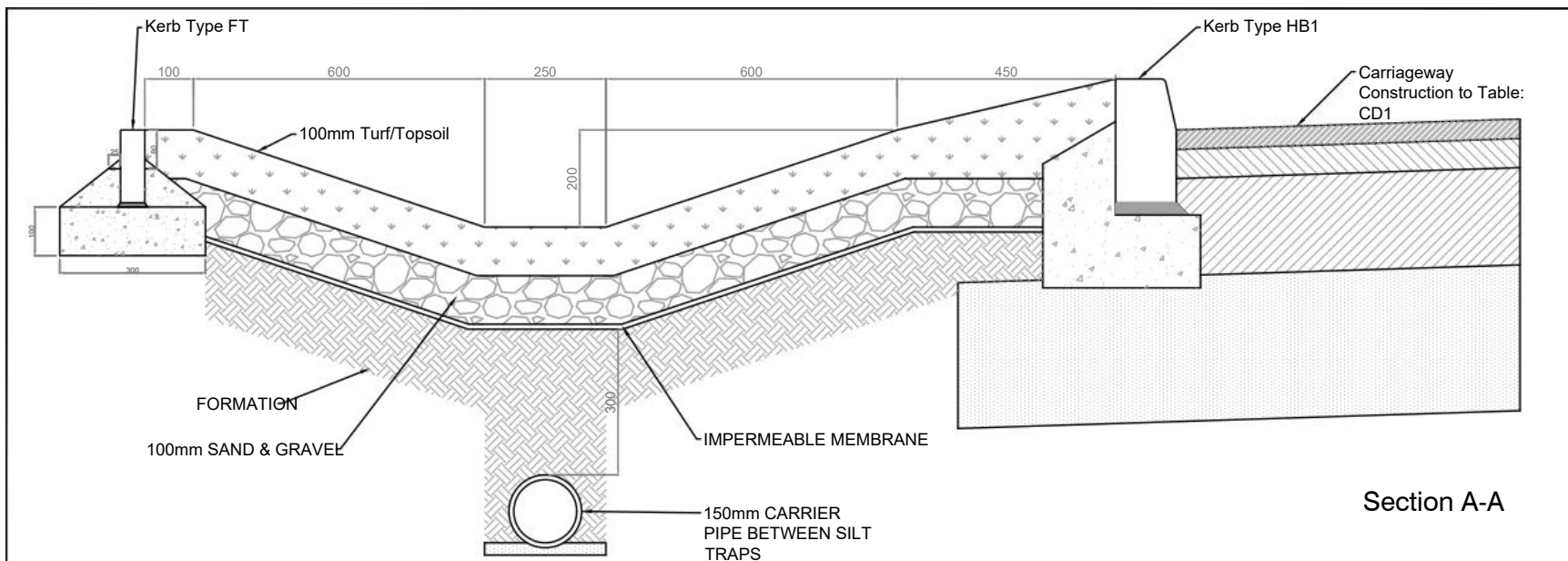
150mmØ outlet to
proposed mainline
surface system

SILT TRAP

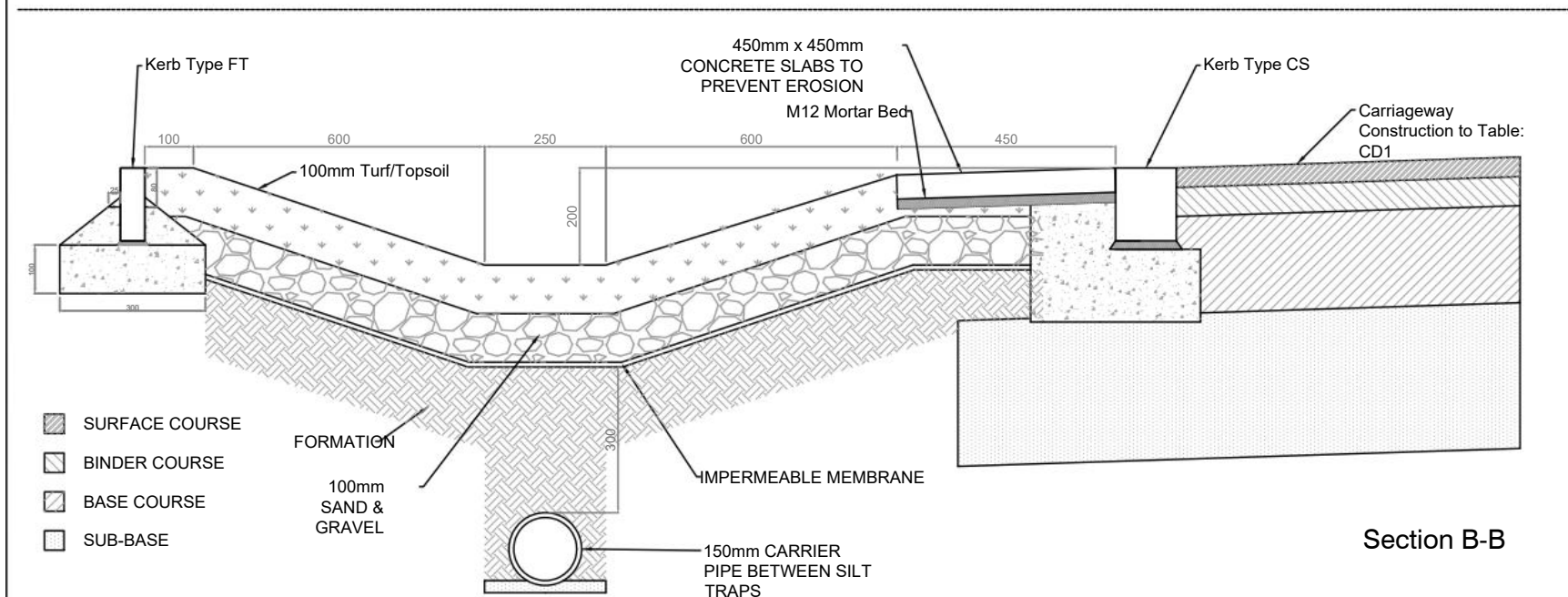
Polypropylene silt trap with open
grill cover to allow surface water
from embankment to enter prior
to discharging to proposed
surface water network.



450mm x 450mm
CONCRETE SLABS TO
PREVENT EROSION



Section A-A



Section B-B

NOTES

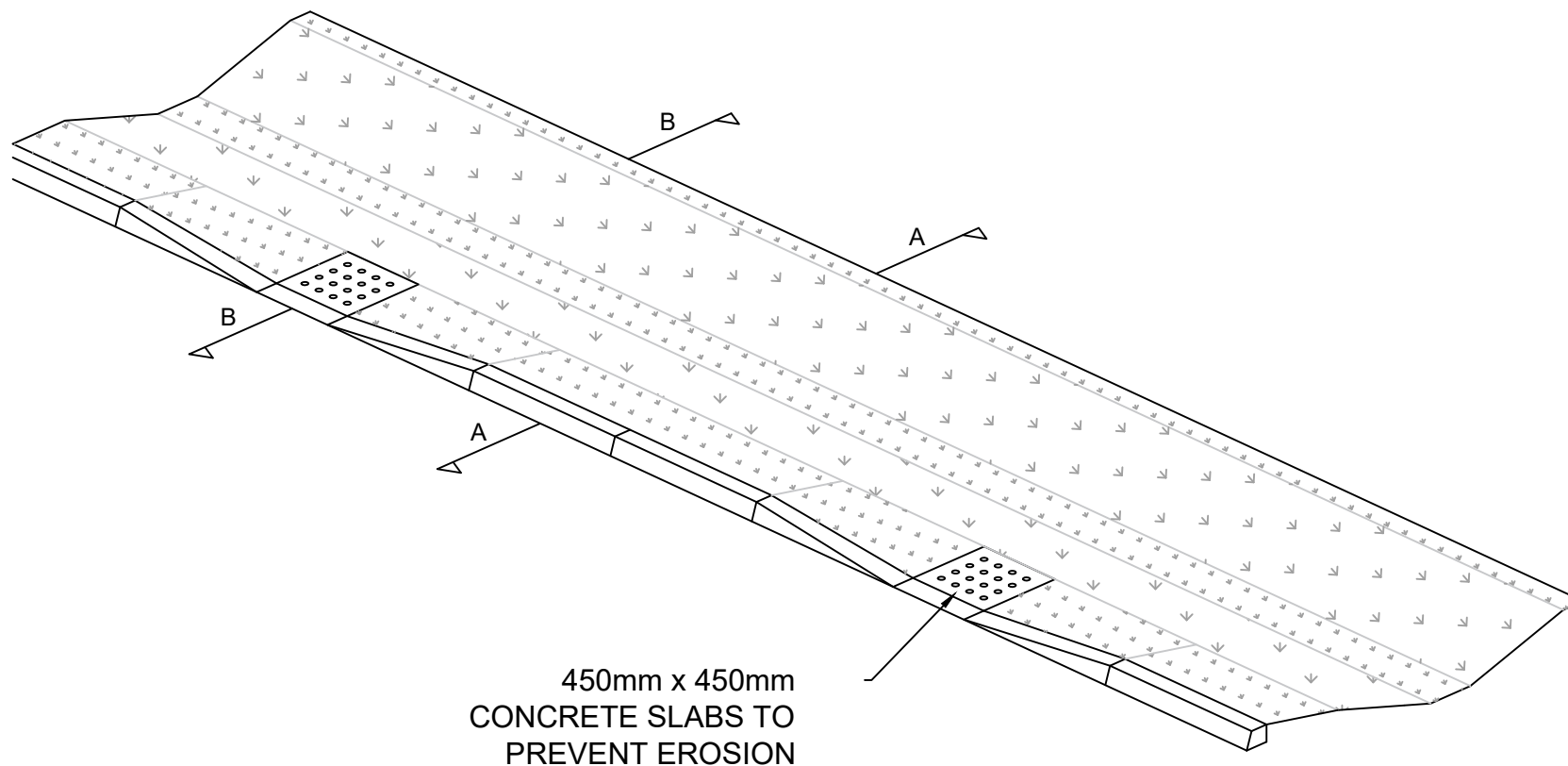
1. All dimensions in millimetres. (This drawing is not to scale)
2. New Kerbing details to comply with drawing as stated
3. Full Construction Information for Carriageway to Table NAC/001/CD

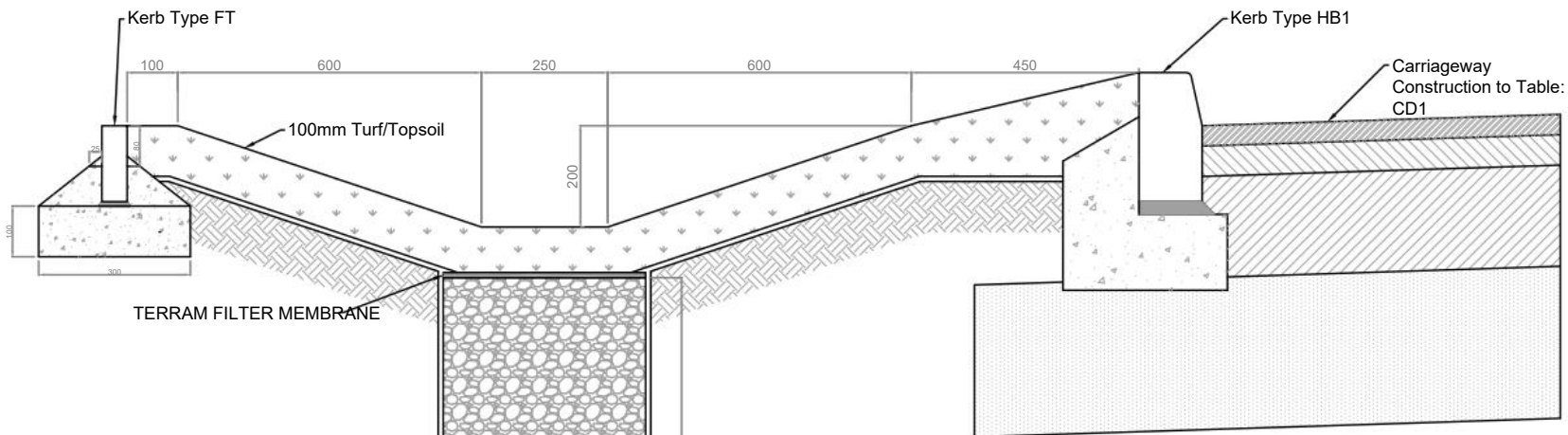
(This drawing is not to scale)

NOTES

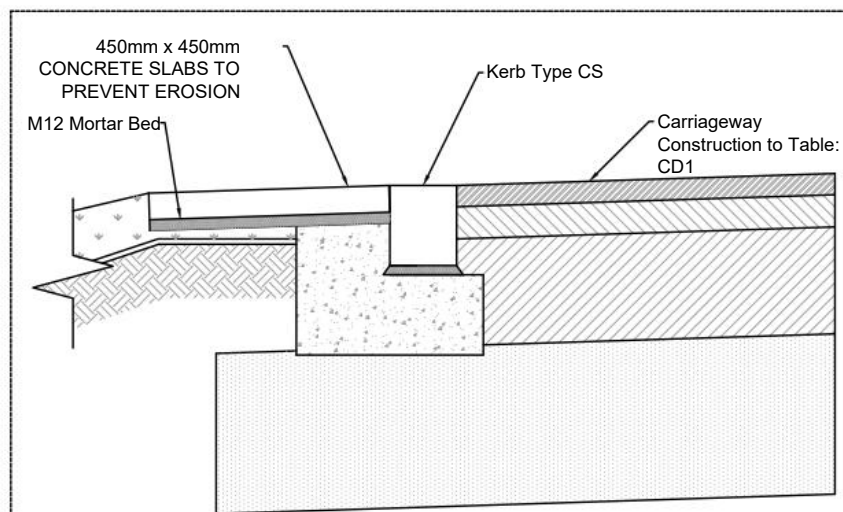
1. All dimensions in millimetres. (This drawing is not to scale)

(This drawing is not to scale)





Section A-A







Section B-B

NOTES

1. All dimensions in millimetres. (This drawing is not to scale)
2. New Kerbing details to comply with drawing as stated
3. Full Construction Information for Carriageway to Table NAC/001/CD

(This drawing is not to scale)

-  SURFACE COURSE
-  BINDER COURSE
-  BASE COURSE
-  SUB-BASE

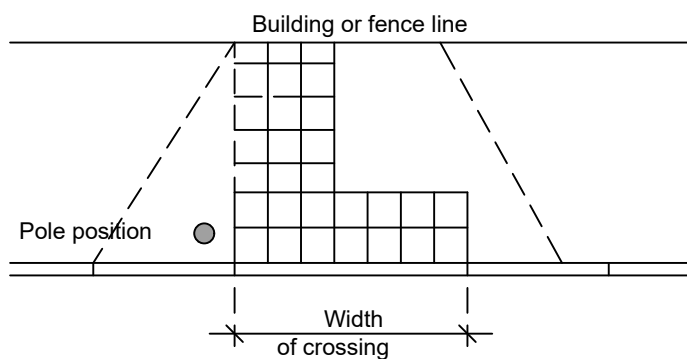
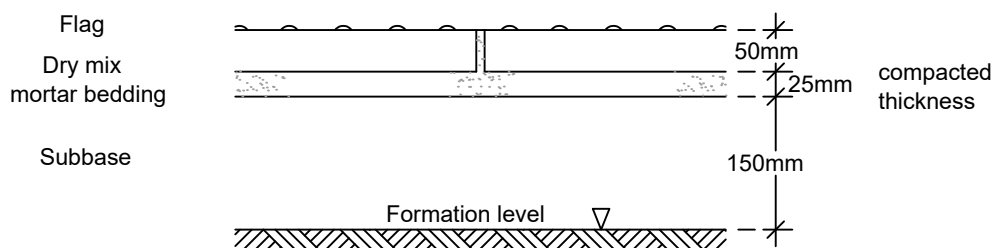
IMPERMEABLE
MEMBRANE

STANDARD DRY SWALE/CARRIAGEWAY CONSTRUCTION

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NOTES

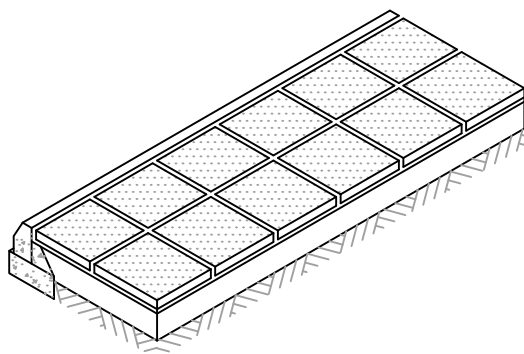
1. All dimensions in millimetres.
2. Precast concrete flags to comply with BS EN 1339:2003.
3. Flags shall be 400mm x 400mm x 50mm thick, coloured red for controlled and buff for uncontrolled.
4. Flags shall only be cut "on the square", and equidistant between rows of surface texturing, except where against a building or fence line.
5. Crossing widths should be chosen, where possible, to avoid the necessity of cut flags.
6. All joints shall not be less than 5mm nor more than 10mm width.
7. Joints shall be filled with M12 mortar of a similar colour to the flags and key pointed.
8. For uncontrolled crossings only the two rows next to the kerb will be laid.



TYPICAL LAYOUT AT CONTROLLED PEDESTRIAN CROSSING

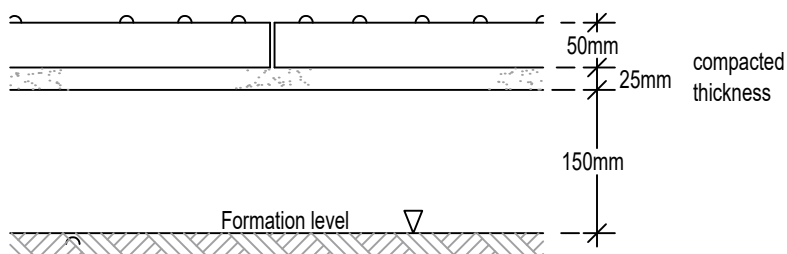
NOTES

1. All dimensions in millimetres.
2. Precast concrete flags to comply with BS EN 1339:2003.
3. Flags shall be 400mm x 400mm x 50mm thick, coloured buff.
4. Flags shall only be cut "on the square", and equidistant between rows of surface texturing, except where against a building or fence line.
5. Crossing widths should be chosen, where possible, to avoid the necessity of cut flags.
6. All joints shall not be less than 5mm nor more than 10mm width.
7. Joints shall be filled with M12 mortar of a similar colour to the flags and key pointed.

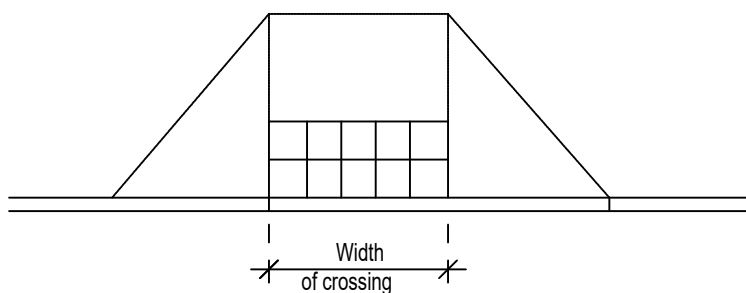


Flag
Dry mix mortar bedding

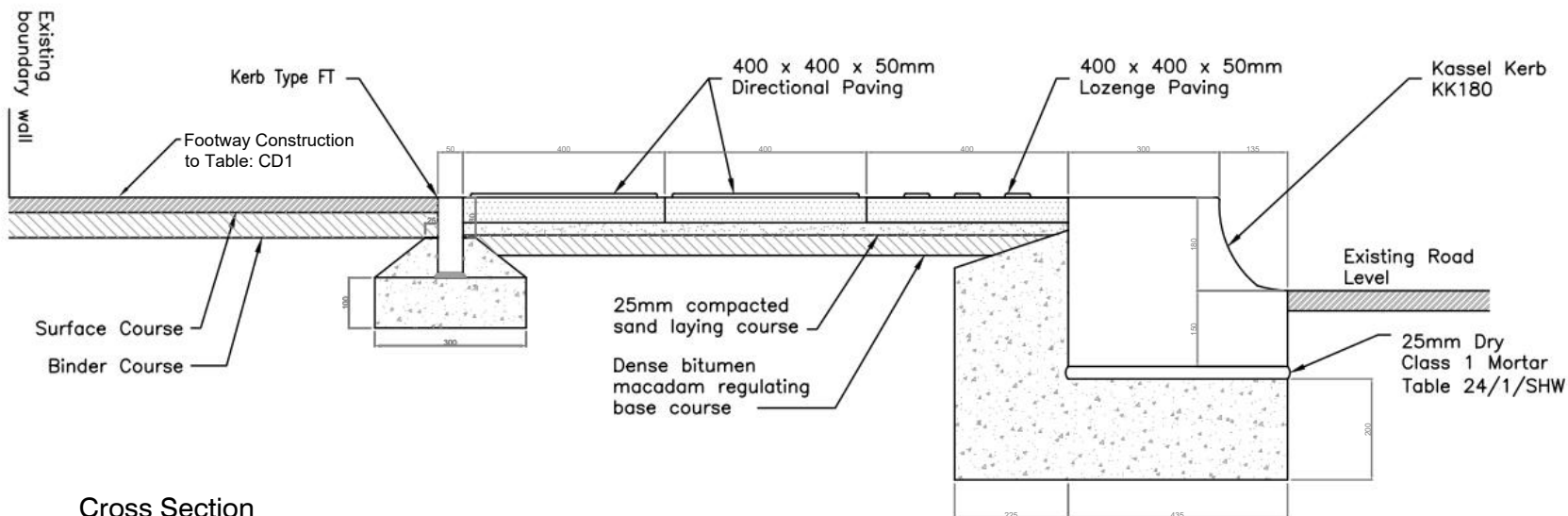
Subbase



Building or fence line

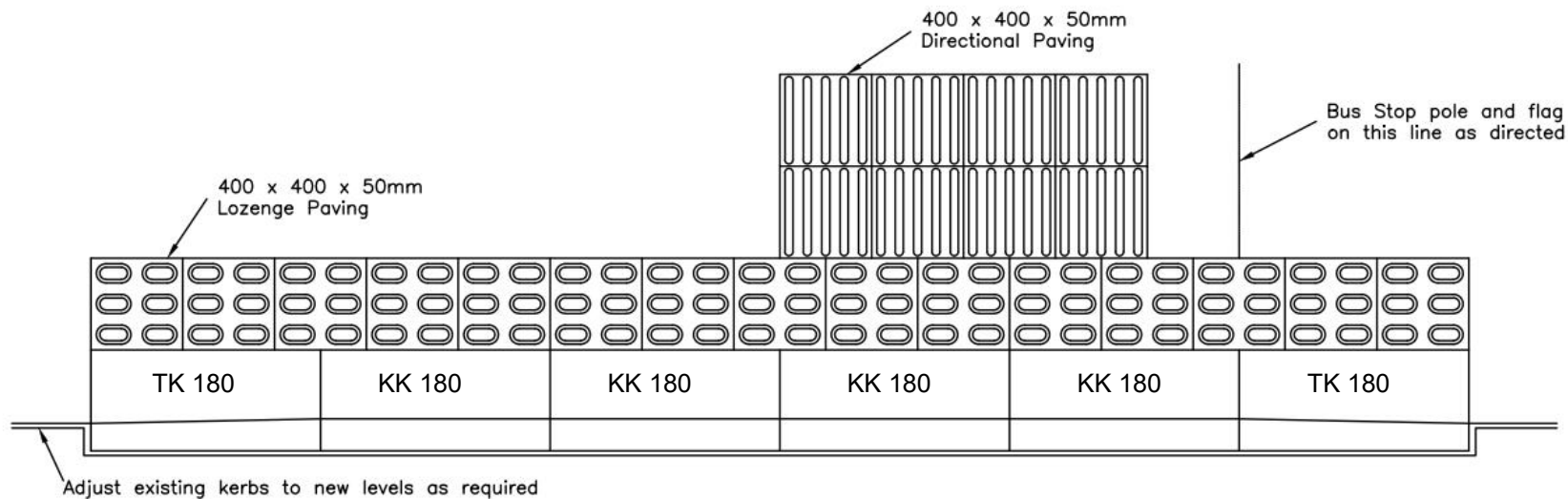


TYPICAL LAYOUT AT DROP KERB CROSSING



Cross Section

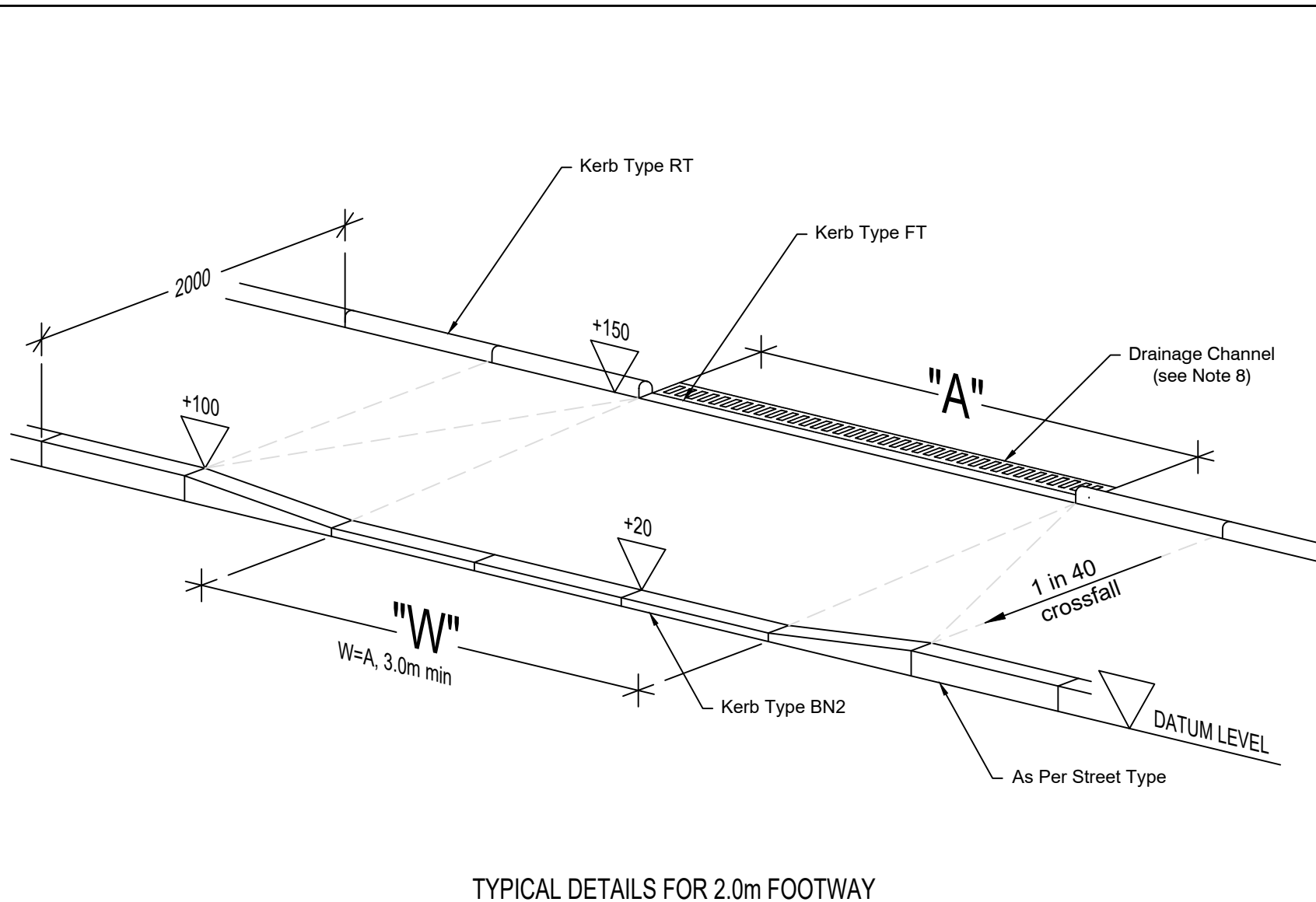
Plan View



NOTES

1. All dimensions in millimetres. (This drawing is not to scale)
2. New Kerbing details to comply with drawing as stated
3. Full Construction Information for Carriageway to Table NAC/001/CD
4. Full Construction Information for Footway to Table NAC/001/CD

(This drawing is not to scale)



NOTES

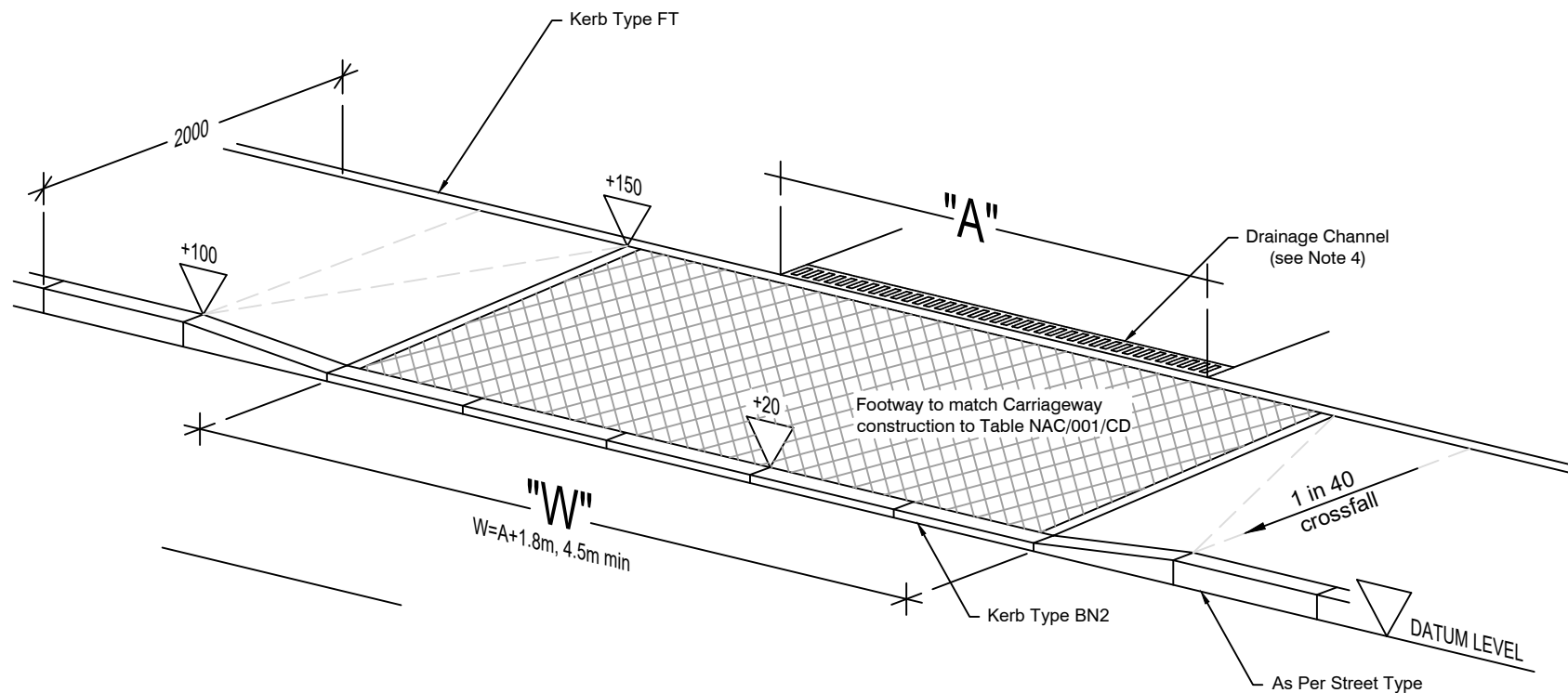
1. All dimensions in millimetres. (This drawing is not to scale)
2. This drawing should be read in conjunction with drawing NAC/205/DW2
3. This access is for vehicular use only. Should provision be required for pedestrians see drawing NAC/409/PCR.
4. Dimension "A" is the width of the access.
5. Dimension "W" is the width of the drop crossing.
6. New Kerbing details to comply with drawing as stated
7. Full Construction Information for Footway to Table NAC/001/CD
8. Where the gradient of the Private Driveway slopes towards the Public Footway, a Drainage Channel as depicted must be installed. It is not required if the Private Driveway slopes into the private grounds.

(This drawing is not to scale)

NOTES

1. All dimensions in millimetres. (This drawing is not to scale)
2. This access is for vehicular use only. Should provision be required for pedestrians see drawing NAC/409/PCR.
3. Dimension "A" is the width of the access.
4. Dimension "W" is the width of the drop crossing.
5. New Kerbing details to comply with drawing as stated
6. Footway Crossing to match Full Construction Information for Carriageway to Table NAC/001/CD
7. Full Construction Information for Footway to Table NAC/001/CD

(This drawing is not to scale)

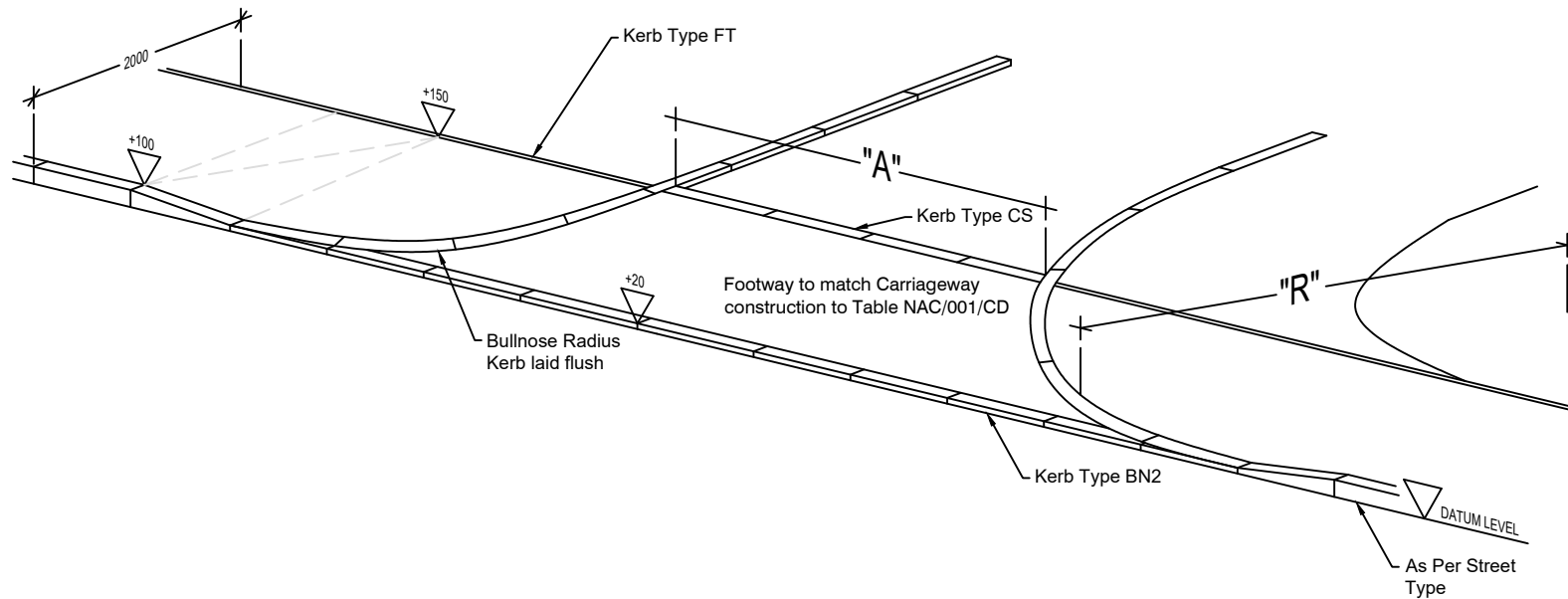


TYPICAL DETAILS FOR 2.0m FOOTWAY

NOTES

1. All dimensions in millimetres. (This drawing is not to scale)
2. This access is for vehicular use only. Should provision be required for pedestrians see drawing NAC/409/PCR.
3. Dimension "A" is the width of the access road.
MINIMUM - 5.5m Car Park
- 6.0m Commercial
4. Dimension "R" is the corner radius.
MINIMUM - 4.5m Car Park
- 6.0m Commercial
5. New Kerbing details to comply with drawing as stated
6. Footway Crossing to match Full Construction Information for Carriageway to Table NAC/001/CD
7. Full Construction Information for Footway to Table NAC/001/CD

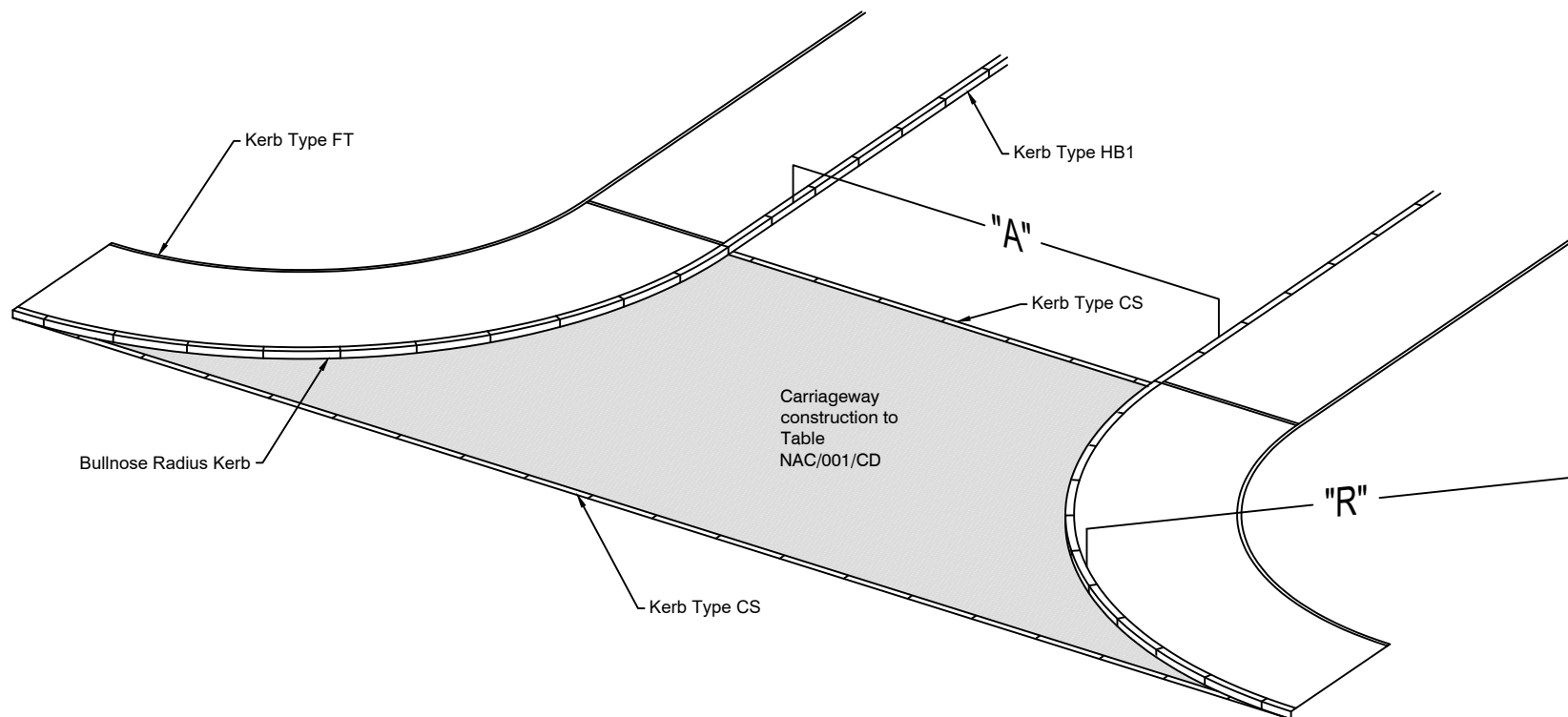
(This drawing is not to scale)



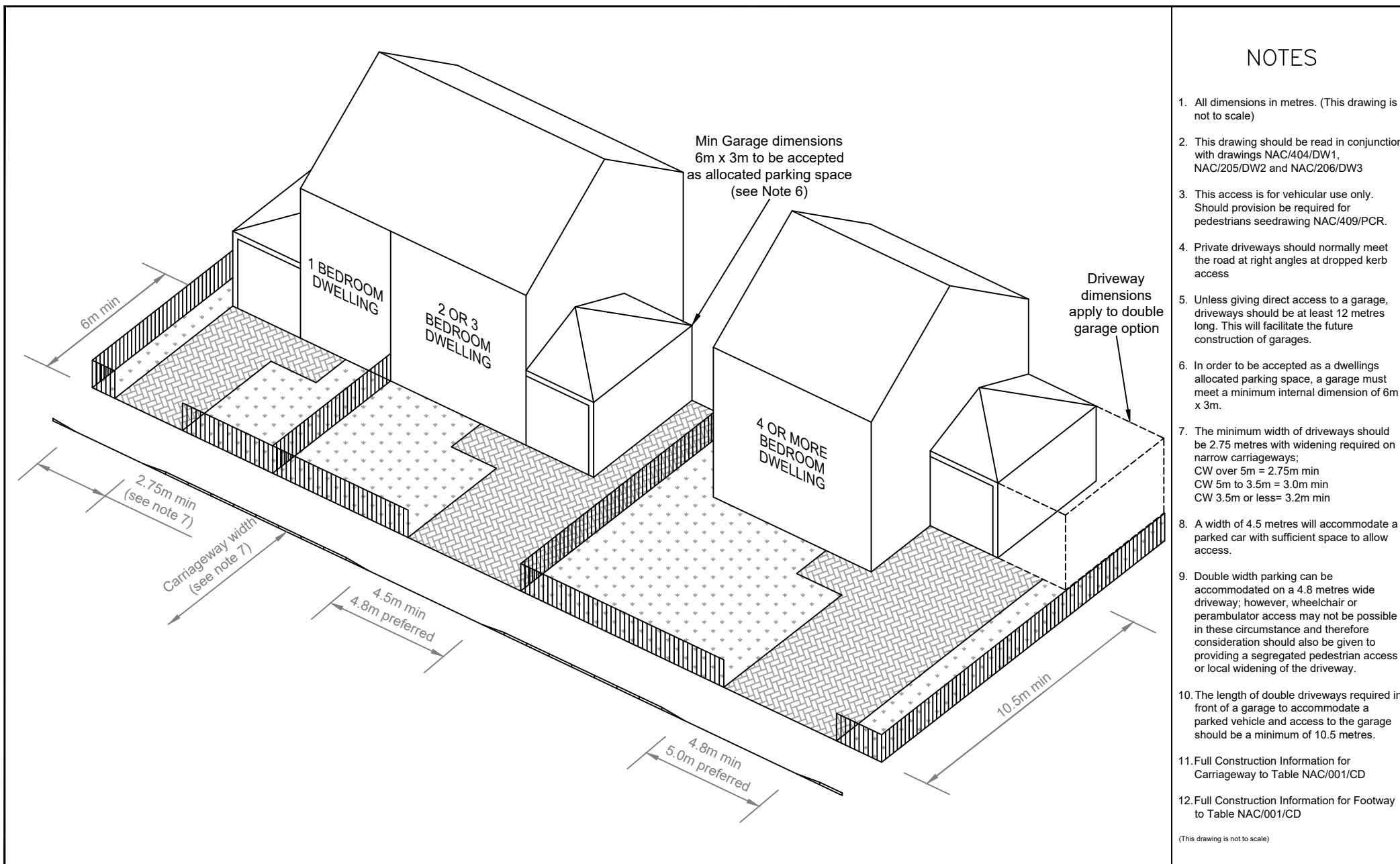
NOTES

1. All dimensions in millimetres. (This drawing is not to scale)
2. This access is for vehicular use only. Should provision be required for pedestrians see drawing NAC/409/PCR.
3. Dimension "A" is the width of the access road.
MINIMUM - 6.0m Non-Industrial
- 7.3m Industrial
4. Dimension "R" is the corner radius.
MINIMUM - 6.0m Non-Industrial
- 9.0m Industrial
5. New Kerbing details to comply with drawing as stated
6. Footway Crossing to match Full Construction Information for Carriageway to Table NAC/001/CD
7. Full Construction Information for Footway to Table NAC/001/CD

(This drawing is not to scale)



MAJOR COMMERCIAL ACCESS

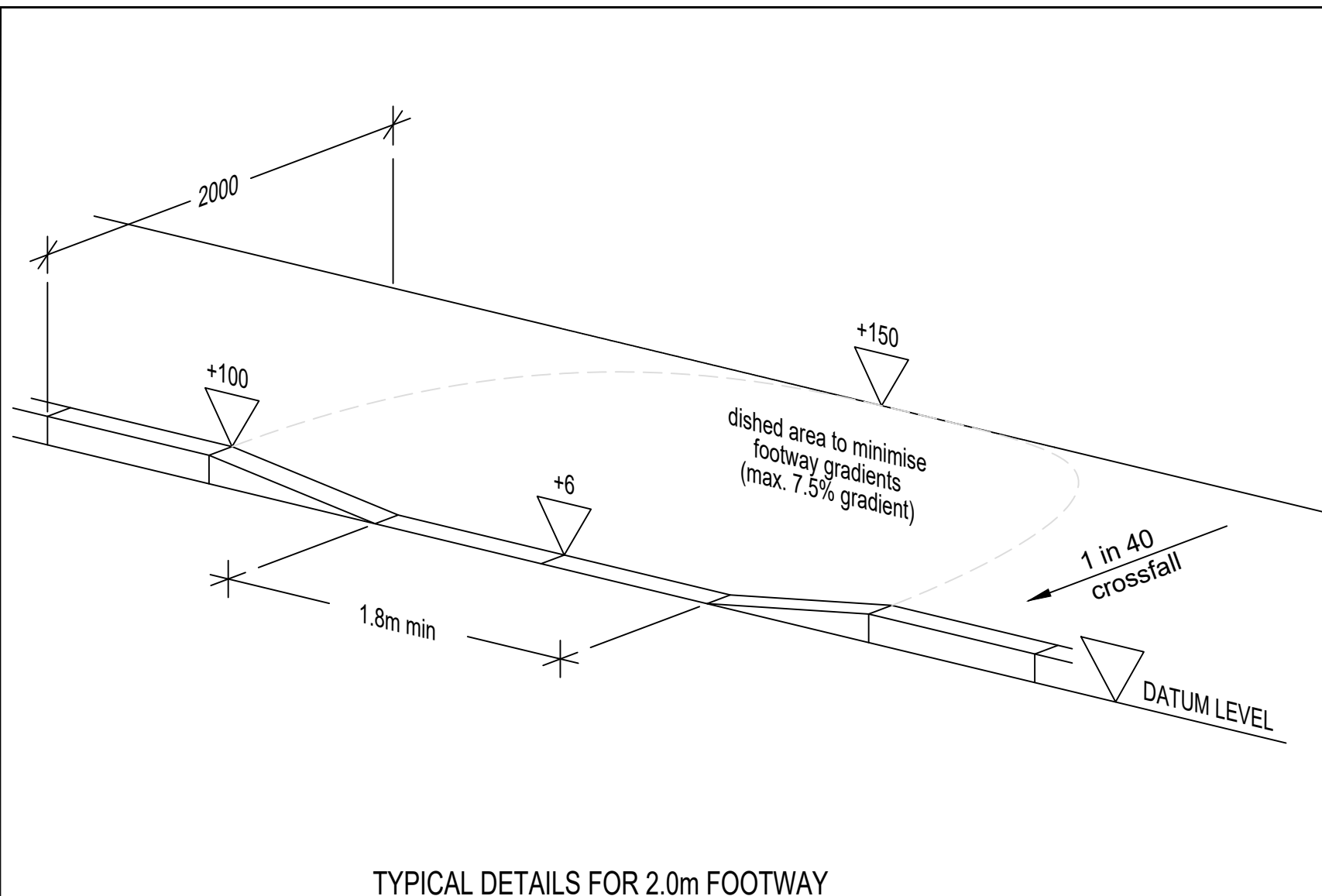


NOTES

1. All dimensions in metres. (This drawing is not to scale)
2. This drawing should be read in conjunction with drawings NAC/404/DW1, NAC/205/DW2 and NAC/206/DW3
3. This access is for vehicular use only. Should provision be required for pedestrians see drawing NAC/409/PCR.
4. Private driveways should normally meet the road at right angles at dropped kerb access
5. Unless giving direct access to a garage, driveways should be at least 12 metres long. This will facilitate the future construction of garages.
6. In order to be accepted as a dwellings allocated parking space, a garage must meet a minimum internal dimension of 6m x 3m.
7. The minimum width of driveways should be 2.75 metres with widening required on narrow carriageways;
CW over 5m = 2.75m min
CW 5m to 3.5m = 3.0m min
CW 3.5m or less = 3.2m min
8. A width of 4.5 metres will accommodate a parked car with sufficient space to allow access.
9. Double width parking can be accommodated on a 4.8 metres wide driveway; however, wheelchair or perambulator access may not be possible in these circumstance and therefore consideration should also be given to providing a segregated pedestrian access or local widening of the driveway.
10. The length of double driveways required in front of a garage to accommodate a parked vehicle and access to the garage should be a minimum of 10.5 metres.
11. Full Construction Information for Carriageway to Table NAC/001/CD
12. Full Construction Information for Footway to Table NAC/001/CD

(This drawing is not to scale)

MINIMUM DRIVEWAY DIMENSIONS

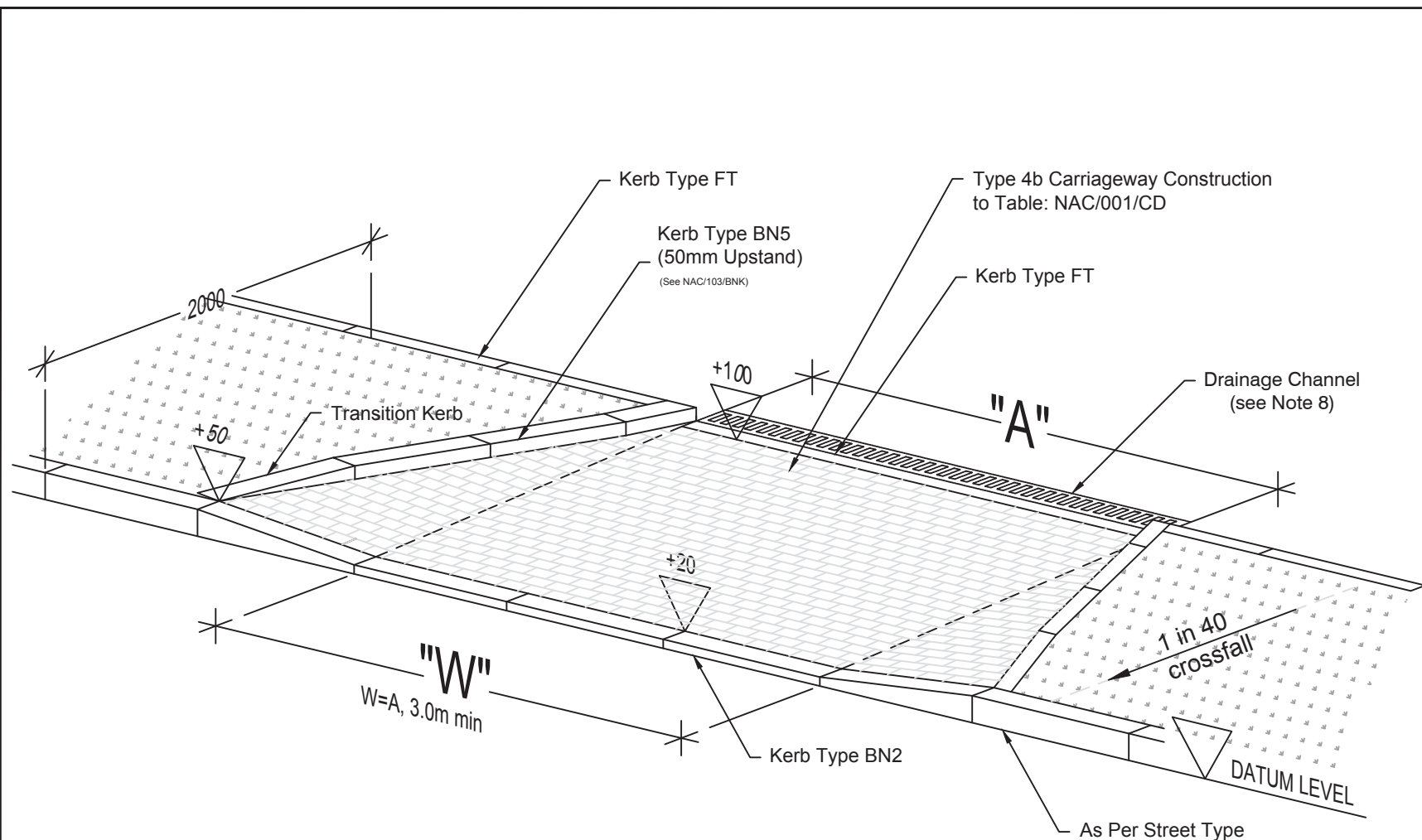


TYPICAL DETAILS FOR 2.0m FOOTWAY

NOTES

1. All dimensions in millimetres. (This drawing is not to scale)
2. New Kerbing details to comply with drawing as stated
3. Full Construction Information for Carriageway to Table NAC/001/CD
4. Full Construction Information for Footway to Table NAC/001/CD

(This drawing is not to scale)



TYPICAL DETAILS FOR 2.0m SERVICE STRIP

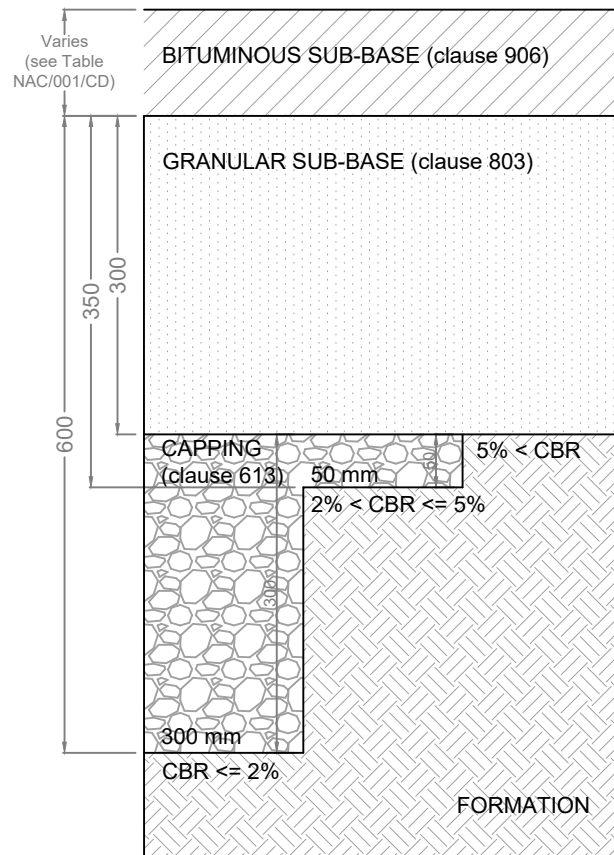
NOTES

1. All dimensions in millimetres. (This drawing is not to scale)
2. This drawing should be read in conjunction with drawing NAC/206/DW3
3. This access is for vehicular use only. Should provision be required for pedestrians see drawing NAC/409/PCR.
4. Dimension "A" is the width of the access.
5. Dimension "W" is the width of the drop crossing.
6. New Kerbing details to comply with drawing as stated
7. Full Construction Information for Footway to Table NAC/001/CD
8. Where the gradient of the Private Driveway slopes towards the Public Footway, a Drainage Channel as depicted must be installed. It is not required if the Private Driveway slopes into the private grounds.

(This drawing is not to scale)

NOTES

1. All dimensions in millimetres.



For a $2\% < \text{CBR} \leq 5\%$ where the total bituminous thickness and sub-base thickness together are less than 450mm, the sub-base is increased to achieve 450mm of non frost susceptible material and the capping layer can be correspondingly reduced. This need not be done if the capping layer is non frost-susceptible.

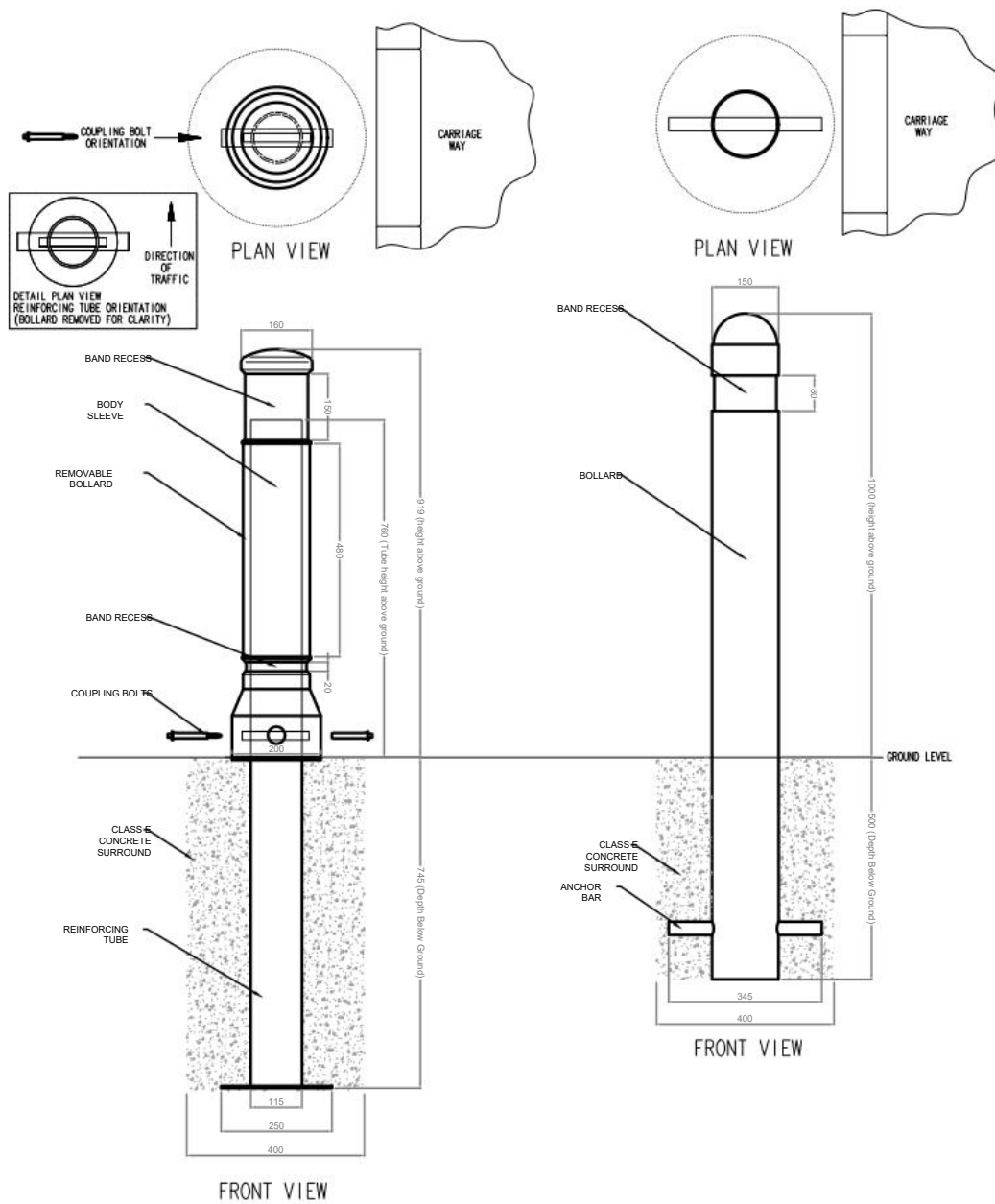
Although the table gives various thicknesses of capping layer dependent upon CBR, where CBR is significantly below 2%, these thicknesses may require to be increased dependent upon site and weather conditions prevailing at the time of construction. Additional material may require to be removed and replaced by more suitable material. Although the new material may be of good quality, the subgrade shall be assumed to be equivalent to one of a CBR just under 2% and requiring 300 mm of capping layer. The developer should consult the Network Manager for advice in these circumstances.

Where suitable technical facilities exist, it is recommended that the specific circumstances of each site are catered for by designing the road in accordance with the criteria stipulated above, Subject to a minimum construction as required to carry 0.5 Million Standard Axles (MSA), for all roads. In this circumstance it will be necessary to complete and return form CCS "Carriageway Design Certificate".

NOTES

1. All dimensions in millimetres. (This drawing is not to scale)
2. Ensure reflective banding is in the correct orientation - RED towards oncoming traffic.
3. The reinforcing tube or anchor bar is to be orientated so that the coupling bolt is inserted at 90° to the carriageway (see Plan view).
4. The reinforcing tube should be filled with concrete where required for additional strength.

(This drawing is not to scale)



BOLLARD DETAIL

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DRAWING NO

REV

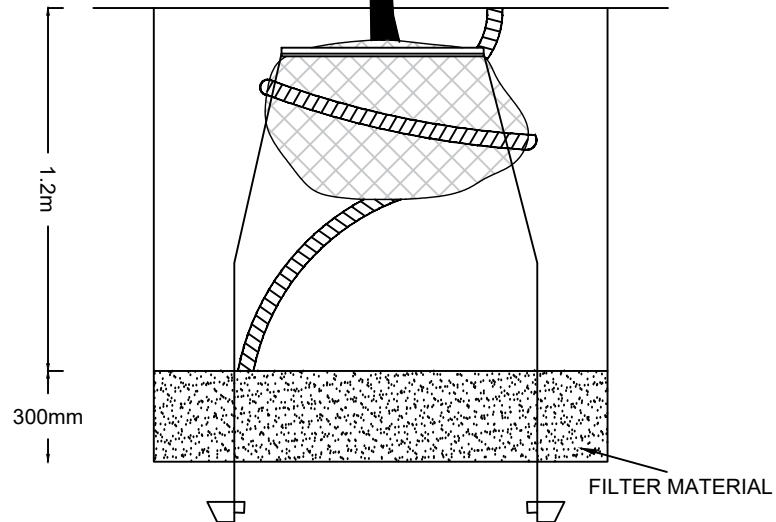
NAC/502/BOL

A

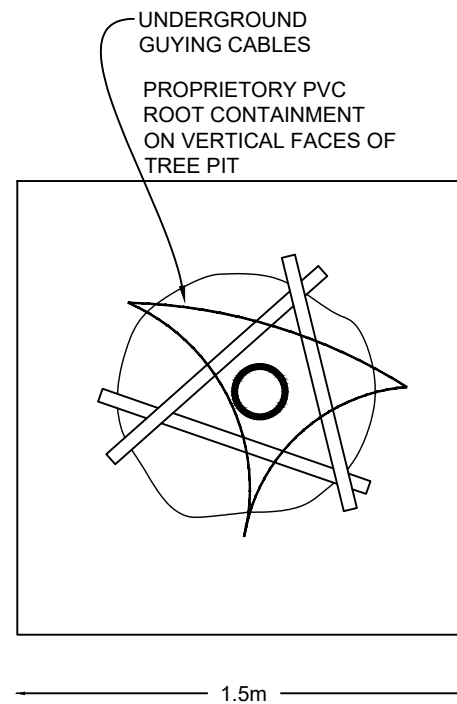
NOTES

1. All dimensions in millimetres.

SECTION



PLAN

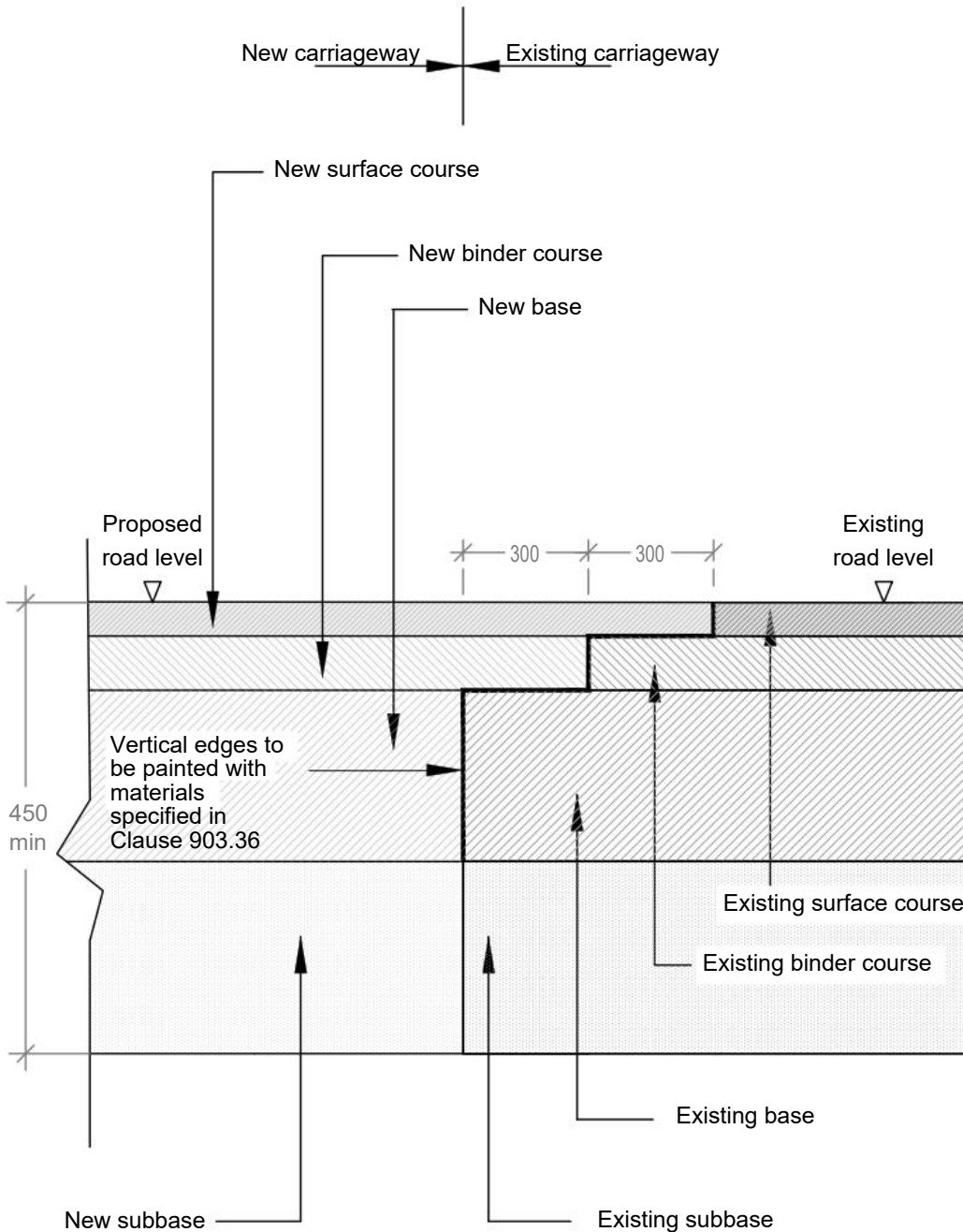


NOTE: FILTER MATERIAL REQUIRED ABOVE IMPERVIOUS GROUND CONDITIONS
FLEXIBLE ROOT LINER ALTERNATIVE TO CONCRETE RING

NOTES

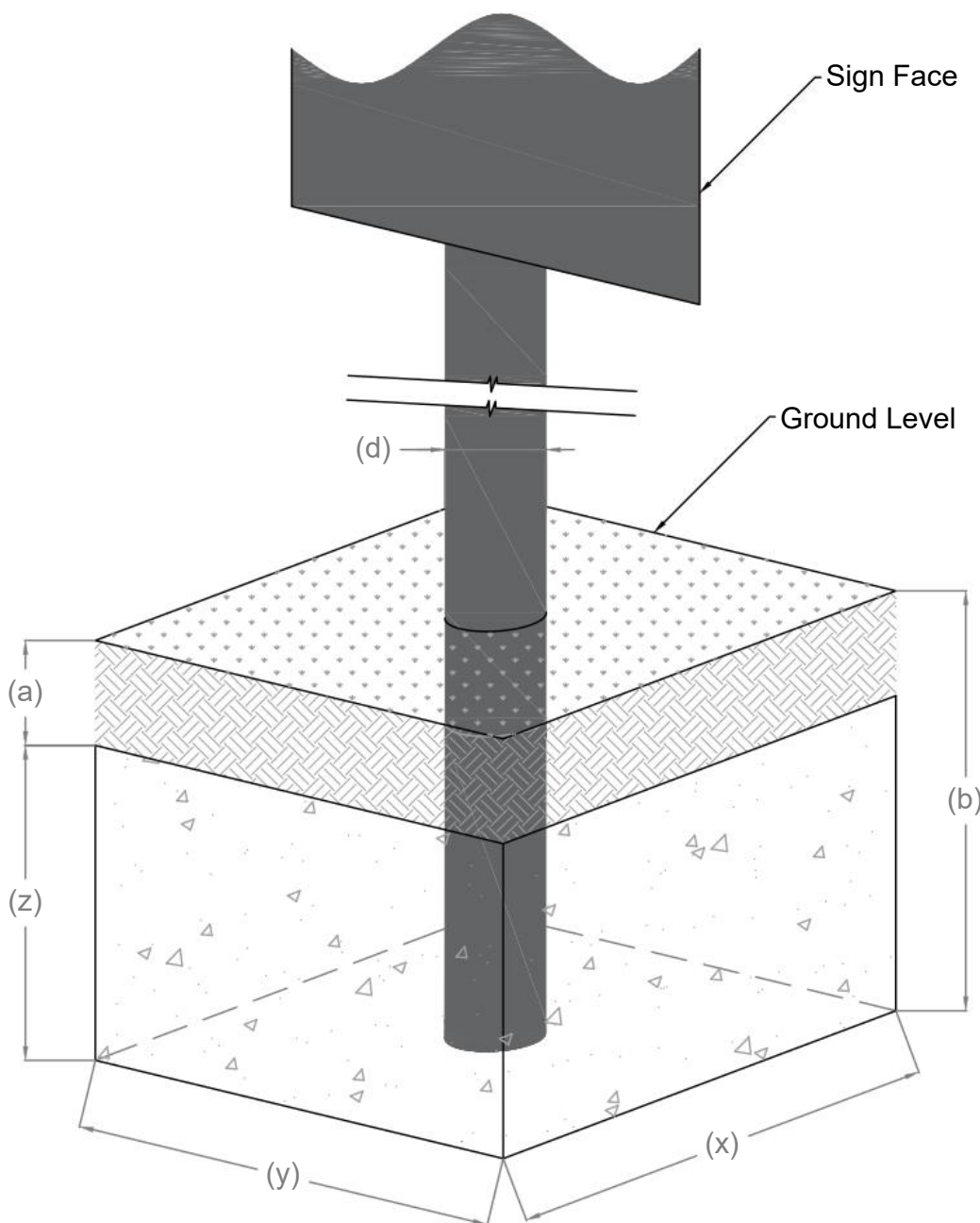
1. All dimensions in millimetres. (This drawing is not to scale)
2. Full Construction Information for Carriageway to Table NAC/001/CD
3. All bituminous joints to be treated to SHW cl 903, Sections 21-25
4. Bond Coat/Tack Coat to SHW cl 920

(This drawing is not to scale)



NOTES

1. All dimensions in millimetres.
2. The Specification for road traffic signs and posts shall be laid down in the following documents:
 - (a) BS EN 12899-1:2007: "Fixed, vertical road traffic signs", as amended.
 - (b) The Traffic Signs Regulations and General Directions 2016.
 - (c) The Traffic Signs Manual, as amended.
 - (d) The Manual of Contract Documents for Highway Works, as amended.
3. Traffic sign posts shall be manufactured to the dimension stated in the Schedule of Items and comply with the requirements of BS EN 12899-1:2007.
4. They shall be tubular hollow sections complying with BS EN 10210 and shall be manufactured from galvanised steel and coated with PVC complying with BS EN12899-1:2007.
5. The posts shall be new continuous lengths with no welded sections or change in external diameter other than between base section and shaft.
5. Post doors shall have a galvanised 3mm nominal diameter closed link stainless steel chain attached to the column sufficiently long to allow the door to rest freely on the ground when the post is erected in its operational position.
6. Brass or stainless steel earthing terminals shall be provided on the posts (posts with flare bases only) and post door, size M8 x 30mm long complete with two brass or stainless steel hexagon nuts and two plain brass or stainless steel washers. These shall be welded or brazed to the access doors and inside walls of the base compartment and shall be fitted with a distinctly and durably marked metal label marked: SAFETY ELECTRICAL CONNECTION - DO NOT REMOVE.
7. The post manufacturer shall be registered with and certified by either British Standards Institute Quality Assurance Services, Lloyds Register Quality Assurance Limited or other Nationally Approved Body for the manufacture, supply and verification of traffic sign posts under their Quality Assessment Schedule to ISO 9001.
8. Concrete for posts will be Class ST5



Pole Diameter (d)	Base Length (x)	Base Width (y)	Base Depth (z)	Cover to Base (a)	Planting Depth (b)
76	600	600	450	150	600
89	600	600	600	150	750
114	900	600	600	150	750
140	1200	750	750	150	900

(All dimensions in millimetres)

SIGNPOST FOUNDATION DETAIL

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DRAWING NO

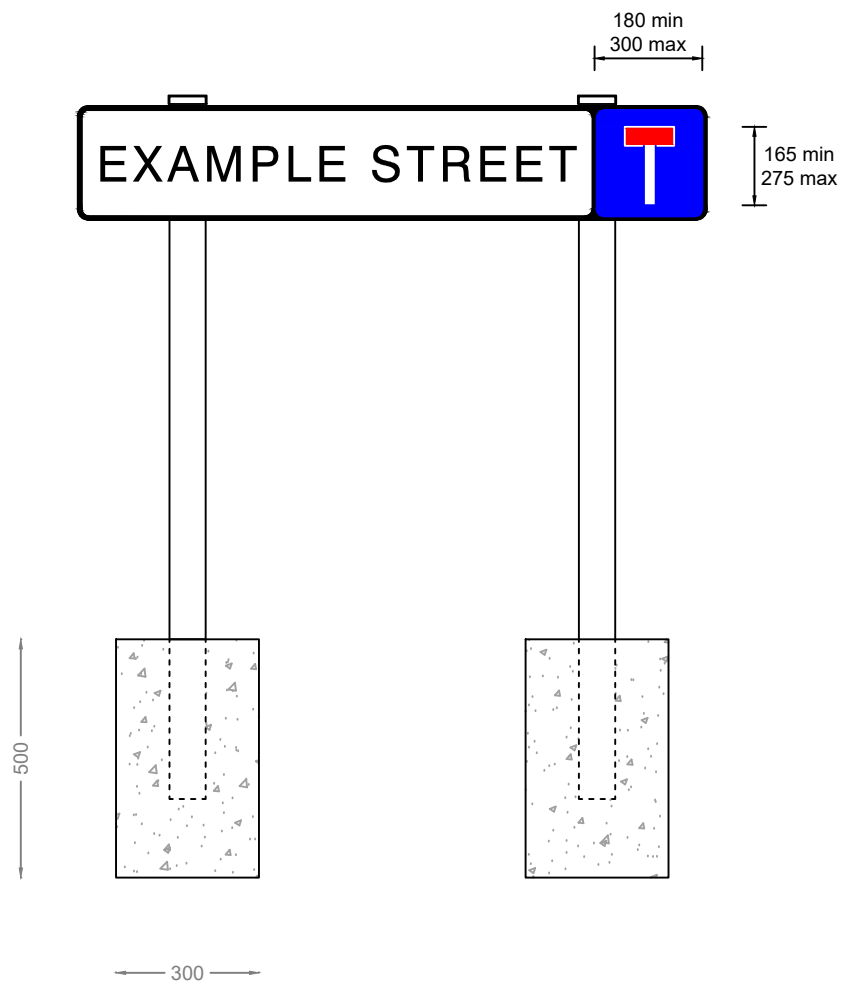
REV

NAC/505/POS

A

NOTES

1. All dimensions in millimetres. (This drawing is not to scale)
2. Street nameplate to be non-reflective, helvetica medium lettering, black on white background on 3mm aluminium plate, rounded corners and 8mm black border. Sealed with appropriate weatherproof clear protective material. Lettering to be 75mm, uppercase, and on two or more lines if appropriate.
3. Street nameplate to be mounted using rivited channel rails and 4x76mm stainless steel anti-rotational clips, plus 2x76mm diameter grey PVC material coated poles, bitumen coated internal surfaces, galvanised base plates, plastic pole caps to allow mounting height of 1.0m and foundation depth of 500mm.
4. Poles to be fitted in 300mm x 300mm x 500mm deep hole, ancillary concrete mix ST2 or similar approved mix, concrete foundations to be float finished flush with existing hard surfaces, and painted with bitumen paint to match. Soft soil, verge, turf etc. to be reinstated to original surface, where appropriate on top of concrete foundation.



STREET NAMEPLATE DETAIL

North Ayrshire Supplementary Street Design Guide

Appendix G –Construction Standards and Materials

Version 1: 2024



Version Control

Issue	Date	Nature of Change/Pages Affected
Version 1	xxxxxxx	Issue of Supplementary Street Development Guide



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1.3	Subgrade Drainage	2
1.4	Carriageway Construction	2
1.5	Materials	3
1.6	Cycle Paths.....	5
1.7	Footway and Service Strip Crossing.....	5
1.8	Street Nameplates.....	5
1.9	Signing and Road Marking.....	6

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1.1 Introduction

One of the key objectives is the use of simple, appropriate, sustainable, well detailed, high-quality materials that form a cohesive family of components, which are readily available and not imported. The selected materials should assist in the making of high-quality places and need to reflect the existing character of an area. Specific instances (e.g. Conservation Areas, in the vicinity of Listed Buildings, or other areas of the historic environment) will sometimes need specific materials not acceptable elsewhere.

1.2 Geotechnical Considerations

Soil Report

A soil report should be provided giving the C.B.R. test results of the sub-grade, for sub-base determination. The site investigation should also determine the suitability of the underlying soil for the chosen SuDS treatment methods, and this should be considered in the submitted report.

1.3 Subgrade Drainage

Where roads do have frontage development and adjacent ground levels do not involve embankments or cuttings, it is unlikely that specific measures will be required to effect drainage of the permeable layers unless the site investigation indicated that either the water table is likely to rise to within 0.6 metres of formation level or that the material below formation level is highly impermeable.

In either of these cases, sub-grade drainage can be affected by ensuring that backfill material to gully connections is permeable and that water which will accumulate in this backfill is provided with an outlet which, while allowing water to permeate into manholes, ensures that bedding and backfill materials of the drain are retained.

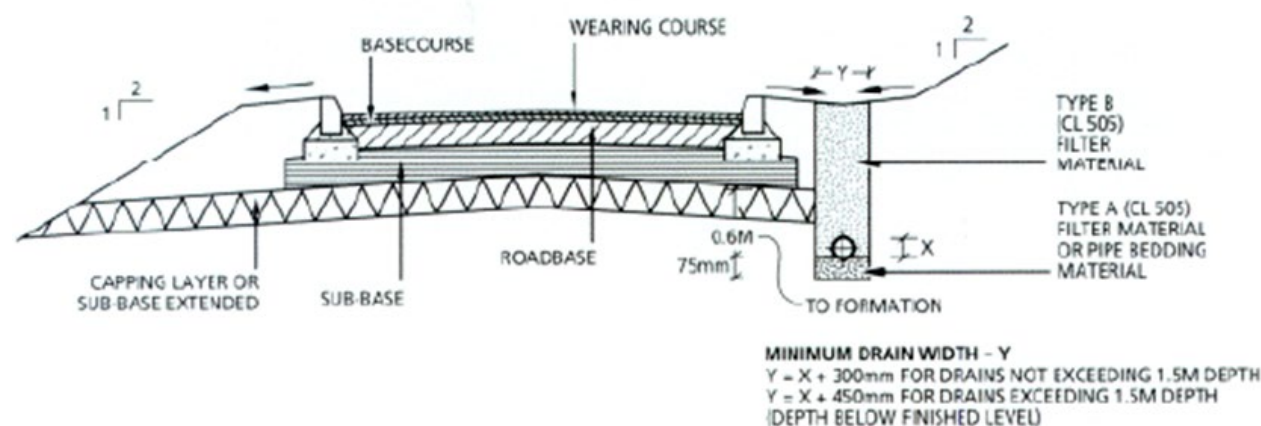


Figure 1 – Section Through Road Indicating Sub Grade Drainage



Figure 2 – Filter Drain

Where Roads have no frontage development, subgrade drainage will be affected as follows:

- In cuttings, filter drains which will be required to cater for surface water run-off from slopes will also provide a sub grade drainage function by being located deep enough to prevent the water table from rising to within 0.6 metre of the formation level.
- In embankments, capping layers and/or sub-base layers must be extended periodically to the face of the embankment to effect drainage of these layers.

1.4 Carriageway Construction

CBR (California Bearing Ratio)

Carriageways should be designed as flexible pavements in accordance with TRRL Report LR1132 for bituminous roads and BS7533 for block paving. CBR testing is only relevant in natural soils and cannot be used for pavement design in fill materials. By their nature fills are random and highly variable in density and CBR testing in them only assesses the quality of the material at the locus of the test. Therefore, for pavement construction on fill materials, unless the fill material is equivalent to or better than the specified capping material, a full capping layer is required.

Capping Layer

Figure 3 details of the Capping Layer requirements based on the CBR values.

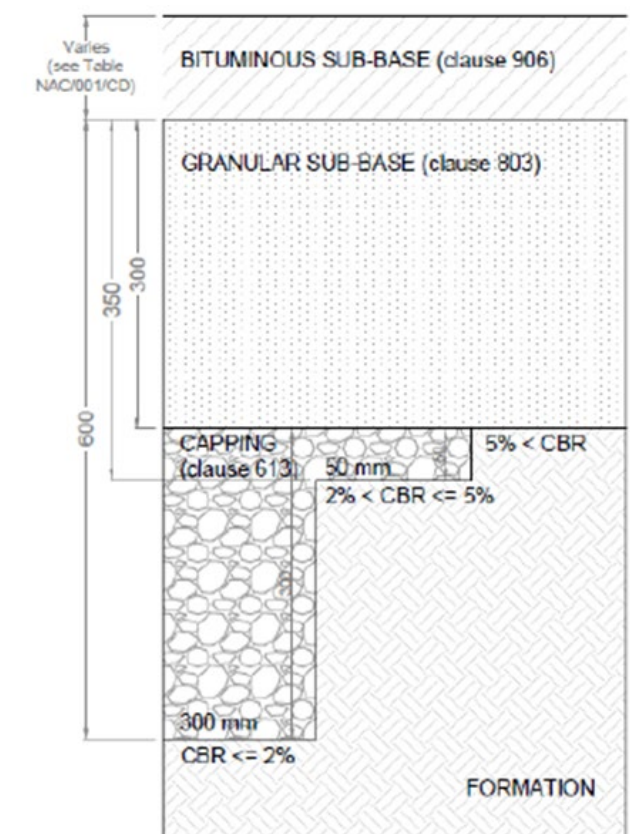


Figure 3 – Capping Layer Requirements (Subject to Frost Susceptibility)

Pavement Construction Table

Example designs for the bound pavement layers are detailed in the tables below, which shows the minimum design thickness for a variety of alternative materials for the various street types within the scope of this guide. The pavement construction for any roads not included in the table shall be subject to site specific designs in Section 3.4.4 of the NRDG. For further details of carriageway and footpath and cycle track construction, see Appendix F detail drawing NAC/001/CD Rev A.

Table 1 – Pavement Construction Mainland and Cumbrae

Pavement Construction (Mainland & Cumbrae)			
Street	Base course (mm)	Binder course (mm)	Surface Course (mm)
1	AC 32 Dense (140mm)	AC 20 Dense (60mm)	HRA (40mm)
2	AC 32 Dense (100mm)	AC 20 Dense (60mm)	HRA (40mm)
3	AC 32 Dense (80mm) 175mm Type 1 Granular Material	AC 20 Dense (50mm) 50mm bedding Layer of sharp sand	HRA (40mm) Concrete block pavers (80mm thick)
4	AC 32 Dense (80mm) 175mm Type 1 Granular Material	AC 20 Dense (50mm) 50mm bedding Layer of sharp sand	HRA (40mm) Concrete block pavers (80mm thick)
Industrial	AC 32 Dense (140mm)	AC 20 Dense (60mm)	HRA (40mm)
HRA = Hot Rolled Asphalt AC = Asphalt Concrete			

Table 2 – Pavement Construction in Arran

Pavement Construction (Arran)			
Street	Base course (mm)	Binder course (mm)	Surface Course (mm)
1	AC 32 Dense (140mm)	AC 20 Dense (60mm)	AC 14 Close (40mm)
2	AC 32 Dense (100mm)	AC 20 Dense (60mm)	AC 14 Close (40mm)
3	AC 32 Dense (80mm) 175mm Type 1 Granular Material	AC 20 Dense (50mm) 50mm bedding Layer of sharp sand	AC 10 Close (40mm) Concrete block pavers (80mm thick)
4	AC 32 Dense (80mm) 175mm Type 1 Granular Material	AC 20 Dense (50mm) 50mm bedding Layer of sharp sand	AC 10 Close Concrete block pavers (80mm thick)
AC = Asphalt Concrete			

1.5 Materials

This section sets out the materials that are likely to be adopted by North Ayrshire Council for their residential streets.

Attention to detail in both design and construction are important in determining the final look and feel of an area or development. Such detail can give places character and local identity. The public realm can have a significant effect on the safety of a place as well as affecting the ease and efficiency of management and maintenance.

The choice of materials can be used to create a more attractive street scene while still retaining durability and functionality.

Adopted Materials

The use of an unlimited palette for street materials can produce a confused and untidy appearance and make future maintenance and repair more difficult and costly. The aim of this section is to define a more limited palette of materials that will allow both design and maintenance issues to be resolved. Further detail on the construction specifications for the various materials can be found in the separate document materials specifications available from the Local Authority.

Adoption of other Materials

There will be occasions in some specific circumstances, for example in conservation areas, when the more limited palette of adopted materials does not meet the design aspirations or requirements for the area or development. In these cases, the proposed materials will need to be submitted to the Local Authority for approval. Any such materials, proposed for adoption should be readily available, sustainable in the long term, preferably locally sourced, economically viable, environmentally friendly and meet the necessary properties/specification.

Details of such materials should be provided as early as possible. Outline information concerning the proposed materials will be expected as part of any pre-planning application discussions.

Carriageway Materials

Blacktop

This falls into three main types:

- Stone mastic asphalt
- Hot rolled asphalt with chippings
- Dense/close graded surface course.

These materials provide a good running surface and combined with the correct aggregate gives acceptable skidding resistance properties. Combined with good quality paving and kerbing they provide an acceptable and serviceable surface, particularly in urban areas with higher traffic flows. Large areas of this material can, however, detract from the appearance of a public spaces.

Block Paving

- Coloured concrete blocks.
- 'Tegula' – tumbled concrete blocks.

Concrete block paving can provide an attractive alternative to blacktop. It is particularly useful to define less traffic dominated areas and to break up otherwise large areas of blacktop.

Block paving should not be used where it is expected that turning by HGV's (refuse vehicles) will occur.



Figure 4 – Concrete Block Paving

Plain concrete blocks are readily available in a variety of colours such as red, brindle and charcoal. As an alternative a tumbled concrete block can give a more random appearance using the range of different sizes, but with a common laying width. Care should be taken to ensure a contrast with all kerbing to assist the partially sighted and guide dogs to detect the kerb edge.

Alternatives

Other options exist such as:

- Natural stone setts

In these cases, the use of such materials would require submission through the adoption process described above.

Unsuitable Materials

Materials which leave loose aggregates or create uneven surfaces will not be acceptable as they cause problems for people with mobility issues, prams and cycles.

Footways and Other Paved Areas

Blacktop

These materials are generally of the dense/close graded type. Such material provides a very flexible option. It is also relatively cheap and easy to maintain, especially if there are significant amounts of services in the footways.



Figure 5 – Asphalt with Decorative Aggregates

Concrete Flags

- Plain concrete
- Textured concrete
- Smooth/ground concrete
- Exposed aggregate.

There is a variety of finishes and colours available that can be used in a variety of layouts/coursing. The use of flags is not suitable where over-run by vehicles is likely unless use is made of fibre reinforced flags. In the latter case advice should be sought.

Natural Stone Flags/Setts

If the use of natural stone flags/setts is being considered advice should be sought from North Ayrshire Council the type and source of the stone and the detailed specification for the bedding and jointing materials.



Figure 6 – Natural flags – Designing Streets

Tactile Paving

At uncontrolled crossing locations buff tactile paving should be detailed, naturally precast concrete paving in standard size. For controlled crossings the tactile paving should be red. The Department for Transport (DfT) produce guidance on the use of such paving and care should be taken to balance the need for paving and visual intrusion. In natural material areas alternatives exist such as specially ground flags and brass studs. Again, the use of such materials needs to be submitted through the approvals process.

Unsuitable Materials

Concrete, slabs, clay blocks and Stone Mastic Asphalt (SMA). The use of kerb drainage units is discouraged due to maintenance issues.

Kerbs, Channel Blocks and Edgings

Concrete

- Standard precast kerbs (grey, pressed)

Natural

If natural stone kerbs, channels and edging are proposed then approval needs to be sought through the process.

Parking Bays

Where parking bays are specified the surfacing material has the same options as carriageway surfacing. From a practical perspective if concrete blocks are used, they should be of a darker colour to cover oil staining etc. Care should be taken to ensure a good edge restraint between any blocks and blacktop, such as a dropped kerb or channel block to prevent distortion in the block paved area.

1.6 Cycle Paths

The Local Authorities do not normally require different materials for Cycle Paths. This applies to both on and off carriageway Paths. Only in limited circumstances would a different coloured surface be required. Advice should be sought from North Ayrshire Council during the RCC process to determine when this treatment is appropriate.

1.7 Footway and Service Strip Crossing

Vehicular

Footway crossings shall not be used for service accesses to commercial properties, industrial accesses, or where particularly heavy vehicles are anticipated. In these circumstances, more formal access junctions shall be provided, and the pavement construction shall meet the same requirements as the adjacent carriageway.

Pedestrian

Crossings to be as per Standard Construction Detail in Appendix F.

1.8 Street Nameplates

Wall Mounted Street Nameplate

Non-reflective, Helvetica medium lettering, black on white background on 3mm aluminium plate, rounded corners and 8mm black border. Sealed with appropriate weatherproof clear protective material. Lettering to be 75mm, upper case, and on two or more lines if appropriate.

Mounted on timber backing plate, 12mm thick, painted and weatherproofed as appropriate, overall size 10mm larger than sign, all secured by 8 steel hardened, galvanised screws, with white caps, and raw plugs.

Free Standing Street Nameplates with Poles

Same specifications as wall mounted nameplate (excluding timber backing plate etc) but with riveted channel rails and 4 x 76mm stainless steel anti-rotational clips, plus 2 x 76mm diameter, 105m grey PVC material coated poles, bitumen coated internal surfaces, galvanised base plates, plastic pole caps, to allow mounting height of 1 metre and foundation depth of 500mm.

Fitted in 300mm x 300mm x 500mm deep hole, ancillary concrete mix ST2 or similar approved mix, concrete foundations to be float finished flush with existing hard surfaces and painted with bitumen paint to match. Soft soil, verge, turf etc. to be reinstated to original surface, where appropriate on top of concrete foundation.

Contractors must secure all necessary road opening permits required for groundworks involved in erection of pole mounted street signs and must also satisfy themselves as to the position of all services, under or in proximity to these groundworks, and take any measures required to safeguard such services, and safety of their operatives. See Appendix F for further information.

1.9 Signing and Road Marking

- All signing and road markings to be in accordance with “The Traffic Signs Regulations and General Directions”.
- All signs to be manufactured in Class Ref 2 of BSEN12899:2007 or equivalent unless otherwise stated.
- All road markings to conform to Traffic Signs Manual Chapter 5 – Road Markings 2003.
- A minimum sign mounting height to be 2.25 metres over footway and 1.8 metres over verge unless otherwise stated.
- The illumination and numbering of traffic signs to be co-ordinated with Road Services Lighting Section.

Signpost Specification.

All Traffic signposts shall conform to the requirements of BS873 part 7 subject to the following restrictions/amendments/additions: -

- Posts shall be manufactured using structural hollow sections to BS4848 part 2.
- Posts shall be galvanised and have a self-coloured grey P.V.C. or E.V.A. plastic coating of thickness not less than 0.3mm applied externally, over the full length of the post, using the

fluidised bed process.

- In the case of large base posts, the post shall be welded to the top of the base housing by continuous weld round the entire circumference of the post and by welding the bottom of the post to an internally fitted reinforcing ring.
- All posts shall have a coating of bituminous paint complying with BS 3416 applied internally over the full length of the post.
- In the case of large base posts an 18mm conduit hole shall be provided 75mm from the top of the post as indicated in the enclosed drawing. A base plate (as specified in BS 873 part 7) shall also be provided.
- To prevent the ingress of water all open-ended posts shall be provided with post caps conforming to BS 873-part 7 section 5.4.
- Manufacturers shall state clearly the plastic material to be used to coat the posts.

North Ayrshire Supplementary Street Design Guide

Appendix H – SuDS and Drainage

Version 1: 2024



Version Control

Issue	Date	Nature of Change/Pages Affected
Version 1	xxxxxxx	Issue of Supplementary Street Development Guide



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1.1 Introduction

Drainage should be designed to include a Sustainable Drainage System (SuDS). Design calculations and design and check certificates (Form DC2) for the drainage system will be required to show the adequacy of both the system and the discharge points. Drainage layout and design must be approved by Representatives of the Local Roads Authority, Scottish Water and SEPA. Where connections are made to a private drainage system written confirmation is required to show that authority has been obtained from the appropriate proprietor.

All developments shall make adequate provision for draining surface water from the adoptable road. Public road drainage must either be contained within an adoptable system or a system that is managed and maintained by Scottish Water. Road drainage must be located within land to be adopted as public road and not connected to a private drainage system.

The use of Sustainable Drainage Systems including flow attenuation and storage systems and water quality treatment measures are required, in most cases. The term Sustainable Drainage Systems (SuDS) covers the whole range of sustainable approaches to surface water drainage management. SuDS aim to mimic natural drainage processes and remove pollutants from urban runoff at source. SuDS comprise a wide range of features, including green roofs, permeable paving, rainwater harvesting, swales, detention basins, ponds, and wetlands.

Only if SuDS are confirmed not to be feasible will road run-off be intercepted and discharged directly to a public sewer adopted by Scottish Water. Scottish Water will still require flow attenuation and storage measures and the requirement for water quality treatment will depend on the sensitivity of the receiving water environment. Scottish Water's surface water policy may support the connection of road drainage to a surface water sewer.

North Ayrshire Council has prepared a [Procedure Note](#) to communicate the expectations that applicants for planning permission should meet when applying for consent for development that includes the provision of SUDS, the development of surface water infrastructure, and/or where the proposal is at risk of flooding or is likely to result in an increase in flood risk elsewhere.

Development proposals will:

- not increase the risk of surface water flooding to others, or itself be at risk.
- manage all rain and surface water through sustainable urban drainage systems (SUDS), which should form part of and integrate with proposed and existing infrastructure. All proposals should presume no surface water connection to the combined sewer;
- seek to minimise the area of impermeable surface.

Road's drainage is generally adopted in accordance with the following diagram. Early discussions with Scottish Water are recommended to establish future maintenance.

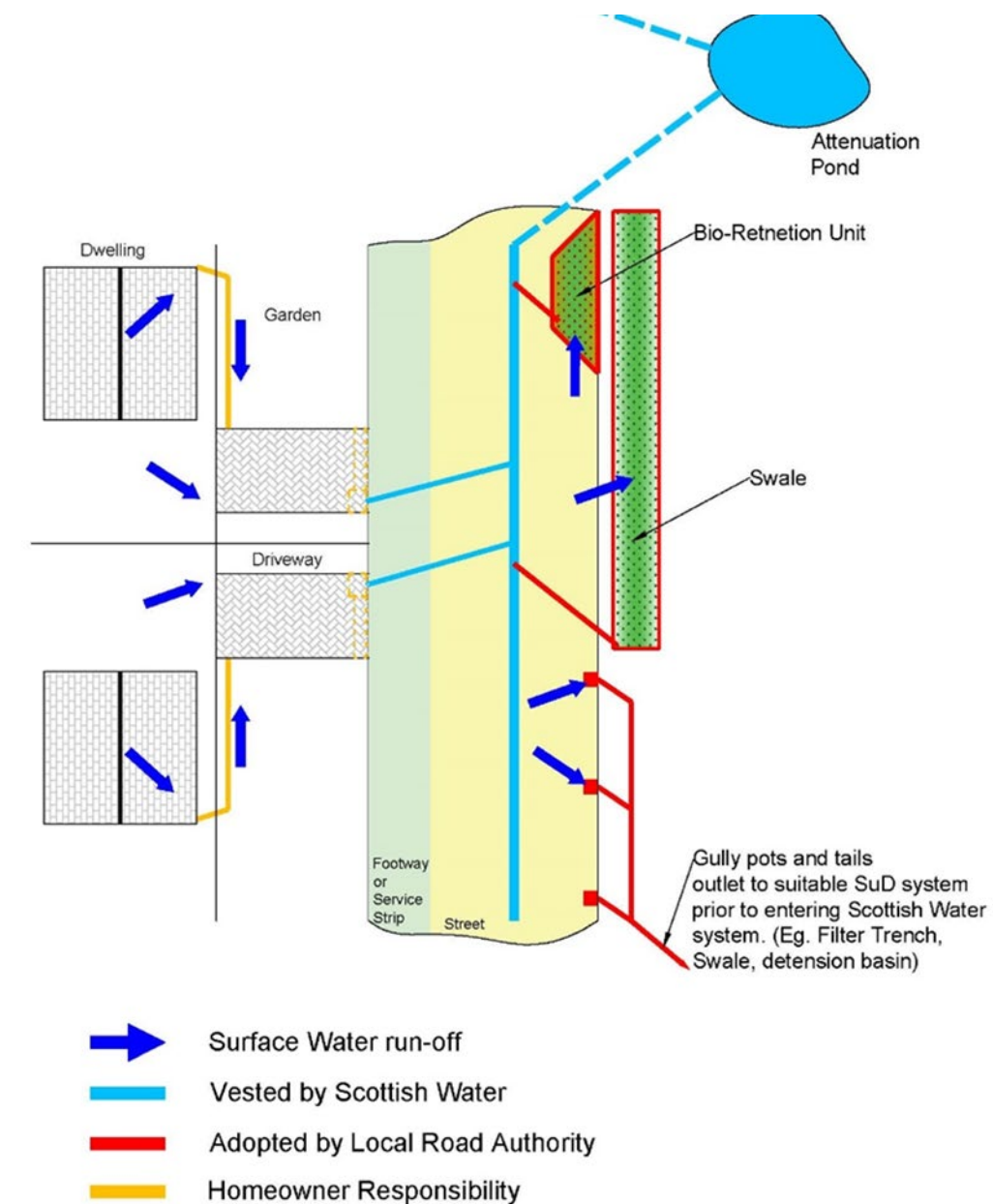


Figure 1 – SuDS Ownership

1.2 Design

Streets should be designed to include Sustainable Drainage Systems (SUDS) which are promoted by the Government as the preferred solution for managing surface water and minimizing environmental impacts. They should be applied wherever practical and technically feasible. Sustainable drainage solutions adoptable by both local authorities and Scottish Water are set out in The SuDS Manual (C753) 2015. Not implementing SuDS could breach Controlled Activities Regulations. In limited circumstances where the discharge location is to

coastal water then a full SuDS system may not be required but certain water quality treatment measures may be required to protect the environment.

When considering the management of surface water, designers, developers and authorities need to take account of the following policy and guidance documents:

- PAN 61: Planning and Sustainable Urban Drainage.
- Scottish Planning Policy NPF4.
- The Water Environment and Water Services (Scotland) Act 2003 (WEWS Act 2003).
- SuDS for Roads (Working Party SUDS 2009).
- The SuDS Manual (C753) 2015.
- North Ayrshire Drainage Policy/ Advice Notes.

SUDS for Roads, 2009 sets out a series of road selection tools and should be used as guidance for scoping and selecting of appropriate SUDS for a development Site. Scoping includes the assessment of Site Characteristics (Site topography, physical drivers, integration with existing road infrastructure, soils properties, integrations with utilities and other infrastructure, contamination etc), Site analysis, opportunities and constraints, exploration of Applicable SUDs options. The scoping stage is followed by the evaluation of Technical Drivers, Social and political drivers, operation and maintenance, development of a Preliminary Outline design and financial considerations which will result in the Selection of appropriate SuDS. SuDS are required to be considered as part of the development cost.

Proposals will be expected to make appropriate allowance for both urban creep and climate change. There is an expectation that drainage proposals will also take account of climate change allowances. Climate change will have ramifications for 'additional' attenuation storage (i.e., over and above that required by Scottish Water, flood flow-paths, the design of access/egress routes and freeboard allowances / finished floor levels). Drainage systems cannot always perform effectively in extreme flood events but future flood risk should be understood and measures should be put in place to manage this risk.

SuDS can be designed for:

- Water quality.
- Amenity.
- Biodiversity.
- Provide drainage for specific site conditions or roads/ streets and provide green infrastructure for urban areas.

Techniques and methods for rainwater management can be but not limited to:

- Filter strips.
- Filter drains.
- Swales.

- Bioretention Systems.
- Trees.
- Porous Paving.
- Detention Basins.
- Ponds and Wetlands.



Figure 2 – Filter Trench for Rainwater Management

Further information on drainage requirements and construction details are contained within Appendix F - Construction Standards.

Footpaths

All footpaths should be positively drained to ensure no ponding or pooling occurs. Details are contained in Appendix F – Standard Details.

Access Strips

Where the drainage is located within private land a 3-metre-wide access strip will be required for maintenance purposes.



Figure 3 – Swale adjacent to street

1.3 Approvals

Approvals/Certificates

Design calculations and design and check certificates (Form DC2) for the drainage system will be required to show the adequacy of both the system and the discharge points. Drainage layout and design must be approved by Representatives of the Local Roads Authority, Scottish Water and SEPA.

Where connections are made to a private drainage system written confirmation is required to show that permission has been obtained from the appropriate proprietor.

All road drains shall be located within land to be adopted as public road. In exceptional circumstances it may be permitted for a road drain to cross private land outside the adopted public road in accordance with Section 31 of the Roads (Scotland) Act 1984 in which case a wayleave agreement shall be required. The wayleave agreement shall be in place prior to or shall be a condition of the Road Construction Consent approval.

The Developer will put in place legally binding and enforceable title conditions, including suitable factoring arrangements, to ensure the SuDS systems serving the development are properly maintained and remain kept in a satisfactory condition for perpetuity. Confirmation that appropriate arrangements are in place will be provided to the Council prior to the occupation of the first dwelling.

1.4 Responsibility Schedule

A “Responsibility Schedule” should be produced for all drainage infrastructure detailing Scottish Water and North Ayrshire Council infrastructure responsibility.

A “Responsibility Schedule” for drainage infrastructure detailing the prospective maintenance responsibilities of Scottish Water, North Ayrshire Council and third parties for the purpose of safeguarding the proper function of the assets. This could either be a plan showing each drainage item (i.e., filter trenches, carrier drains, gully connection, suds outfalls/inlets, basins etc) coloured appropriately or a schedule listing each asset, or a combination of both. For example, it could read that the Council will be responsible for gullies, gully connections, filter trench and pipe until it meets the main carrier drain etc

A management statement indicating the proposals for who will carry out the maintenance of the above ground drainage assets (NAC) detailed in the responsibility schedule. It is understood that at the construction consent stage the actual factor will not be known however we will require to establish whether these will be maintained by the developer, the residents and/or factored out.

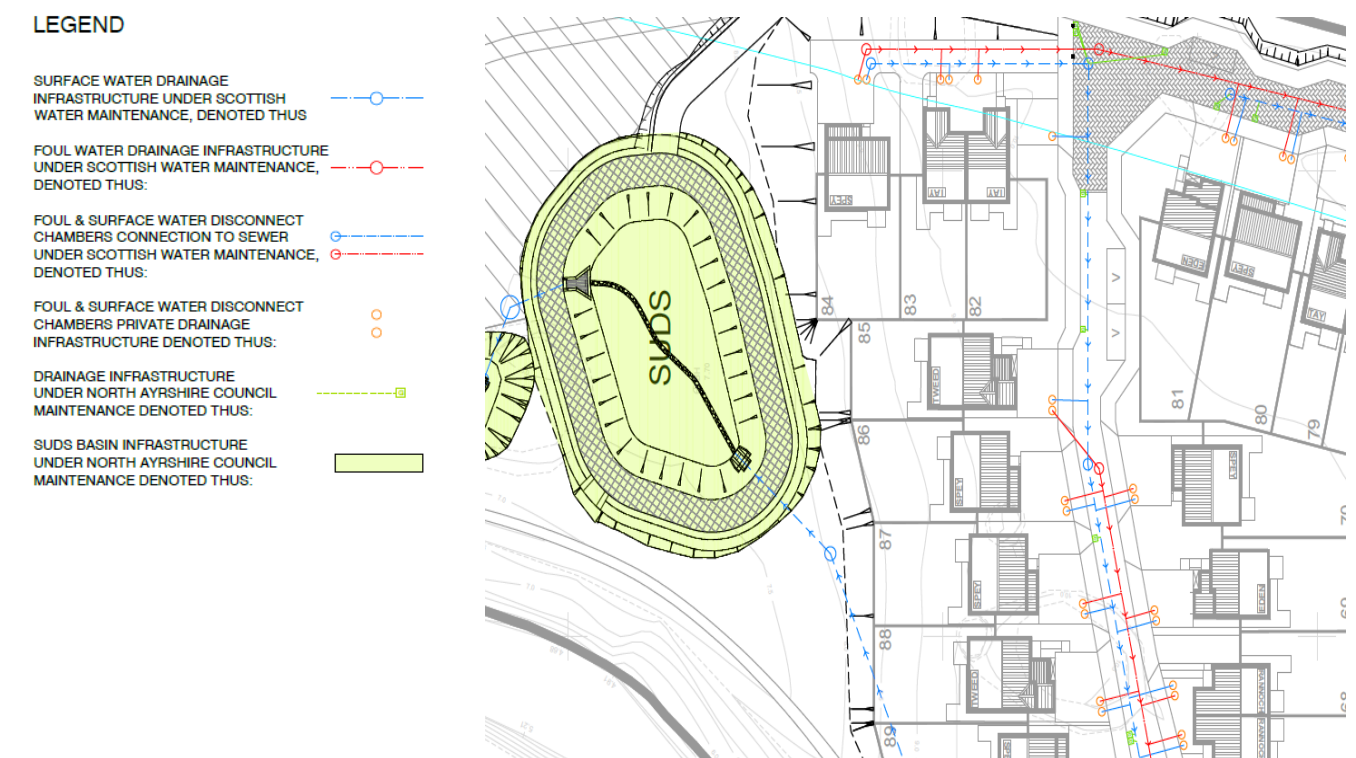


Figure 4 – Responsibility Plan Extract

1.5 Drainage Assessments

The purpose of a drainage strategy is, in part, to communicate the form of SuDS and to demonstrate that the impact of the proposed drainage arrangement in terms of flood risk and water quality have been fully considered.

A Drainage Assessment (DA) should be prepared in accordance with current best practice guidance. The discharge of stormwater from the road should comply with the stipulated design criteria, current SuDS for Roads design guidance and any requirements of Scottish Water. In addition, we require the DA to address the following:

- The effects of a 1 in 200 year critical storm plus climate change, The effects of a 1 in 200 year critical storm plus climate change, which should be identified by modelling a range of storm profiles and intensities to find the event that places most stress on the designed drainage system. Allowances for urban creep to be included.
- The effects of differing storm intensities over and above the 10-year return.
- The extents of differing flood conditions should be shown on a site plan to ensure that no water enters buildings or restricts movement of emergency vehicles, including an assessment of exceedance flow paths from the designed surface water and land drainage systems.
- A strategy for dealing with any land drainage affected by the works.

1:200 Flood Event Plus Climate Change

Within North Ayrshire, surface water drainage networks that are to be vested in Scottish water; shall be designed to Scottish Water's capacity requirements, typically with a capacity to accept the 1 in 30-year critical storm event plus appropriate allowances for climate change and urban creep. SuDS ponds or basins shall be designed to have a holding capacity that will not be exceeded during the 1 in 200-year flood event + an allowance for Climate Change and Urban Creep. Additionally, all SuDS ponds, basins and other storage measures must not be located on the functional flood plain.

Land Drainage Strategy

Land drainage to be provided where any land or open space areas is likely to shed water onto the adoptable road or footpath network. Private drainage is considered to be any system that is not vested in Scottish Water and may include Council assets.

A legal agreement will be required to implement a proposed connection to a private drainage system. Legal agreements should also define arrangements for the future maintenance of the system. While it is not necessary to provide details of legal agreements when applying for planning permission, any Drainage Strategy / Impact Assessment must demonstrate that the proposals will not be at risk of flooding, or increase the risk of flooding in other places, taking account of the constraints of the private drainage system and legal agreements.

Where the assumptions of the Drainage Strategy / Impact Assessment cannot be secured by legal agreement, it is the developer's responsibility to notify NAC Planning and seek further appropriate consent and/or approval.

1.6 SuDS Management Plan

The developer should provide a SuDS Management Plan to be provided which will include;

- SuDS overview
- "Management Statement" to describe the SuDS scheme and set out the management aims and responsibilities for the site.
- "Maintenance Schedule" describing what work is to be done and when it is to be done

using frequency and performance requirements as appropriate, including:

- a. A risk assessment for public safety
 - b. It should consider how the SuDS will perform and develop over time anticipating any additional maintenance tasks to ensure the system continues to perform as designed.
 - c. It must include specification notes that describe how work is to be undertaken and the materials to be used.
- A site plan showing maintenance areas, control points and outfalls.
 - Typical cross sections through SUDs basin, pond and swales.
 - It should include, but will not be limited to, the following activities:
 - Clearance of debris from screens
 - De-littering of embankments
 - Removal of debris from the watercourse channel / cut-off drains
 - Grass cutting during the growing season
 - Maintenance of a service strips and access ways that, in turn, facilitate the maintenance and monitoring of watercourse channels, cut-off drains, outfalls, filter drains and other SUDS infrastructure.

1.7 Gullies and Chambers

Where gullies are required, the gully spacing to be in accordance with the requirements of Table 1 below. Slots in gratings or between gratings and frames shall not be orientated parallel to the direction of traffic.

Chambers and Gully Specification

Drainage must be considered in detail as vertical and lateral traffic calming measures affect the carriageway channel level and line. This will entail additional gullies being added or a bypass channel being incorporated in the design.

Location

Gully gratings and frames shall comply with BSEN124, the upper surface shall be flat and the slots in gratings or between gratings and frames shall not be orientated parallel to the direction of traffic.

Gully Spacing

Table 1 – Gully Spacing

Gradient		Flatter than 1/150 (0.66%)	1/150 0.66%	1/100 1.00%	1/80 1.25%	1/60 1.66%	1/40 2.5%	1/30 3.33%	1/20 5.00%
		Gully Spacing (metres)							
Cross Section	C/Way Width								
1 in 40 (2.5%)	5.5m	20	30	35	40	45	55	60	75
	6.0m	20	25	30	35	40	50	60	70
Camber	7.3m	15	20	25	30	35	40	45	55
1 in 40 (2.5%)	3.5m	10	15	17	20	22	27	30	37
	5.5m	10	15	17	20	22	27	30	35
Crossfall	6.0m	10	12	15	17	20	25	22	27
	7.3m	7	10	12	15	17	20		

1.8 Maintenance and Adoption

For agreements between highway and local authorities: see section 7 of the Sewerage (Scotland) Act 1968). A Memorandum of Understanding (MOU) between Scottish Water and North Ayrshire Council outlines the principles of working together to minimise the costs to roads authorities, Scottish Water and developers when proposing new residential development. Under these principles the surface water drained from the roads and the curtilage of houses within the development will be accommodated within a shared system, with the maintenance agreement, under **Section 7 of the Sewerage (Scotland) Act 1968**, setting out the obligations that fall to the two authorities on adoption of the system.

Under the terms of the MOU, the Local Authority will have ultimate responsibility for ensuring the maintenance of the 'above ground' assets of the shared system. The maintenance and inspection operations will, however, be implemented by a land manager / factor appointed, in the first instance, by the developer on behalf of the owners or prospective owners of properties within the proposed development.

On-going Maintenance

The maintenance of debris screens, open culverts and watercourses within new developments must be carried out by the land manager / factor at regular intervals. **See NRDG 2.3.8 for adoption of SUDS.** This must be reflected in any maintenance schedule

See section 1.6 SuDs Management Plan.

Maintenance schedules must be devised to address invasive species and to take account of the bird nesting season, the presence of protected species and wildlife / habitat conservation sites, including freshwater and saltwater habitats.

NAC Flooding expects that maintenance responsibilities shall fall to a party that is recorded on the Property Factors Register. Registration is compulsory for residential property and land managers whether they are private sector businesses, local authorities or housing associations operating in Scotland. When registered, North Ayrshire Council and third parties can readily contact a Property Factor to discuss and report maintenance concerns.

Planning Approvals Process

Planning applications must be accompanied by a copy of the maintenance and inspection schedule. This schedule will normally be underpinned by a deed of conditions that, for example, sets out the contribution that each property owner will make towards the future maintenance of the above-ground assets. Where the finalised Deed of Conditions omits the maintenance of land included in the maintenance and inspection schedule submitted to support a planning application, it is the applicant's responsibility to notify NAC Planning, NAC Flooding and Scottish Water and to seek appropriate consent / approval.

Pre-application Discussion Stage (Non-Statutory):

- Evidence that the initial development design proposals have considered the integration and linkage of the surface water management with street layouts, architectural and landscape proposals.
- An assessment of strategic opportunities for the surface water management system to deliver multiple benefits for the site – this should be provided by the developer and should include the strategic use of public open space for SuDS.
- Completion of Flood Risk Screening Exercise.
- Any potential local community impacts, health and safety issues or specific local community concerns and drainage approving body requirements that should be addressed by the detailed design.
- An agreed approach between all relevant parties on the design and maintenance of the surface water management features for the proposed site.

Planning Application in Principle Stage:

- Outline drainage strategy to identify all receiving watercourses or pipe networks and how existing flood risk is intended to be addressed.
- FRA to be submitted, where required.

Full Planning Application Stage

- Drainage Strategy and, where applicable, Drainage Impact Assessment to be submitted.
- Details submitted to demonstrate that the design of each element has been undertaken in accordance with best practice (using detailed design checklists, where required) and that this design provides an acceptable level of water quality treatment, attenuation etc.

- Interdisciplinary check to ensure that all elements are compatible and that flood risk and water quality matters within and around the site have been addressed.
- A SuDS Management Plan.
- Confirmation of prospective approval and adoption/vesting applications for all SuDS components.
- Appropriate consideration of the compatibility of suds in relation to the footprint of the development site, which should also take account of the space required for future maintenance (i.e., access tracks etc).
- A self-certified health and safety risk assessment.

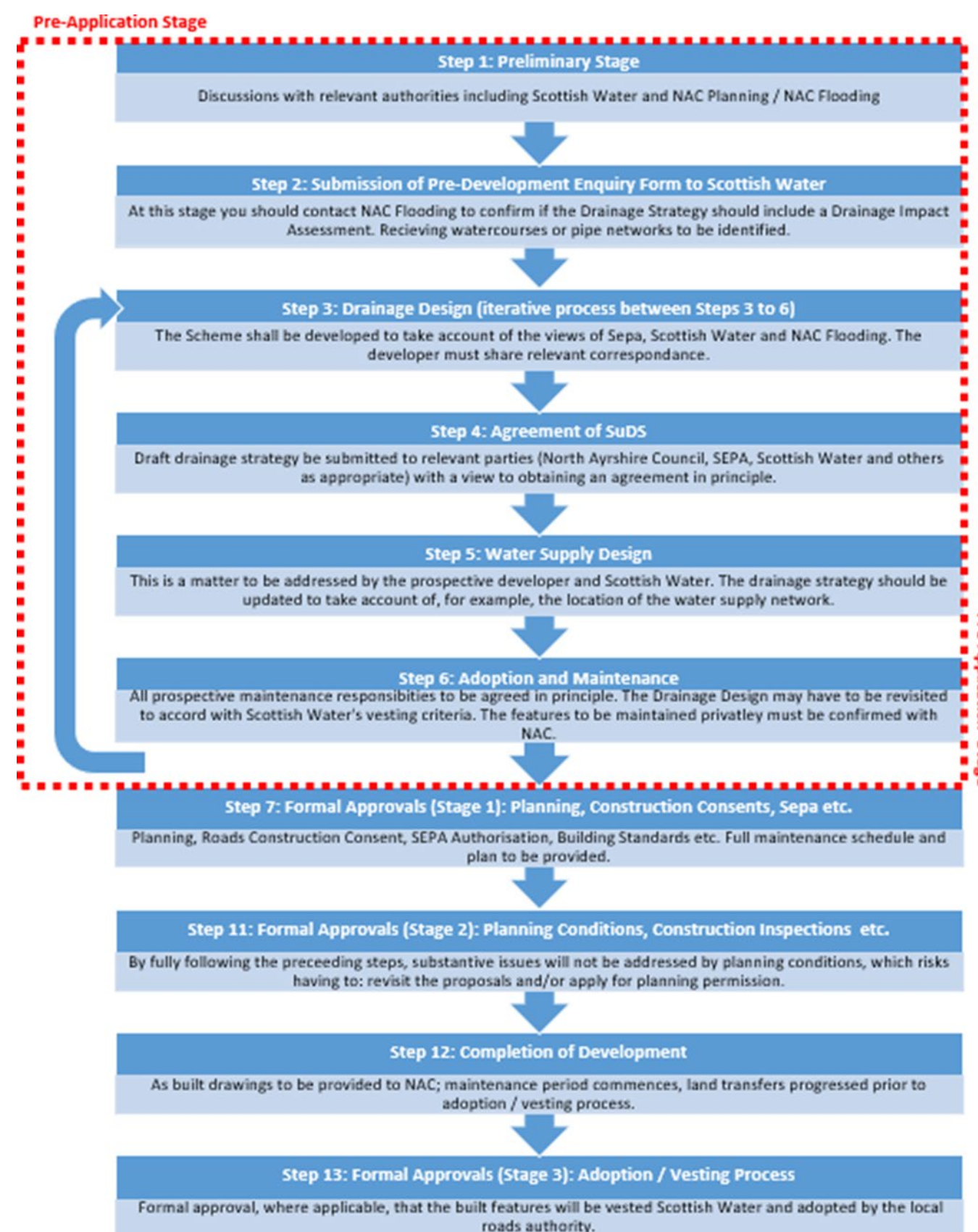


Figure 5 – Drainage Development Planning Flowchart

North Ayrshire Supplementary Street Design Guide

Appendix I – Parking Standards

Version 1: 2024



Version Control

Issue	Date	Nature of Change/Pages Affected
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1.1 Introduction

In general, adequate parking should be provided adjacent to all new developments to ensure that vehicles are not parked on the carriageway of a road where they may impede traffic flow and constitute a safety hazard.

Parking requirements for developments are given according to their particular function and are classified into the following types:

- Residential
- Commercial
- Industrial, Recreational, Service Industry

Provision for car, coach, taxi, pedal cycle and lorry parking should be considered at an early stage in the design process so that a balanced distribution of spaces can be conveniently sited according to the use and trip destination.

The levels of provision detailed in the following pages are typical requirements.

Developments in isolated locations are likely to require parking in excess of these levels. In urban areas, well served by public transport, fewer spaces may be required.

1.2 General Parking Requirements

What is Parking Space?

Car parking provision is usually expressed in terms of 'spaces' and includes carports and undercroft parking as well as parking courts but does not include garages under a certain internal dimension (Refer to section 1.4) in residential developments.

On Road Parking

On road parking bays require to be clearly marked and can be provided in any of the following forms.

- End on parking
- Parallel parking
- Angled parking (one-way road or central reserve)

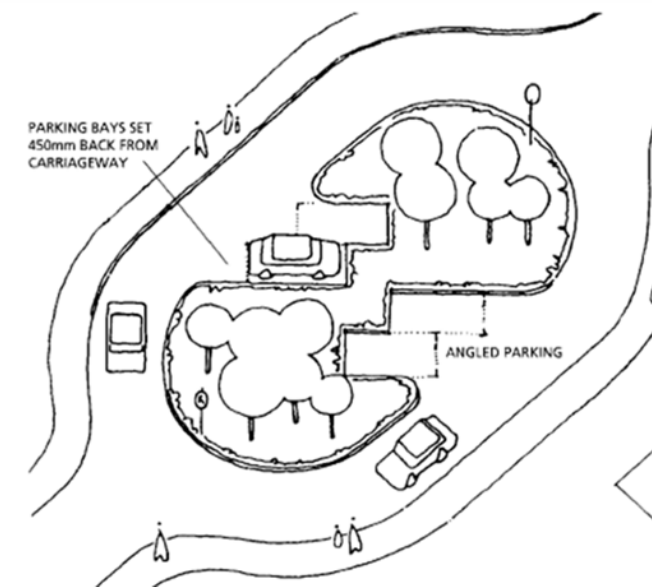


Figure 1 – Angled Parking

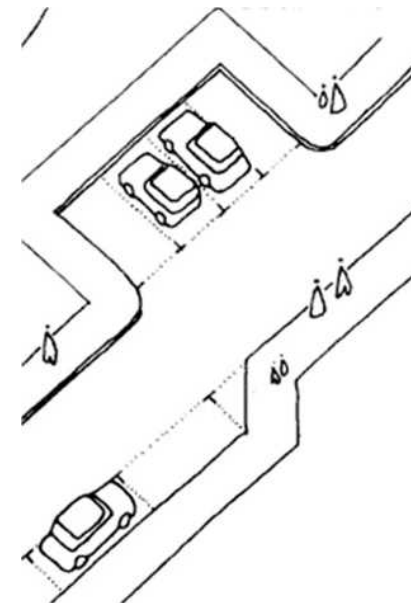


Figure 2 – End on and Parallel Parking

Long rows of parked cars should be avoided, where possible, as this creates difficulty and inconvenience for pedestrians to cross the adjacent carriageway. Conversely, small groups of parking spaces can encourage random pedestrian movements.

Spaces must also be located to ensure that they do not interfere with access points or service bays and create a problem with queuing traffic at junctions. They should be located such that they do not compromise junction or forward visibility splays.

Off Road Parking

Off road parking will normally occur as either spaces located for the use of individual premises, or as a larger area designated as a car park for multiple users. The location of car

parking areas in any development should be considered at an early stage in the design process to achieve a balanced distributor of spaces throughout the site, conveniently related to user destinations.

It should be noted that angled parking layouts tend to be appreciably less efficient in land use than right angled parking layouts even with the narrower aisle widths possible with single way working. The use of angled parking may, however, be appropriate on narrow sites.

Angle of Parking (°)	Aisle Width (m)
30	3
45	3
70	4.5
90	6

Table 1 – Aisle Widths with Angled Parking – One Way Circulation or on Central Reserve

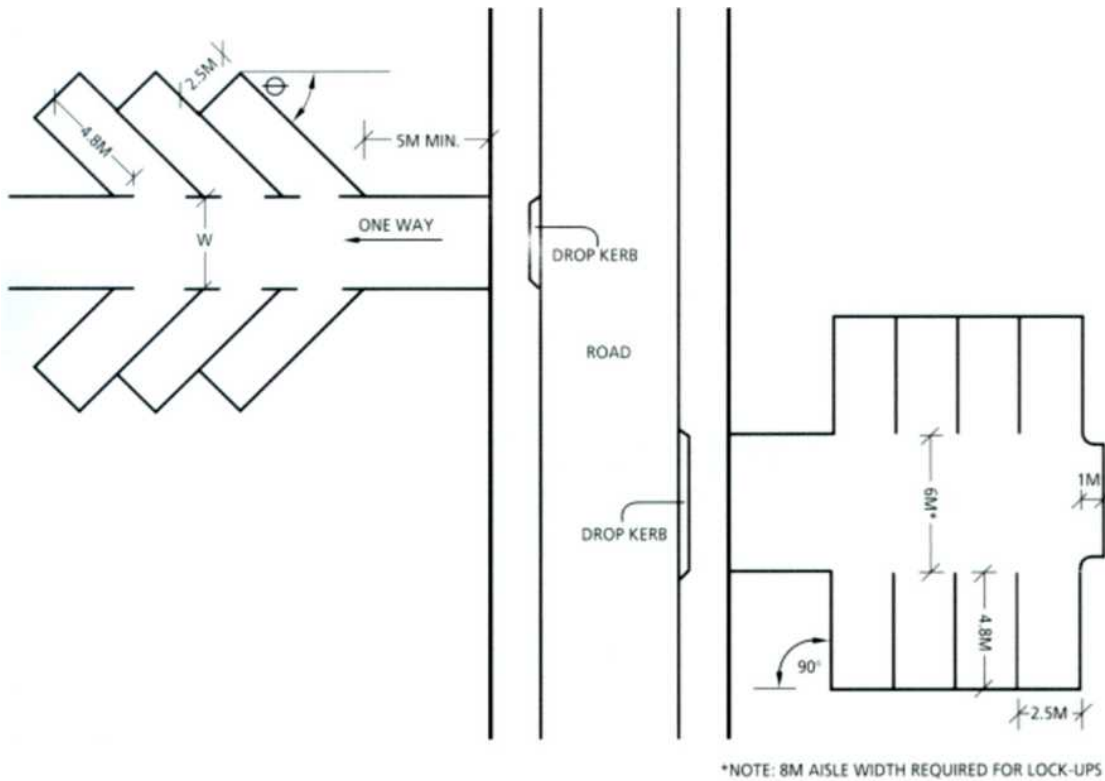


Figure 3 – Off Road Parking

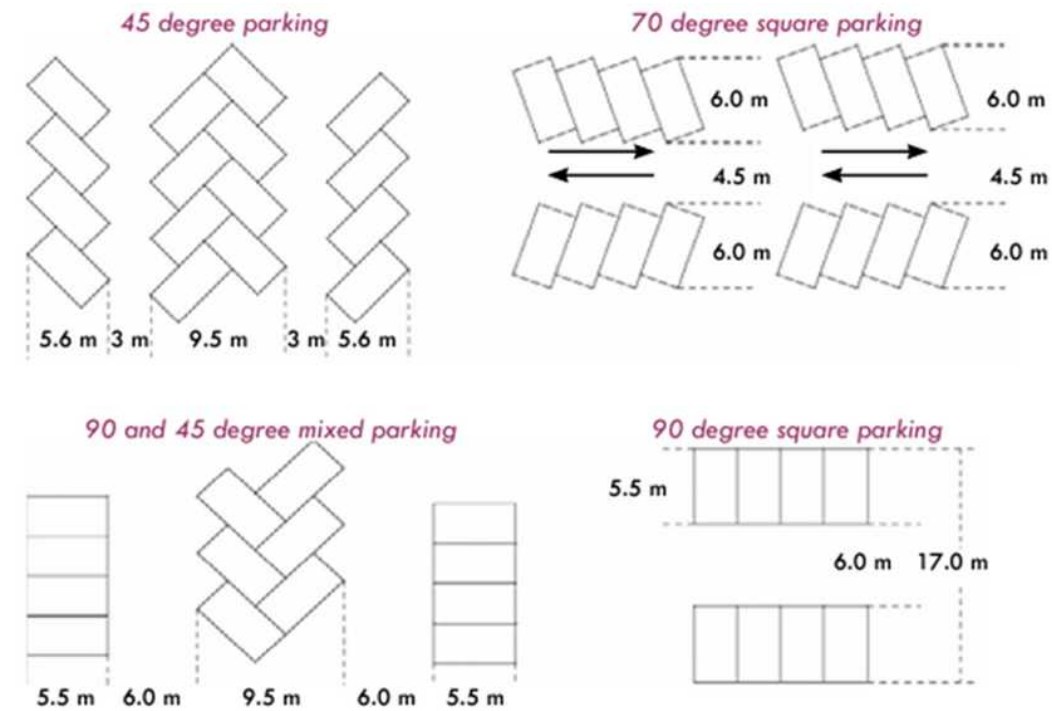


Figure 4 – Examples of parking arrangements | National Roads Development Guide

Relaxation of Parking Standards in Urban Areas

For main urban areas a reduction to the parking standard may be considered. Main urban areas are defined as those having frequent and extensive public transport and cycling and walking links, accessing education, healthcare, food shopping and employment.

North Ayrshire Council has deemed in certain situations, such as listed below, that parking standards can allow for lower levels of off-street parking provision.:

- Locations, such as town centres where services are readily accessible by walking, cycling or public transport.
- In town centre locations where no dedicated-on site parking is available and general town centre parking is not adversely affected, then off-street parking may not be required.
- Housing for elderly people, students and single people where the demand for car parking is likely to be less than for family housing.
- The conversion of housing or non-residential buildings where off-street parking is less likely to be successfully designed into the scheme.

Proposals should be discussed with North Ayrshire Council prior to submission of the planning application.

Commercial Vehicles

Commercial vehicles are regarded as those vehicles delivering goods to, or removing goods

from, premises. It is recognised that servicing requirements may be unique to a particular site. Commercial traffic varies with the type of enterprise within a given use.

The onus is placed with the developer, who should analyse their development's own requirements in terms of the numbers and types of commercial vehicles visiting their premises and should demonstrate that any development proposal includes sufficient commercial vehicle provision to meet normal requirements such as provision for loading, unloading and turning. Such commercial provision should be clearly signed and marked to avoid being utilised as an overflow parking area for cars.

Where a high use of taxis is anticipated, adequate safe and convenient facilities should be provided with an uninterrupted access.

Coaches

Developments likely to generate coach traffic should provide appropriate off-street parking facilities for the stopping, setting down and picking up of passengers as well as appropriate turning facilities (avoiding the requirement for coaches to reverse in or out of a site where possible, taking into consideration pedestrian safety). The onus will be on the developer to demonstrate the development has the appropriate level of provision.

Cycle Parking

Cycle Parking Standards should be applied to all applications for new or extended development. They are expressed as minimum standards to reflect the sustainable nature of this mode of travel.

The provision of convenient secure parking and related facilities are fundamental to attracting modal shift to cycling, particularly from single occupancy motorised journeys made over shorter distances on a regular basis. It is acknowledged that cycle parking demand varies greatly between use classes and a straight ratio of car to cycle trips cannot be used to define the Cycle Parking Standard. In addition to the provision of cycle parking, developers will be required to demonstrate that they have considered additional requirements for cyclists, such as locker, changing and shower facilities and allowed for provision in 'hub spaces' where facilities may be required. Covered parking at secure hubs for long stay may also be deemed necessary as part of the development.

Integrating Parking for Cycling

Providing enough convenient and secure cycle parking at homes and other locations for both residents and visitors is critical to increasing the use of bicycles. In residential developments, designers should aim to make access to cycle storage at least as convenient as access to car parking.

The following key principles should apply:

- Shared cycle parking facilities should be secure, overlooked and convenient to use with shelter provided wherever practical.

- Appropriate provision should be made for all potential users including children and visitors.
- Cycle parking can be provided in a number of ways such as: within garages; bespoke cycle storage; communal areas in flats; and on-street cycle racks.
- Cycle stands need to be located clear of pedestrian desire lines, and generally closer to the carriageway than to buildings.
- Cycle parking should be provided at bus and train stations to assist transition between transport modes.
- Cycle parking should be detectable by blind or partially sighted people.

Further guidance on the design of cycling facilities is provided in LTN 2/08 Cycle Infrastructure design and Designing Streets, p.40.

Provision for Electric Vehicle Parking

Building regulations (updated October 2022) mean that new residential buildings with a parking space have at least one EV charge point with a minimum 7kW rating. For new non-residential buildings with more than 10 parking spaces, 1 in every 10 would be expected to provide an EV charge point socket with a minimum 7kW rating. There are also requirements for residential and non-residential buildings undergoing major renovation to provide charge points.

Electric vehicle (EV) parking and charging should be provided in line with current policy and guidance at the time of producing street design and layout. EV charge points should be provided in line with current guidance and provide:

- New residential buildings with a parking space have at least one EV charge point with a minimum 7kW rating.
- New non-residential buildings with more than 10 parking spaces, 1 in every 10 would be expected to provide an EV charge point socket with a minimum 7kW rating.
- Residential and non-residential buildings undergoing major renovation to provide charge points.

Disabled Parking Provision

Disabled Persons Parking Places (Scotland) Act 2009 Under the Disability Discrimination Act 2005 as amended by the Equalities Act 2010, it is the responsibility of site occupiers to ensure that adequate provision is made for the needs of disabled people. Parking for disabled people will be required for their exclusive use at all sites. The number of spaces required for disabled motorists varies between classes and the standard has been based on TAL 6/02 Inclusive Mobility 2002. (NRDG, p.142)

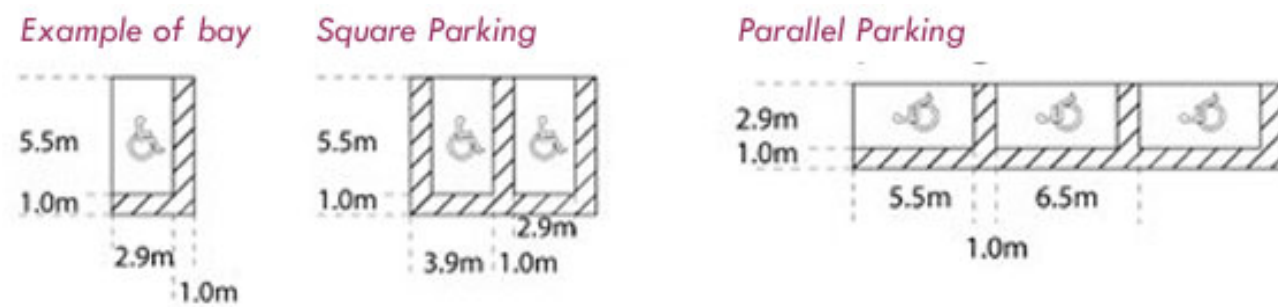


Figure 5 – Disabled Parking Arrangements | NRDG, Section 3.5.11

Table 2 – Car Park Size and Space Provision | NRDG - Section 3.5.11

Car Parking Size – Disabled Parking Provision		
Car Park Used for:	200 Bays or Less	Over 200 Bays 6 bays plus 2% of total capacity
Employees and visitors to business premises	(Individual bays for each disabled employee plus) 2 bays or 5% of total capacity, whichever is greater	6 bays plus 2% of total capacity
Shopping, recreation and leisure	3 bays or 6% of total capacity, whichever is greater	4 bays plus 4% of total capacity
Educational Establishments (Advisory)	1 Bay or 5% of total capacity, whichever is greater	

Note: Disabled parking provision to be included in the overall vehicle parking standard.

If it is known that there will be a disabled employee, then their space should be exclusive of the disabled parking standard required. It should be noted that a larger number of spaces may be required at facilities where a higher proportion of disabled users/visitors will be expected, for example medical, health and care facilities. The provision at the above levels or any required does not guarantee that the requirements of the Equalities Act 2010 will be met, this is the responsibility of the building occupier or service provider.

1.3 Parking Standards for Use Class

Class 1 – Shops

Shops, hairdressers, travel and tickets agencies, post offices, cold food shops such as sandwich bars, undertakers, funeral directors, launderettes/dry cleaners and repair shops. No permitted change to another Class.

Table 3 – Parking for Class 1 – Shops

Type of Development	Appropriate Provision (spaces per 100 sqm gross floor area (GFA))	Cycle Minimum	Powered two wheelers (PTW) Minimum	Disabled Minimum
Shops <i>Town Centre</i> <i>Other</i>	3 spaces 5 spaces	1 space per 400 sqm for staff and 1 space per 400 sqm for customers	1 space + 1 per 20 car spaces (for first 100 car spaces), then 1 space per 30 car spaces (over 100 car spaces)	200 bays or less = 3 bays or 6% of total capacity, whichever is greater Over 200 bays = 4 bays plus 4% of total capacity
Food Superstore <i>0-500 m² GFA</i> <i>500-2,000 m² GFA</i> <i>2,000-8,000 m² GFA</i> <i>>8,000 m² GFA</i>	5 spaces 6.5 spaces 7 spaces 6 spaces			
Shopping Centre <i>0-500 m² GFA</i> <i>500-2,000 m² GFA</i> <i>2,000-8,000 m² GFA</i> <i>>8,000 m² GFA</i>	4 spaces 5 spaces 6 spaces 5 spaces			
Retail Park <i>2,000-8,000 m² GFA</i> <i>>8,000 m² GFA</i>	2 spaces 2.2 spaces			
DIY Superstore <i>2,000-8,000 m² GFA</i> <i>>8,000 m² GFA</i>	2 spaces 2.2 spaces			

- Notes:**
1. Parking standards for large, stand-alone developments, such as large department stores and shopping centres will be considered on a case-by-case basis and should be agreed with the Planning team.
 2. In all cases adequate off-road provision should be made for the parking and turning of service vehicles serving the site.
 3. A lower provision may be appropriate in town centre locations where there is good access to alternative forms of transport and existing car parking facilities.

Class 2 – Financial, Professional and Other Services

Financial, professional or any other service expected in shopping areas, e.g., betting office, lawyers, accountants, estate agents, health centres, surgeries of dentists, doctors and vets (where the principal visitors are members of the public).

Table 4 – Financial, Professional and Other Services

Type of Development	Appropriate Provision (spaces per public floor area, PFA)	Cycle Minimum	PTW Minimum	Disabled Minimum
A2 (e.g., Banks, building societies betting office, lawyers, accountants, estate agents)	1 space per 20 sqm	1 space per 100 sqm for staff + 1 space per 200 sqm for customers	1 space + 1 per 20 car spaces (for first 100 car spaces), then 1 space per 30 car spaces (over 100 car spaces)	200 bays or less = 2 bays or 5% of total capacity, whichever is greater Over 200 bays = 6 bays plus 2% of total capacity
Health Centre/Doctors	3.0 per Consulting Room	1 + 1 per 20 staff (Staff) 1+ 0.5 per consulting room (visitor)		
Vets/Dentists	3.0 per Consulting Room	1 + 1 per 20 staff (Staff) 1+ 0.5 per consulting room (visitor)		

Note: A lower provision may be appropriate in town centre locations where there is good access to alternative forms of transport and existing car parking facilities. In all cases adequate provision shall be made off road for the parking and turning of service vehicles serving the site.

Class 3 – Food and Drink

Restaurant, café, snack bar (use for sale of food or drink on the premises).

Table 5 – Class 3 – Food and Drink

Type of Development	Appropriate Provision (spaces per public floor area, PFA)	Cycle Minimum	PTW Minimum	Disabled Minimum
A3 (Public house with food, restaurant and café excluding Transport Cafés)	1 Space per 5 sqm	1 Space per 100 sqm for staff + 1 space per 1 sqm for customers	1 Space + 1 per 20 car spaces (for first 100 car spaces), then 1 space per 30 car spaces (over 100 car spaces)	200 bays or less = 3 bays or 6% of total capacity, whichever is greater Over 200 bays = 4 bays plus 4 % of total capacity
A3 (Transport Cafés)	1 lorry space per 2 sqm	1 space per 200 sqm for staff + 1 space per 200 sqm for customers	n/a	

Notes:

1. A lower provision of vehicle parking may be appropriate in town centre locations where there is good access to alternative forms of transport and existing car parking facilities.
2. In all cases adequate provision shall be made off road for the parking and turning of service vehicles serving the site.

Class 4 – Business

Offices (other than that specified under Class 2), research and development of products or processes, light industry.

Table 6 – Financial, Professional and Other Services

Type of Development	Appropriate Provision (spaces per gross floor area, GFA)	Cycle Minimum	PTW Minimum	Disabled Minimum
B1 (Call centre, Offices and Research & Development)	1 space per 30 sqm	1 space per 100 sqm for staff + 1 space per 200 sqm for visitors	1 space + 1 per 20 car spaces (for first 100 car spaces), then 1 space per 30 car spaces (over 100 car spaces)	200 bays or less = 2 bays or 5% of total capacity, whichever is greater Over 200 bays = 6 bays plus 2% of total capacity

Notes:

1. A lower provision of vehicle parking may be appropriate in town centre locations where there is good access to alternative forms of transport and existing car parking facilities.
2. In all cases adequate provision shall be made off road for the parking and turning of service vehicles serving the site, off the road. Consideration should also be given to the requirement for any overnight parking and facilities.

Class 5 – General Industrial

General industrial (use for the carrying out of an industrial process other than one falling within the Class 4 (Business) definition).

Table 7 – Class 5 – General Industrial

Type of Development	Appropriate Provision (spaces per gross floor area, GFA)	Cycle Minimum	PTW Minimum	Disabled Minimum
B2 <i>Industrial premises (Factory)</i>	1 space per 50 sqm	1 space per 250 sqm for staff + 1 space per 500 sqm for visitors	1 space + 1 per 20 car spaces (for first 100 car spaces), then 1 space per 30 car spaces (over 100 car spaces)	200 bays or less = 2 bays or 5% of total capacity, whichever is greater Over 200 bays = 6 bays plus 2% of total capacity

Notes:

1. A lower provision of vehicle parking may be appropriate in town centre locations where there is good access to alternative forms of transport and existing car parking facilities.
2. In all cases adequate provision shall be made off road for the parking and turning of service vehicles serving the site. Consideration should also be given to the requirement for any overnight parking and facilities.
3. If a site office is included in the development, then a B1 parking standard should be applied for that area.

Class 6: Storage or Distribution

Table 8 – Class 6 – Storage and Distribution

Type of Development	Appropriate Provision (spaces per gross floor area, GFA)	Cycle Minimum	PTW Minimum	Disabled Minimum
Warehousing (wholesale trading, storage and distribution)	1 space per 150 sqm	1 space per 500 sqm for staff + 1 space per 1,000 sqm for visitors	1 space + 1 per 20 car spaces (for first 100 car spaces), then 1 space per 30 car spaces (over 100 car spaces)	200 bays or less = 2 bays or 5% of total capacity, of total capacity, whichever is greater Over 200 bays = 6 bays plus 2% of total capacity
Lorry Parking				
<i>Factories and Warehouses</i>	1.1 spaces			
<i>Warehousing (non-sales)</i>	0.5 spaces			
<i>Business Park</i>	2 spaces			
<i>Science Park</i>	2 spaces			

Notes:

1. Parking standards for retirement developments that are warden assisted yet provide independent living should fall under Class C3.
2. Hospital Parking: With regard to parking, it should be acknowledged that particular needs of hospitals arising from their 24-hour service (which impacts on accessibility for patients and visitors and on staff working patterns) should be taken into account and parking provision provided accordingly.
3. The impact of parking on the surrounding area should be considered and if necessary, provide appropriate traffic management measures (e.g., resident parking scheme) to prevent illicit parking on neighbouring streets by people travelling to the hospital site. Travel plans for staff, patients and visitors play an important role in traffic reduction and encourage modal shift for staff.

Class 7 – Hotels and Hostels

Hotel, boarding and guest house, hostel.

Table 9 – Class 7 - Hotels and Hostels

Type of Development	Appropriate Provision	Cycle Minimum	PTW Minimum	Disabled Minimum
Hotel and B&B	1 space per 2.5 bed spaces (+1 space per 3 staff)	1 space per 5 staff for staff + 1 space per 10 bedrooms	1 space + 1 per 20 car spaces (for first 100 car spaces), then 1 space per 30 car spaces (over 100 car spaces)	200 bays or less = 3 bays or 6% of total capacity, whichever is greater Over 200 bays = 4 bays plus 4% of total capacity
Hostel	1 space per 4 staff plus customer parking on individual merits	1 space + 1 per 20 car spaces (for first 100 car spaces), then 1 space per 30 car spaces over 100 car spaces)	1 space per 40 sqm	

Note: A lower provision may be appropriate in town centre locations where there is good access to alternative forms of transport and existing car park facilities. The modern-day hotel is seldom used solely as a hotel and often offers multifunctional amenities such as conference facilities, restaurants and gyms. These multifunctional uses must be considered per individual class use and adequate parking allocated to encompass all uses when considering the potential for cross-visitation.

Class 8 – Residential Institutions

Residential school, college, training centre, residential accommodation with care, hospital, nursing home.

Table 10 – Class 8 – Residential Institutions

Type of Development	Appropriate Provision	Cycle Minimum	PTW Minimum	Disabled Minimum
Residential Care Home	1 space per staff member + 1 visitor space per 3 beds	1 space per 5 staff	1 space +1 per 20 car spaces (for 1 st 100 car spaces), then 1 space per 30 car spaces (over 100 car spaces)	Dependant on actual development, on individual merit, although expected to be significantly higher than business or recreational development requirements
Hospital	1 space per 3 beds + 1 space per doctor/ surgeon + 1 space per 3 other staff	1 space per 4 staff Visitors - to be considered on a case-by-case basis		
Treatment Centres (e.g., ISTC (Independent Sector Treatment Centre with overnight facilities)	4 spaces per consulting room + 1 space per practitioner + 1 space per 3 other staff	1 space per 4 staff Visitors to be considered on a case-by-case basis		1 bay or 5% of total capacity, whichever is greater
Education Establishments – Primary/ Secondary	1 space per staff member + provision for buses where required	1 space per 5 staff + 1 space per 3 students		
Residential Education Establishments – Further/Higher	1 space per staff member + 1 space per 10 students	1 space per 5 staff + 1 space per students		

Note:

1. It is recommended that schools have a dedicated and managed drop-off/pick up lane or zone.

Class 9 – Homes

House occupied by a single person, or a number living together as a family, or as a household of 5 persons or less. Limited use as a bed and breakfast or guest house. Parking standards for Flats and Houses to be determined using the number of bedrooms per dwelling.

Table 11 – Class 9 – Homes

Type of Development	Appropriate Provision	Cycle Minimum	PTW Minimum	Disabled Minimum
1 Bedroom	1 space per dwelling	1 secure covered space per dwelling. None if garage or secure area is provided within curtilage of dwelling	N/A	N/A if parking is in curtilage of dwelling otherwise as visitor/ unallocated
2-3 Bedroom	2 spaces per dwelling			
4 Bedroom	3 spaces per dwelling			
5 Bedroom	4 spaces per dwelling			
More than 5 Bedrooms	To be discussed with Local Authority			
Flatted developments with communal parking (1 bedroom) (2-3 bedroom)	As above if spaces are allocated. Unallocated: 1.25 spaces per dwelling 1.5 spaces per dwelling	1 secure covered space per dwelling.	1 space + 1 per 20 car spaces (for 1st 100 car spaces), then 1 space per 30 car spaces (over 100 car spaces)	200 bays or less = 3 bays or 6% or total capacity, whichever is greater Over 200 bays = 4 bays plus 4% of total capacity
Retirement Developments (e.g., warden assisted independent living accommodation)	1 space per dwelling	1 space per 8 units (visitors)	1 space + 1 per 20 car spaces (for 1st 100 car spaces), then 1 space per 30 car spaces (over 100 car spaces)	N/A if parking is in curtilage of dwelling, otherwise as Visitor/ Unallocated
Amenity and Sheltered Housing	0.25 spaces per dwelling + 1 space per warden	1 space per 4 staff or 1 space per 8 units (visitors), whichever is greater		
Visitor / Unallocated	0.25 spaces per dwelling	If no garage or secure area is provided within curtilage of dwelling, then 1 covered and secure space per dwelling in a communal area for residents plus 1 space per 8 dwellings for visitors	1space + 1 per 20 car spaces (for 1 st 100 cars spaces, then 1 space per 30 car spaces (over 100 car spaces)	200 bays or less = 3 bays or 6% or total capacity, whichever is greater Over 200 bays = 4 bays plus 4% of total capacity

Notes:

- Where internal garage dimensions are below 5.0m x 2.8m the garage will not be counted as contributing to the parking provision. If the garage is 5.0m x 2.8m or larger, then it will be counted as a parking space only if alternative bicycle storage is provided. Garages of 6m x 3m internal dimensions or greater will be counted as a parking space regardless of separate cycle storage.
- A reduction for Private and Local Authority Housing Association may be permitted in agreement with the local authority.

Class 10 – Non-residential Institutions

Crèche, day nursery, day centre, provision, provision of education, museum, exhibition hall, public library, display of art, public worship, religious instruction, social activities of a religious body.

Table 12 – Class 10 – Non-Residential Institutions

Type of Development	Appropriate Provision	Cycle Minimum	PTW Minimum	Disabled Minimum
Crèche, Child Care	1 space per full-time equivalent staff + drop off/ pick-up facilities	1 space per 4 staff + 1 space per 10 child places	1 space + 1 per 20 car spaces (for first 100 car spaces), then 1 space per 30 car spaces (over 100 car spaces)	1 bay or 5% or total capacity, whichever is greater
Day Care Centre	1 space per full-time equivalent staff + drop off/ pick-up facilities	1 space per 4 staff		1 bay or 5% or total capacity, whichever is greater
Community Centres	5.0 per 20.0 sqm GFA	10 spaces + 1 space per 10 vehicle space		
Education - Primary/ Secondary	1 space per 15 pupils	1 space per 5 staff + 1 space per 3 pupils	1 space + 1 per 20 car spaces (for first 100 car spaces) then 1 space per 30 car spaces (over 100 car spaces)	1 bay or 5% of total capacity, whichever is greater
Education - Further/Higher	1 space per 2 staff + 1 space per 15 students for student parking	1 space per 5 staff + 1 space per 3 students		
Art Galleries, Museums, Public / Exhibition Hall	1 space per 30 sqm public display space + 1 space per 2 staff	10 spaces + 1 space per 10 vehicle space		200 bays or less = 3 bays or 6% of total capacity whichever is greater Over 200 Bays = 4 bays plus 4% of total capacity
Places of Worship	1 space per 10 seats	1 space per 4 staff + visitor parking (individual merits)		
Libraries	3 space + 1 spaces per 3 staff	1 space per 4 staff		
Crematoria	1 space per seat	1 space per 4 staff		

Notes:

1. A lower provision may be appropriate for educational establishments in an urban location where there is good access to alternative forms of transport to allow sustainable travel.
2. The relationship between a school and the residential area is important and falls within the operational requirements of the school. Schools should represent the heart of the community and community facilities should be considered within the school site.
3. Supported learning school's parking/drop-off arrangements must be taken into consideration as generally extra staff are required and more pupils/students may arrive by taxi or car. Coach parking and facilities must be considered for all D1 uses.

Class 11 – Assembly and Leisure

Cinema, concert hall, bingo hall, casino, dance hall, discotheque, skating rink, swimming bath, gymnasium or for indoor sports or recreation not involving motorised vehicles or firearms.

Table 13 – Class 11 – Assembly and Leisure

Type of Development	Appropriate Provision	Cycle Minimum	PTW Minimum	Disabled Minimum
Cinema/Bingo Halls	1 space per 10 seats	10 spaces + 1 space per 10 vehicle space	1 space + 1 per 20 car spaces (for first 100 car spaces), then 1 space per 30 car spaces (over 100 car spaces)	200 bays or less = 3 bays or 6% of total capacity, whichever is greater Over 200 bays = 4 bays plus 4% of total capacity
Theatres/Concert Halls	1 space per 5 seats	10 spaces + 1 space per 10 vehicle space		
Team Sports (<i>Outdoor Sports Pitches</i>)	20 Spaces per pitch	10 spaces plus		
Sports Centres <i>Swimming Pools Snooker Halls / Other Facilities</i>	10 spaces per 100 sqm of pool area 1 space per table	10 spaces + 1 space per 10 vehicle space		
Golf Clubs	3 spaces per hole	Individual merit		
Dance Halls / Discotheques	10 spaces + 1 space per 3 staff + 3 spaces for performers			
Conference	1 space per 5 seats			
Golf Driving Range	4.5 per 100sqm or 2 spaces per lane (whichever is greater)			

Note: Coach parking and facilities must be considered for all uses.

Other

Table 14 – Other

Type of Development	Appropriate Provision (spaces per 100sqm gross floor area, GFA)	Cycle Minimum	PTW Minimum	Disabled Minimum
Garden Centres (see informative notes)	1 space per full-time staff equivalent	1 space + 1 per 20 car spaces (for first 100 car spaces), then 1 space per 30 car spaces)	200 bays or less = 3 bays or 6% of total capacity, whichever is greater. Over 200 bays = 4 bays plus 4% of total capacity	200 bays or less = 3 bays or 6% of total capacity whichever is greater Over 200 Bays = 4 bays plus 4% of total capacity
0-2,000 m ² GFA	5.5			
2,000-5,000 m ² GFA	5.0			
>5,000 m ² GFA	4.0		200 bays or less = 3 bays or 6% of total capacity whichever is greater Over 200 bays = 4 bays plus 4% of total capacity	
Student Flats	1 space per 7 students + 1 space per 3 staff + 1 space per warden	1 space per 5 students		
Motor Trade				
Vehicle display area Spaces department	2 spaces 4 spaces			
Services / Bodywork	4 per service bay			
Tyre & exhaust centre	2 per service bay			
Car wash	5 queuing spaces			
Scrapyards	2 spaces			
Staff	1 space per 2 staff			
Hot food takeaways	2.5 per 100m ² PFA			
Public house (Non-Food)	10 spaces			

Notes:

1. Coach parking and facilities must be considered for all uses.
2. Multifunctional uses must be considered per individual class use and adequate parking allocated to encompass all uses, when assessing the parking requirements of a development, taking into account cross-visitation.
3. A lower provision of vehicle parking may be appropriate in urban locations where there is good access to alternative forms of transport and existing car parking facilities.

1.4 Residential Car Parking

Residential parking should be close to people's homes and be located to provide natural surveillance whilst not compromising householders sense of privacy. For information on number of spaces see Table 11.

Residents' car parking spaces and garages should not dominate the street scene. Residents' spaces may also be located at the rear of dwellings and accessed from a separate road, street or drive. However, if this is likely to encourage on-street parking to the front then this should be designed for.

Communal visitors' spaces may be provided by widening the carriageway to accommodate a row of cars parallel to, at right angles to or at an angle to the kerb. Areas should be limited in size and numbers of spaces and should form part of a landscaping and urban design proposal and again should serve the additional purpose of restraining vehicle speed. In the case of angled parking, the footway should be widened by 800mm to allow for vehicle overhangs.

Visitor spacing should be grouped to a maximum of two spaces and spread evenly around the street to reduce visual impact.

Proposals should use a mixture of parking strategies such as private drives and parking courts so that the reliance of on-street parking is reduced. **Relying only on street parking can lead to wide streets where parking becomes visual dominant on the street.**

Trees and shrub planting and verges should be integrated into on-street parking so as to soften the appearance of cars on the street and help define the character of the street. Front of plots should be designed to contain both parking and garden areas and avoid swathes of block paved residential frontages.

Calculations for resident and visitor demand should take into account location, access to public transport and local transport trends.

Materials

For residential areas parking in front of dwellings should be permeable (excluding any adopted service strip at vehicle crossover points). In rural and island locations parking should be of a natural appearance. The first 2 metres of private parking areas / driveways to be hard surfaced.

Private Accesses, Garages and Driveways

A private access serving 2 to 5 houses should have a minimum width of 3.3 metres, with the first 10 metres (if access is taken from a Type 1 Connector Street or a more major route) having a minimum width of 4.8 metres to allow two way passing (subject to tracking).

The following should also be considered;

- No footway or service margin is required, with services being located within the driveway / private access.
- The horizontal alignment and any need for passing places are based on practical requirements and vehicle tracking where necessary.
- Intervisible passing areas.
- The requirements for a refuse vehicle to be able to get within 25 metres of all drive-ends or communal storage locations and for a fire tender to get within 45 metres of all front doors needs to be considered.
- On-site turning facilities provided where necessary.
- Private drives / access roads must incorporate adequate visitor car parking provision in addition to private curtilage parking.
- Any gates should be set at least six metres back from the adopted road boundary, with the exception of private drives on minor roads or streets.
- The first 10 metres of private access/driveway to have a desirable maximum gradient of 10% (absolute maximum 12.5%).

The junction of a private drive/access onto a Type 1, 2, 3 or 4 Street should be formed using a dropped crossing and be hard surfaced for a minimum of 6 metres. On higher standard routes or where the private access will have a higher level of traffic, 4m minimum radii should be provided. Where access is taken from a Type 1 Street or a higher standard route, the initial 10m section of private drive/access should be 4.8m wide

Garage doors must not open over the adopted road. On minor streets garages to be set back a minimum of 1 metre from public road. Consideration will be given to garages flush with the adoptable road on Shared Surface Streets provided visibility splays are adequate and roller shutter doors are used.

Where internal garage dimensions are below 5.0m x 2.8m the garage will not be counted as contributing to the parking provision. If the garage is 5.0m x 2.8m or larger then it will be counted as a parking space only if alternative bicycle storage is provided. Garages of 6m x 3m internal dimensions or greater will be counted as a parking space regardless of separate cycle storage.

Single driveways should be at least 3m wide (2.75m minimum), or 3.3m if the drive provides the main pedestrian access to the dwelling. To accommodate two cars the driveway must be a minimum length of 10 metres, from the rear of the footway/service strip, and a minimum length of 6 metres for one vehicle.

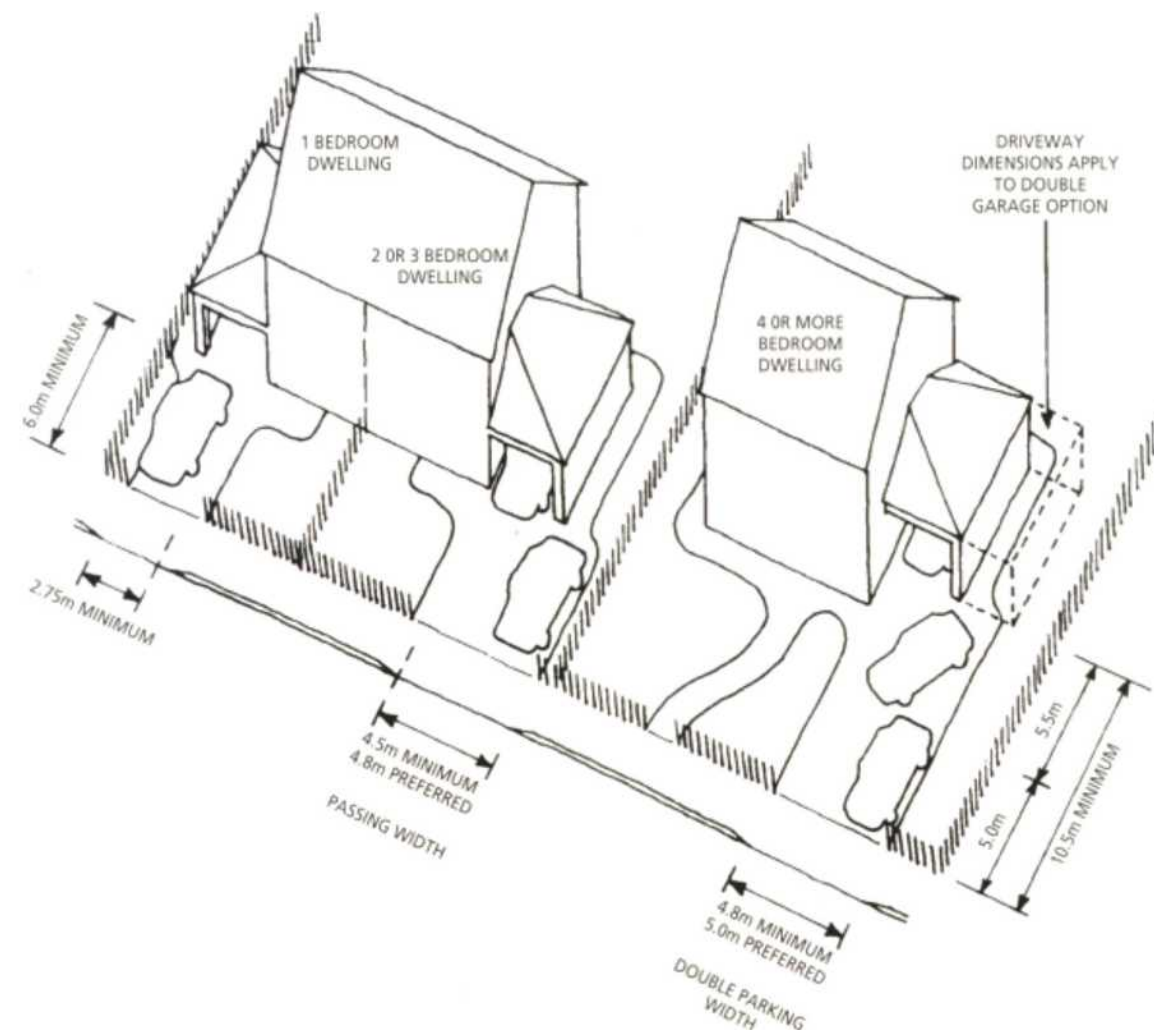


Figure 7 – Driveway Dimensions

Double width parking can be accommodated on a 4.8m wide driveway, or 5.2m if the drive provides the main pedestrian access to the dwelling. To accommodate two cars the driveway must be a minimum length of 6 metres from the rear of the footway/service strip. Dwellings with four or more bedrooms will require a double width driveway and recommended for three-bedroom dwellings.

The first 2 metres of a driveway should be paved to prevent loose material (e.g., stones, gravel etc) being carried on to the road or street.

Severe gradients, which render driveways unsuitable for car parking, should be avoided (desirable maximum 10%, absolute maximum 12.5%).

The gradient of the private access on the approach to a public road should be no steeper than 1 in 40 (2.5%) for the initial 10 metre length with an absolute maximum of 1 in 25 (4%).

No surface water must issue from the driveway or garage onto the public road or footway.

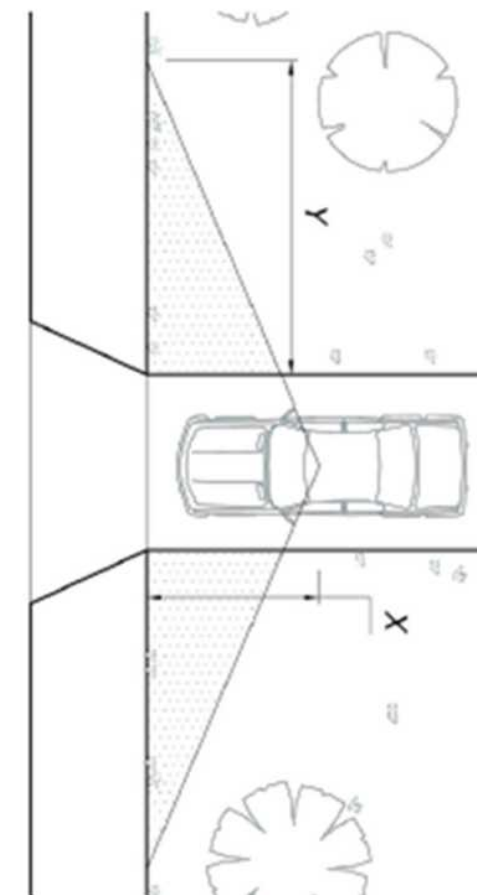


Figure 6 – Driveway Visibility Splays

Driveway Visibility

2.0m (X) by 2.0m (Y) pedestrian sight lines should be provided where the drive meets the back of the footway and 2.0m (X) by 20m (Y) to edge of carriageway should there be no footway or demarcation zone. There should be no physical obstructions or planting within these areas, that are above 0.6 metres high. The areas should also be easy to maintain to avoid future obstructions.

1.5 Shared-Use Provision

Often, especially in urban areas, parking provision can be shared with other uses. For example, many leisure activities in urban areas can rely on existing public parking as leisure peak times are often different to retail peak times.

Shared use of parking areas is highly desirable, provided this works without conflict and that car parking provision is within the standard that requires the greatest number of car spaces applicable. Conflict should not occur as long as the shared use developments operate at differing times of day or days of the week, or the development is considered ancillary to other activities (i.e., food and drink within a small residential retail area). Shared use may result in a reduction of the number of parking spaces which a developer is required to provide. For example, a mixed-use development of shops requiring 100 spaces for daytime use and leisure requiring 120 spaces for evening use, can suffice with 120 spaces in total.

Where applicable long-term agreements should be confirmed as part of the application to support the required parking standards. Proposals for shared use parking must be supported by a parking appraisal undertaken by the applicant, to a scope agreed with the Roads Authority.

Prior to any extension or change of use, the developer must demonstrate that adequate parking provision will be provided.

Proposals for shared use parking must be supported by a parking appraisal undertaken by the applicant, to a scope agreed with the Local Authority.

Shared use may result in a reduction of the number of parking spaces a developer is required to provide.

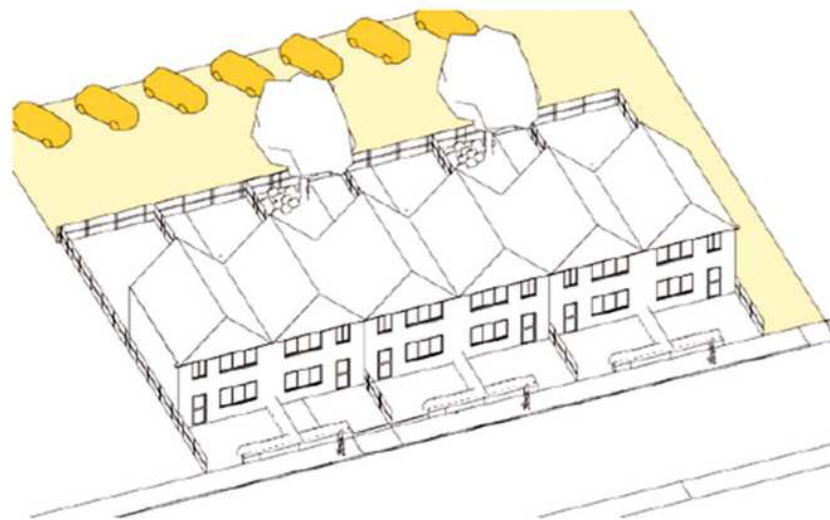


Figure 8 – Shared-Use Residential Parking

1.6 Industrial, Recreational and Service Industry Parking Requirements

Where a development contains a mix of differing facilities then each part should be considered in its own right, and the appropriate parking should be provided to give an overall total parking figure. It will be permissible to provide parking at one centralised location provided the differing facilities are clearly signed from the car park.

Provision will be required for staff parking and visitor parking. There is no need for separate accesses, but staff parking should be clearly marked to ensure that it is only available for staff.

The location of car parking areas in a development should be considered at an early stage in the design process to achieve a balanced distribution of spaces throughout the site, conveniently related to user destinations.

Where different units are serviced from one car park, the car park should be located such that indiscriminate parking will not occur on internal development roads or on roads adjacent to the development and the pedestrian routes from the car park must follow a safe and convenient route.

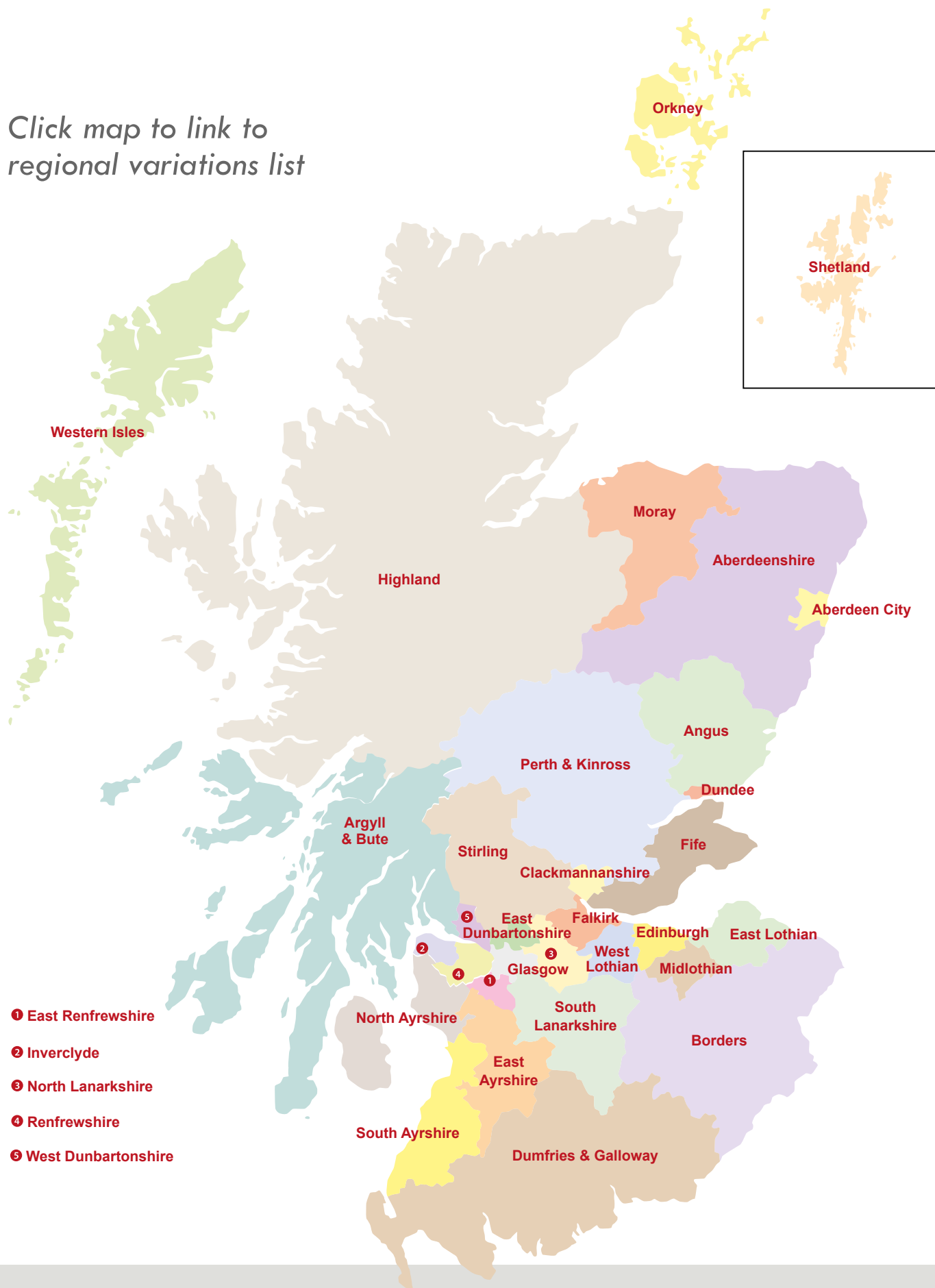
In industrial developments consisting of individual units the provision of communal car parking, instead of parking for each unit, may lead to parking adjacent to the individual units on the road possibly causing difficulties for larger vehicles.

At certain developments, especially in the service industry, such as schools and railway stations, a minimum number of 5 spaces should be provided to allow the dropping off/ picking up of car passengers. Where these points are required, they should be located within the curtilage of the development. Bays adjacent to the carriageway may be considered. Particular attention should be given to the provision of facilities for buses and their passengers at schools.

NATIONAL ROADS DEVELOPMENT GUIDE



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Part 1

ROADS DEVELOPMENT GUIDE





INTRODUCTION

Part 1 – Introduction

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Introduction

This National Roads Development Guide has been produced by the Society for Chief Officers of Transport in Scotland, supported by Transport Scotland and Scottish Government Planning and Architecture Division.

This document supports **Designing Streets**  and expands on its principles to clarify the circumstances in which it can be used.

1.1 Purpose

The purpose of this document is to:

- ◉ *provide guidance on how to obtain a Road Construction Consent;*
- ◉ *provide a consistent, accessible and relevant source of information that links related detailed and complex infrastructure requirements in one place;*
- ◉ *support the Scottish Government Policy **Designing Streets**  and expand this to address the interface with other roads. This national guide is considered the technical enabler to that policy document.*
- ◉ *advocate a re-designation of road hierarchy to **user hierarchy**;*
- ◉ *support the principles of adopting a multi-disciplinary approach and early engagement to achieve a balanced outcome based on a **user function**;*
- ◉ *accommodate Local Authority variances, such as parking standards or road details. These local departures are intended to be easily identified and accessed and as such form a section appended to this baseline document;*
- ◉ *advocate the creation of a review board and update procedure so that changes to legislation, best practice, codes of practice, guides and other such documents can be regularly included such that the guide is maintained efficiently and will provide a positive long-term legacy;*
- ◉ *encourage high-quality environments that place a focus on people and enable developments to be designed on an individual methodology rather than following standard and rigid specifications where possible;*
- ◉ *support a more holistic, integrated approach to the planning and approvals process with early discussions between all parties actively encouraged.*

1.2 Status and Use

Evidence provided by Transport Research Laboratory (TRL) and TMS Consultancy has updated geometric guidelines for low traffic residential streets including changes to junction spacing, visibility splays and forward visibility. This evidence has a major impact on roads design and is fundamental to altering previously accepted standards with the intention of slowing traffic speeds of compliant drivers

This evidence is adopted in **Designing Streets** [↗](#) which provides policy that should be followed in designing and approving all streets. Whilst its technical advice is aimed particularly at residential and lightly trafficked streets, many of the key principles are also applicable to other types of street, for example rural, arterial routes and high streets. As such, this National Roads Development Guide adopts the above evidence led conclusions reached for residential streets and develops this for use on all prospectively adoptable roads.

Note: for the purposes of clarity all streets are deemed to be roads under the Roads (Scotland) Act 1984 [↗](#).

The design standard for trunk roads and motorways in England, Scotland, Wales and Northern Ireland (**Design Manual for Road and Bridgeworks (DMRB)** [↗](#)).

The National Roads Development Guide provides advice and does not set out any new policy or legal requirements.

1.3 Principles and Scope of Documents

Designing Streets [↗](#) was launched by the Scottish Government to support the placemaking agenda. It raises the importance of street design issues from that of guidance and advice to policy.

It considers that roads within certain environs cater for more important functions than just the movement of people and traffic. To emphasise the different nature of this road type they should be considered as streets.

Designing Streets [↗](#) emphasises that well-designed and well-connected streets are crucial components in sustainable placemaking and sits alongside the 2001 policy document **Designing Places** [↗](#), which sets out the role of the planning system in delivering good design and **Scottish Planning Policy (SPP)** [↗](#).

A locally appropriate balance should be struck between the needs of different user groups. Traffic capacity will not always be the primary consideration in designing individual roads and road layout. However, it is recognised many journeys will still require to be made via vehicular traffic (including buses). As the movement of goods and services is paramount to sustaining and growing a successful national economy, the consideration of movement also remains vital on strategic and rural Scottish routes.

An inclusive environment that recognises the needs of people of all ages and abilities must recognise the importance of way-finding and legibility, especially with regards to the sensory and cognitive perceptions of children, older people and disabled people.

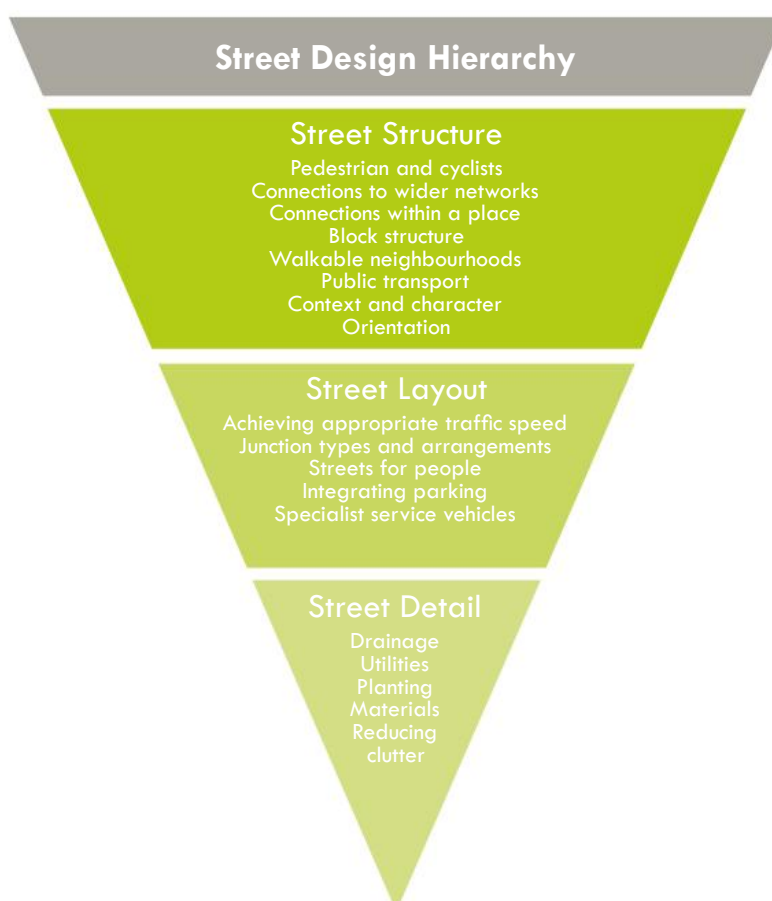
This Guide follows the same principles introduced in **Designing Streets** [↗](#) with a change in policy to move away from a standards-based approach to one where designers, planners and roads engineers collaborate to develop a design-led solution.

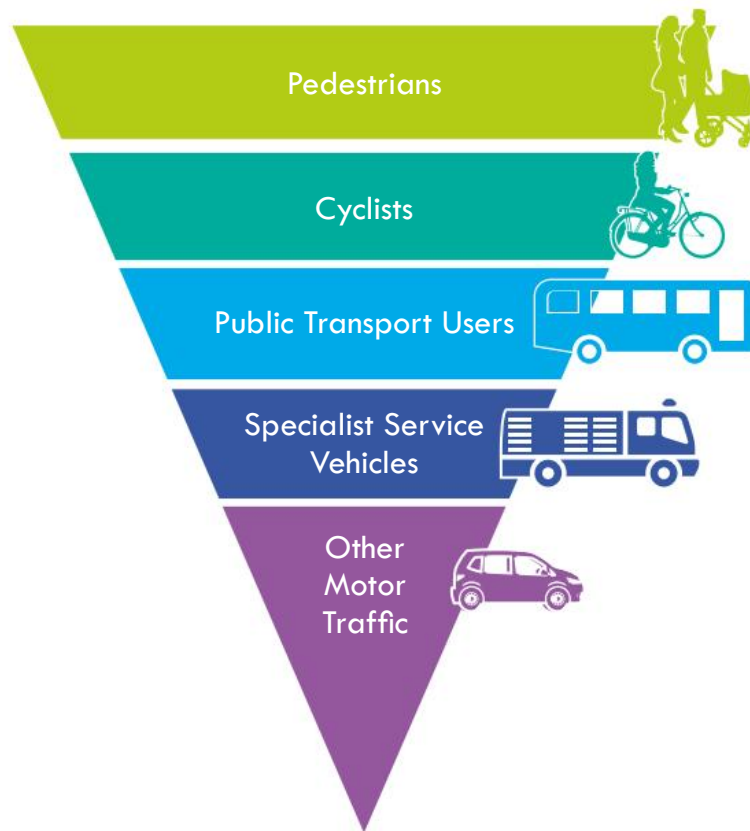
The key to a successful design is ensuring that the correct balance between place and movement is struck.

Designing Streets [↗](#) contains five policies:

- ◉ *Street design guidance, as set out in **Designing Streets** [↗](#) can be a material consideration in determining planning applications and appeals.*
- ◉ *Street design should run planning permission and Road Construction Consent (RCC) processes in parallel.*
- ◉ *Street design should be based on balanced decision-making and must adopt a multidisciplinary collaborative approach.*
- ◉ *Street design must consider place before movement.*
- ◉ *Street design should meet the six qualities of successful places, as set out in **Designing Places** [↗](#).*

They confirm the fundamental principle that place should be considered before movement, and are supported by 18 key considerations which are outlined in the **Designing Streets** [↗](#) document and supported by guidance within it.





Both documents apply a user hierarchy to the design process with pedestrians at the top. This means considering the needs of pedestrians first when considering the design of any road layout.

Many roads, in both urban and rural locations, require a 'non-standard' approach in response to context and this can be achieved by working as a multidisciplinary team and by looking at and researching other similar places that work well.

In urban areas, it is important to recognise the importance of the community function of streets as spaces for social interaction, and they should integrate communities not segregate them. Consequently, the user hierarchy should be followed and users at the top of the hierarchy should be supported in detailed designs.

Layouts should be designed to restrict vehicle speeds to below 20 mph where there is a high level of place but layouts should create networks which provide permeability and connectivity to main destinations and a choice of routes.


It is intended to move away from hierarchies of standard road types based on traffic flows and/or the number of buildings served and instead design roads which fit the context of the location.

Innovation with a flexible design approach is encouraged as is the use of locally distinctive, durable and maintainable materials.

1.4 The Benefits of Better Streets

It is important to take into account multiple objectives when developing transport strategies and schemes, and not simply congestion reduction. These other priorities include economic regeneration, climate change, casualty reduction, reducing air and noise pollution, minimising the impact of transport on the natural environment, heritage and landscaping, and encouraging more sustainable and healthy patterns of travel behaviour.


Making appropriate provision for road-based public transport, cycling and walking can help to encourage modal shift from the private car, and so contribute to the sustainability and health agendas. Enhancing street environments through a high-quality public realm incorporating local materials and historic street features, removal of clutter and pedestrian barriers, use of shared space where appropriate and enhanced street lighting can help to stimulate local economic activity, reduce street crime and encourage a sense of local community; this in turn encourages more local, shorter distance travel on foot or by cycle.

It is important to include green spaces within these living spaces. Trees are one of the most visible elements of green spaces as their use is considered in more detail in Scottish Government's [Green Infrastructure: Design and Placemaking](#) .

This evidence together with the Scottish Government's commitment that placemaking should be encouraged at every opportunity when development is put forward for planning decisions, requires a completely new approach to road design where new developments or re-development of an area is contemplated. A wide range of other considerations may apply, such as but not limited to: sustainable urban drainage systems (SUDS), waste management, parking, understanding of secure environments, a desire to deliver modal shift from cars to walking and cycling and encourage the use of public transport.

At the outset of design it is necessary to consider the requirements of the wider context of the environment, existing and proposed infrastructure, user needs and related transportation issues. Depending on the development scale this is best demonstrated through the use of flexible masterplanning or for minor developments, a design and access statement.


1.5 Types of Roads and Streets

[Designing Streets](#)  advocates that the former road hierarchy formerly used in previous local authority design guidance be removed to permit a more non-standards basis for street design. Within its section on Street Structure, it contains guidance on how to form networks of streets that are permeable (page 19); responsive to context (page 22); punctuated by squares and public spaces (page 25); and, accommodating of different street character types (page 29).

However, there are a range of minimum design standards required to guide the safe and efficient passage for various types of street users. **A street layout that fails to recognise the street character types and frequency of its users is also likely to fail with regard to the wider structure of the street network.** Any street whilst considering place before movement must balance all associated functions and considerations to deliver a sustainable and adaptable outcome. Much of this is expected to be addressed and demonstrated through a Quality Audit.

Streets that serve a limited number of residential properties are very much a place function and as such can be innovative in that regard. However, they are likely to differ from streets that connect to other areas and as such it is reasonable to assume connecting streets serve a greater movement function. As the connecting function of streets increases towards a main road or primary street they will inevitably carry greater traffic loads over their design life and will require a more robust pavement design as well as the capacity within the road boundary to adapt over time. Consequently it is essential that such streets are not designed on a space limiting basis.

1.5.1 Road Types

In considering the road infrastructure for new developments, **Designing Streets**  can be useful to identify different types of street generally under the following headings:


Primary

- (a) **strategic roads** - provide for major traffic movement between centres of population and economic activity on a national and regional level.
- (b) **main roads or primary streets** - within urban boundaries these link traffic from strategic roads to residential streets or industrial roads. They include 'arterial' through routes and mixed-use, multi-functional 'high streets' (at least in part along their length), providing access to properties as well as other amenities. Likely to be public transport routes they require a careful balance of place and movement when improving or connecting into with new development.

Secondary

- (c) **residential streets** - provide access to properties and through routes within a residential area. As secondary connectors they are much less likely to be public transport routes.

Tertiary

- (d) **residential and service lanes** - solely access to properties within a residential area. These tertiary streets could be mews, vennels, or courtyards.
- (e) **industrial roads** - link multi-functional industrial/commercial premises and associated parking and service areas to main or strategic roads. When within urban boundaries some elements of **Designing Streets**  may be applied, dependent on context and an assessment of future adaptability, but the balance is towards vehicle movement.

Other routes, not for motor vehicles:

- (a) **footways** - a pedestrian route that adjoins a carriageway
- (b) **footpaths** - a pedestrian route not adjoining a carriageway
- (c) **cycleways** - a cyclist route that adjoins a carriageway
- (d) **cycle track** - a cyclist route not adjoining a carriageway
- (e) **shared surfaces** - low trafficked single level street that serves a range of user types, normally limited to residential streets where traffic speeds do not exceed 10 mph.

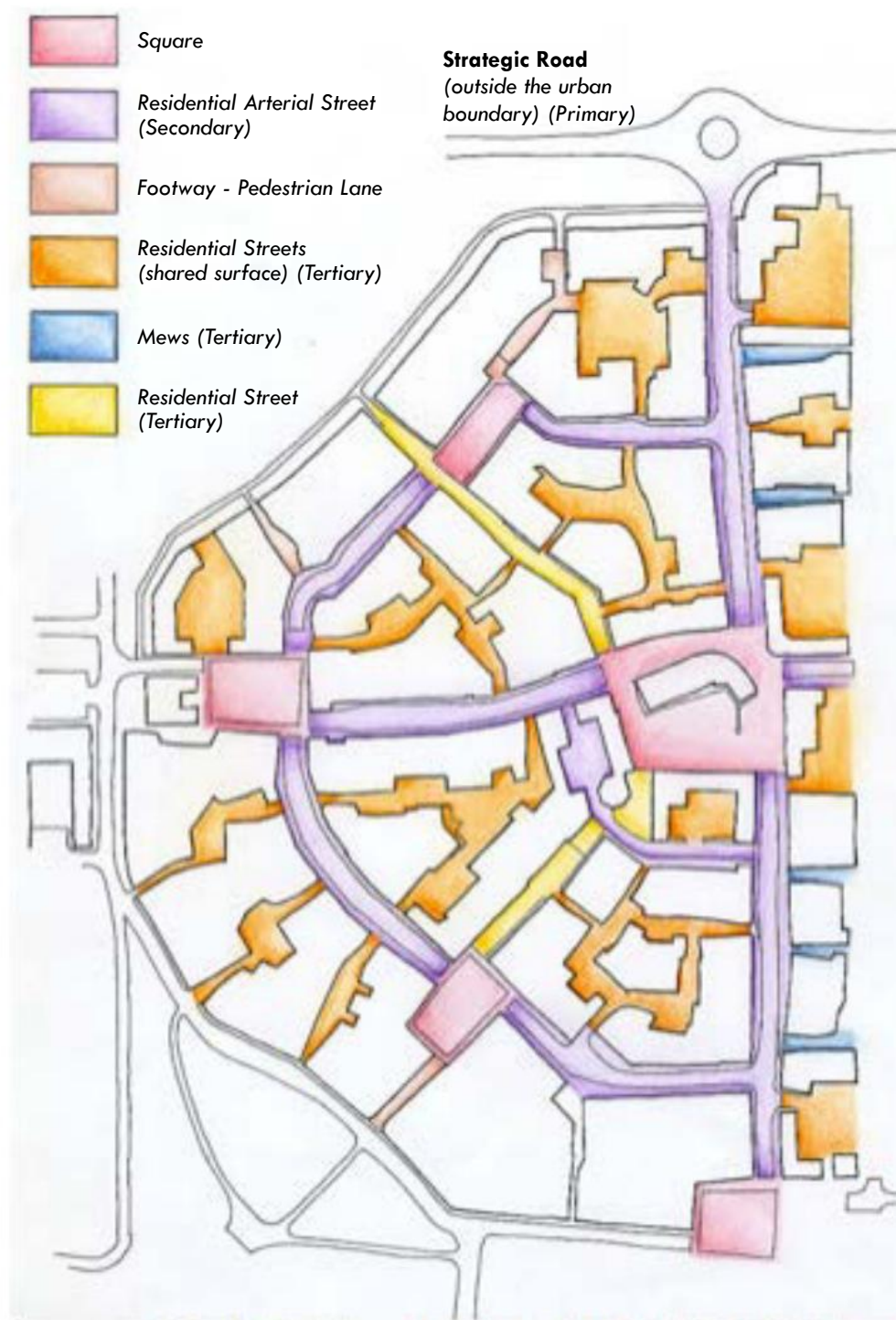


Figure 1

The colouring process illustrated here can be a useful tool in defining streets appropriate for Defining Streets as part of an analysis of function of submitted development proposals, ie [Designing Streets](#) page 21 B-Plans.



1.6 Road Network and Context

To assist designers with the place/movement graph in **Designing Streets** and addressing situations beyond the residential and low trafficked areas that *Designing Streets* predominantly addresses, the graph and illustrations are expanded to reflect all areas and types of roads with an additional indicator of possible appropriate traffic speeds

The plan (shown right) within *Designing Streets* indicating the relationship between *Designing Streets* to **DMRB** is expanded to assist with identifying arterial and rural roads which may not comply with either standard easily.

The graph on page 9 of **Designing Streets** provides a 'Place and Movement Matrix' diagram.

Place: *Place status denotes the significance of a street, junction or part of a street and therefore consideration of **place** is considered critical in the design of good transport networks.*

Movement: *Movement is activity and can be expressed in terms of traffic volume and strategic importance of the street, or section of that street, it also considers other street users such as pedestrians and cyclists.*

To understand the balance between place and movement, the relative importance of the two aspects need to be defined. Some streets will have a high movement status but a low place status, such as strategic or main urban roads. Others will have a low movement status but high place status such as residential streets. In between will be streets such as shopping streets, which are likely to have both high movement and place status.

DMRB only applies directly to trunk roads, but the standard has been adopted on higher speed Local Authority roads where there may be more latitude to depart from these standards at the discretion of the roads authority.

Designers do refer to **DMRB** and the related **Specification for Highway Works (SHW)** for detailed technical guidance or specification on specific aspects, for example on strategic inter-urban non-trunk roads, but it is recommended that the key principles of **Designing Streets** are applied consistently in a way that respects local context.

Examining the relationship between 'Place and Movement' in a different context it can be seen that there is a relationship between the place and movement matrix and the expected traffic speed.

Figure 2 *Designing Streets policy and guidance should be applied within all urban and rural boundaries*

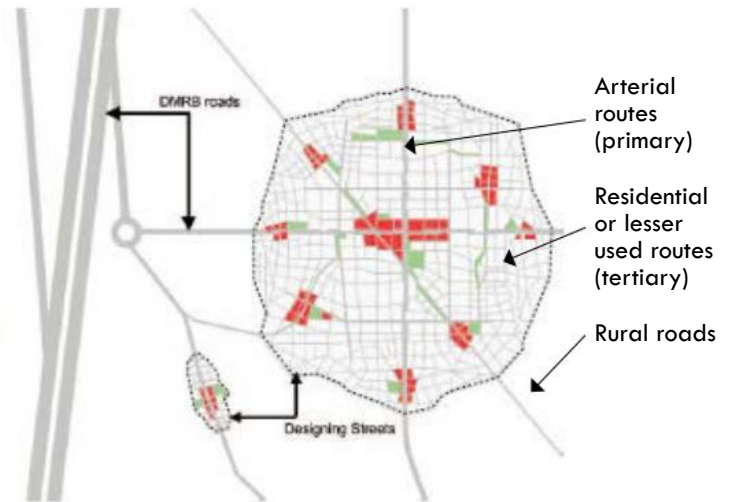
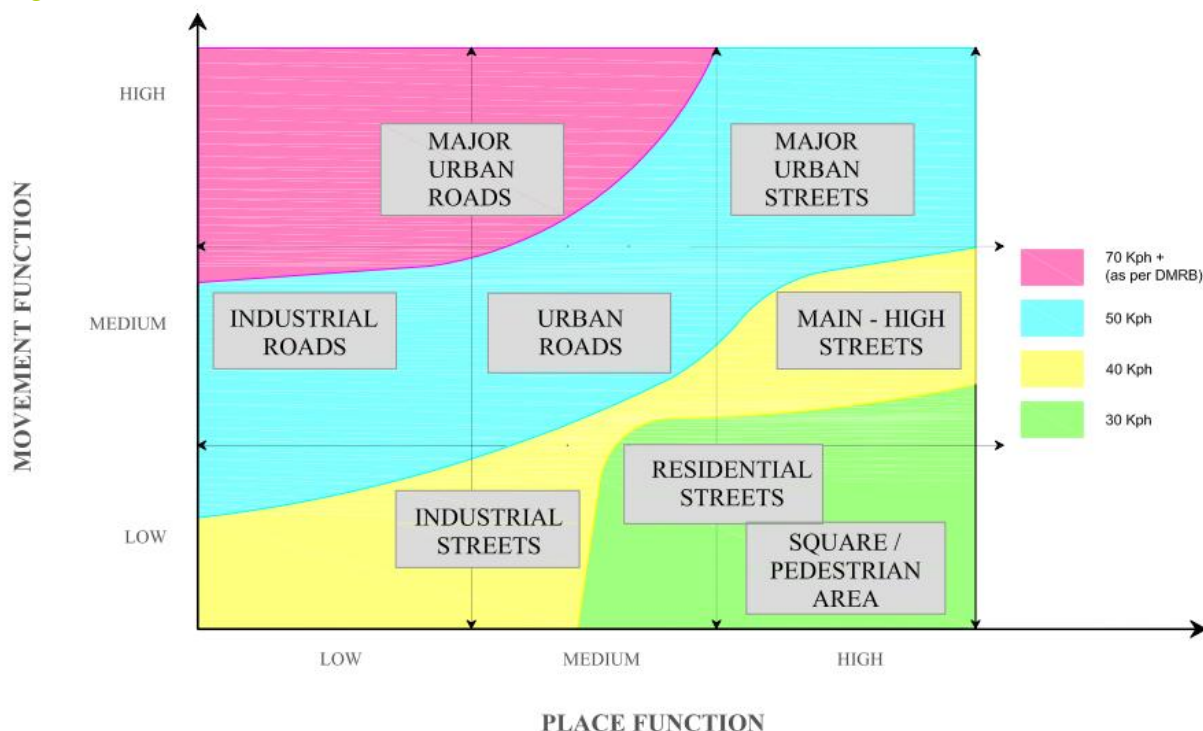





Figure 3





It is clear from this graph that adopting speed may be one way forward to identify where **Designing Streets**  can be utilised. However, there are still many other principles which affect the design and any new design has to take account of local context and even identify where some aspects of *Designing Streets* may be less relevant.

Much of the research utilised in the preparation of **Designing Streets**  is based on the stopping sight distance (SSD) at locations with traffic speeds of less than 40 mph. Similarly, in rural areas many parts of the road network are subject to the national speed limit but have traffic speeds significantly below 60 mph. Generally, in these situations where speeds are lower than 40 mph, evidenced by examination of the 85th percentile, the parameters used in **Designing Streets**  are appropriate.

Town Centres, Commercial/Business areas and Residential areas should be the most walkable part of the network; they should accommodate public transport services, cycle routes and cycle parking, while remaining accessible by service vehicles and private car. Therefore, it is expected that *Designing Streets* applies.

Strategic and arterial routes form essential parts of the wider road network acting as key links between towns, cities and local centres. They can also be part of the core network for the town or city where it is not easy or appropriate to remove or redirect traffic, including HGVs and buses. The level of activity along these links varies depending on location.

Along some sections of arterial routes the movement function will be most important; arterial routes are key to the functioning and economy of urban areas. Strategic and arterial routes within urban areas may have higher speed limits, in these limited cases it may be appropriate that **DMRB**  balance with **Designing Streets**  principles can be adopted for a range of reasons.

Road networks interlace and connect residential, commercial, urban and suburban areas of cities, towns and villages. They fulfil many functions along their routes catering for many types of journey by different modes. Their interrelated nature means that changes to one part of the network can have implications for adjacent routes and therefore must be understood and taken into account when designing and implementing road improvements.

Major routes in the road network are most commonly classified by the volume of traffic they carry and have been known as Principal Routes or Distributor Roads. In the past these standard classifications have remained constant for the whole route. However, by failing to take account of the changing context along the route this classification system limits understanding of how improvements or maintenance should reflect the wider functions such routes serve.

It is also recognised that the local context of place and movement can vary not only from road to road but also along the length of a road as detailed in images below.



This Figure shows that the Movement function remains largely the same along the route, but the Place function varies according to the changing importance of place within the road length; the predominant type of land use and the level of pedestrian activity. As the Place function becomes more important, the relative weight given to the Movement function will be reduced when deciding on priorities and an appropriate design.

Direct frontage access is common in all urban areas, including where 40 mph speed limits apply, without evidence to suggest that this practice is unsafe. This is confirmed in [TD41/953](#) (Annex 2 paragraph A2.10) which states that “in the urban situation there is no direct relationship between access provision and collision occurrence”. However, this is not true of rural roads ([TD41/953](#) A2.5) where the research identified a “statistically significant relationship for collisions on rural single carriageways with traffic flow, link length and farm accesses. On rural dual carriageways, the significant relationship extended to lay-bys, residential accesses and other types of access including petrol filling stations”. Consequently the level of access to the road network is a factor in deciding the appropriate balance of [Designing Streets](#) for busier routes.

A more formal approach to the determination of status level is given to the Place and Movement methodology in the following Table 1. This provides some definitions for different levels of Movement and Place, resulting in a ‘matrix’ defining where it is appropriate to use Design Streets, [DMRB](#) and other variations.

Table 1 identifies where there are significant levels of pedestrian activity associated with the movement of people along the road and this is related to the demand for pedestrians to cross the street. Where there are also high levels of kerbside activity generated by parking, loading and public transport, it would be appropriate to consider that the high level for pedestrian crossings should be utilised.

Four categories are included in the table and definitions of each are detailed below:

- (a) **DS:** The principles of [Designing Streets](#) should be applied.
- (b) **DS BM:** This location is predominantly Place dominated and the general principles of [Designing Streets](#) should be applied. However, there is also a higher level of traffic on these roads and this should be reflected in the design. The design should therefore be pedestrian dominated but the design elements such as road width, visibility, alignment should be less stringent such that vehicles are allowed to travel more freely at a slightly higher speed.
- (c) **DMRB BP:** This location is predominantly Movement dominated and the general principles of [DMRB](#) should be applied. However, there is a higher pedestrian movement at these locations and this should be reflected in the design. The design should therefore allow the free flow of traffic such that drivers realise the change in nature of the road and drive in a more considerate manner.
- (d) **DMRB:** The principles of [DMRB](#) should be applied. Strict adherence to [DMRB](#) is required on trunk roads but departures can be granted on application to Transport Scotland. Local Authority Roads may not require such strict adherence to the design parameters.

Table 1

Movement	Traffic Flows	Number of Junctions	Pedestrians Crossing					
			Low		High		Low	
			Low		High		Low	
						Pedestrians Activity		
			Low		Medium		High	
			Place					
			Low		High		Low	
			Low		High		Low	
			Low		High		Low	
			Low		High		Low	
			Low		High		Low	
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1.7 A Staged Process

The process to be followed is highlighted in the following table that indicates the conjoined approach for both planning and roads construction consent.

Design is a multi-stage process with each stage considering the design hierarchy of [Designing Streets](#): Structure, Layout and Detail.

Early processes define the parameters of the design which must consider the area and scope of the development, uses and trip generation within the defined user hierarchy.

Then how the development links into the wider area has to be considered. This must consider where all the various hierarchical users link into the existing network, considering pedestrians, cyclists, public transport and vehicles. Environmental issues need to be fully understood so that a drainage and green space strategy is efficiently accommodated and all considered for inclusion within the Quality Audit.

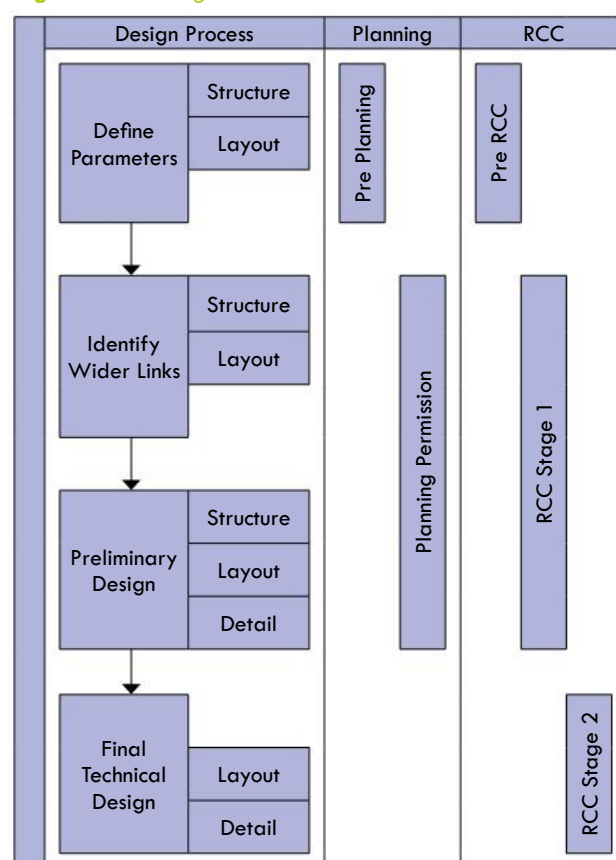
Having established the parameters of the development and how it links into the wider area, it is then necessary to undertake a preliminary design. This will consider all aspects of the design at a level that is suitable for submission for planning permission and Stage 1 roads construction consent. This part of the design process will require consultation with planning and roads officials and is likely to be an iterative process until sufficient detail is provided to meet the necessary requirements of both planning and roads authorities.


The penultimate stage allows all elements in the design to be checked for functionality. Some of these technical checks could be conditioned through the planning process. Detailed alterations may still be permissible within the Stage 2 Roads Construction Consent although the first stage should have established enough certainty so that any changes to street design would not require a material change to planning consents.

Following from the checks on functionality, the final design can be completed within the constraints of the planning consent and will allow roads construction consent Stage 2 to be submitted.

This process has been developed to allow the designer to apply for planning permission and Roads Construction Consent concurrently (Figure 4).

Figure 4 Planning and Roads Construction Consent



Quality Auditing using the design considerations within this document as well as within **Designing Streets**  is encouraged as a method to reach balanced decisions. Further advice on this is provided in the annex tool boxes, together with a quality audit summary template.

1.8 The Need for Consultation

Initial Consultation

It is considered essential to ensure a holistic approach to the planning and the Roads Construction Consent (RCC) processes that developers consult with all officers at an early stage.

Consultation should consider items such as, but not necessarily limited to the following:

- ◊ *the suitability of the location chosen for development in terms of access and/or effect on future roads schemes;*
- ◊ *acceptability of the proposed layout in relation to development control standards;*
- ◊ *a list of the main materials that will be used, and if there are deviations from the materials palette, appropriate approval process;*
- ◊ *the proposed provision of new road structures and alteration of existing road structures (eg bridges, culverts and retaining walls) are subject to **Technical Approval** procedures as outlined in BD2 of the Design Manual for Roads & Bridges;*
- ◊ *Transport Assessment (TA) requirements in support of a planning application;*
- ◊ *drainage and flood risk assessment to identify treatment of surface water discharge and additionally if there is a related flood risk;*
- ◊ *SUDS selection, design and prospectively adopting body;*
- ◊ *Quality Audit, based on the approach set out in this guide;*
- ◊ *officers may be able to advise developers in respect of variations to the specification to suit certain specific local conditions.*

Note: *If the issues above are not considered at an early stage, any changes could result in abortive work.*

The Developer is required to provide the Roads Authority with completed formal Consultation Certificates included in this guide before Construction Consent can be granted.

1.9 Consultation with Other Bodies

The information contained in these guidelines refers principally to the Local Roads Authority requirements. The requirements of the Planning Authority, Public Transport Unit, Statutory Undertakers, Scottish Fire and Rescue Service, Scottish Ambulance Service, Police Scotland, Scottish Water and Scottish Environment Protection Agency (SEPA) will be extra to these requirements and should be checked out individually at an early stage.

Part 2

ROADS DEVELOPMENT GUIDE





PRINCIPLES

Part 2 – Principles

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2.1 Consents

In order to deliver a successful road development proposal in a timely fashion, a range of statutory consents are necessary and are instrumental in guiding the design to an effective and efficient conclusion.

2.1.1 Statutory Consents

The current policy context to the planning approval process is set out in Local Development Plans and the Strategic Development Plans:

(a) **Development:**

Planning Permission in Principle, followed by *Approval of Matters Specified in Conditions*

or

Planning Permission.

(b) **In addition, before any new road construction begins:**

Section 21 of **Roads (Scotland) Act 1984** [↗](#) requires that prior to any work commencing; written consent in the form of a **Roads Construction Consent** is obtained from the road authority.

The Security for Private Road Works (Scotland) Regulations may also require a **Road Bond** where appropriate. Refer to paragraph 2.3.12.

It should be noted that the granting of Planning Permission does not necessarily imply the granting of Roads Construction Consent. Additionally it is an offence to work without addressing these consents. **SCOTS Guide for the Road Construction Consent and Road Bond process** [↗](#).

It should be noted that the granting of Detailed Planning Consent does not relieve the developer of the requirement, in terms of Section 21 of the **Roads (Scotland) Act 1984** [↗](#), to obtain Construction Consent from the Local Roads Authority for permission to construct new roads.

(c) **Work on the existing public road (Road Opening Permits):**

Where any work either on the existing public road is to be undertaken or if works are undertaken adjacent to the existing public road that imposes for any reason onto that public road written consent, under **Section 56 of the Roads (Scotland) Act** [↗](#) from the Roads Authority is required. Please note: the Road Authority may require technical approval, similar to RCC requirements, as a condition of S56 approval.

The Road Authority may enter into a Section 48 agreement for Contributions towards expenditure on constructing or improving roads.

Additionally, where these works require the placing and maintenance of apparatus in a road that imposes for any reason in or under that public road, written consent under **Section 61 of the Roads (Scotland) Act 1984** [↗](#) from the Roads Authority is required.

*Developers should note that applications for the granting of statutory consents require significant lead-in times as they may involve a range of technical procedures, consultations and processes to be completed prior to submitting an application. **The developers are strongly advised to make allowance for this in their project management plans especially where they have known key deadlines.***

(d) Construction of a New Access from a public road:

Where construction of a New Access is taken from a public road, written consent detailing the standard of works together with any reasonable conditions from the Roads Authority is required.

2.1.2 Construction Consent

In terms of Section 21 of the **Roads (Scotland) Act 1984** [↗](#), any person other than a Roads Authority who wishes to construct a new road or an extension (including lateral widening) to an existing road must obtain Construction Consent, irrespective of whether or not such roads are to be submitted for adoption as public. It is an offence under this Act to commence any construction of a road prior to obtaining Construction Consent. Construction Consent is granted by the Local Roads Authority and road construction works may only be undertaken while the Construction Consent (Form CC1) remains valid.

2.1.3 Section 75 Agreements

For infrastructure improvements outwith the development site deemed necessary by the Local Roads Authority, the Developer may be required to enter into a Section 75 Agreement Under Town and Country Planning (Scotland) Act 1997 [↗](#) **with the planning authority.**

2.1.4 Design Guidance and Adoption Standards


Construction Consent should be granted only where proposals for the layout and construction of roads, structures, road drainage and lighting meet the guidance as detailed in this document and any variations permitted by the Local Authority. Within an urban situation the balanced approach contained within **Designing Streets** [↗](#) to design means any 'standards' for street structure, layout or detail must be considered in context and the guidance within this document should be used to influence specific aspects or elements of the street design.

6 or more individual dwellings should normally be served by a 'road' which will require Construction Consent and the submission of a Road Bond in a residential area.

Generally 5 or fewer dwellings (more if a 'brownfield site', eg redeveloped farm steadings) will be served by a 'private access' which, as there is no right of public access, will not require Construction Consent and will not be available for adoption. Such layouts should provide adequate turning facilities and a satisfactory junction with a public road. The provision of a 'private access' must be indicated clearly at the planning application stage, otherwise it will be considered that a 'road' is being provided.

2.2 Design

2.2.1 Design Context

This guide reflects **Designing Streets**  as the policy statements for street design in Scotland in that it does not pursue a standards-based approach and is determined heavily on a user-based approach.


Roads or Streets are key determinants of rural and urban character respectively and along with economic viability their treatment must seek to create harmonious relationships between the road, building and landscape as well as function. Successful design requires that the functioning of all the various elements are considered together, eg the road itself, buildings and utility servicing, pedestrian areas, open spaces, drainage systems and parking layouts as well as gardens and play areas in residential areas, with the aim of creating a safe, connected and attractive environment for and all users.

Adopting a comprehensive approach it is more likely to produce an acceptable design. This Guide describes methods by which the policy can be more consistently applied.

It is critical that at the earliest stage the designer understands all the requirements of supporting civil infrastructure and using this knowledge creates a functional layout to meet requirements by balancing all decisions to that end.

The six qualities identified in **Designing Places**  and referenced in *Designing Streets* to create successful places are:

- ◉ *distinctive;*
- ◉ *safe and pleasant;*
- ◉ *easy to move around;*
- ◉ *welcoming;*
- ◉ *adaptable;*
- ◉ *resource efficient.*

A good practice would be to use the key considerations, explained in more detail in **Designing Streets** , as a checklist to judge a proposed layout against and thus ensure compliance: refer to Quality Audit section.

An integrated and balanced approach is necessary for the design of new development layouts, such that all factors are co-ordinated to give a final result which creates a pleasing and attractive environment, enhances the community function and is not an excessive drain on community resources.

The layout design is required to balance a range of essential considerations and elements in developing an acceptable road layout and therefore **a sense of place**. **Note:** *A designer who uses minimum road standards is likely to swing the balance towards movement rather than place and this approach is not acceptable for streets with a higher place function.*

These elements may consist of but are not limited to traffic flows, design speed, needs of all users including pedestrians and cyclists, the young and the elderly), place, movement, function, dwellings or adjoining buildings, road widths, forward sight lines and integration of SUDS.

This guide supports methods of Sustainability and encourages resource efficiency in all aspects of construction, management and maintenance of Infrastructure.


2.2.2 Site Evaluation

Before starting a site layout design it is important that an analysis is carried out of the existing assets and constraints of the site which will have a bearing on the layout or treatment of the road. Issues to be considered include:

- ❖ **existing road layout** - to assist with design and connections to the existing road and path network;
- ❖ **intended road function** - to help determine factors such as the geometry, scale and detailed treatment of the road;
- ❖ **potential for future adaption** - links function or potential function to road geometry;
- ❖ **existing structures (buildings, retaining walls, fences, signs, historical artefacts etc)** - to take protection measures and guide the design;
- ❖ **established patterns of use** - identifies traffic patterns and informs traffic management needs or guides alternative provision for all uses;
- ❖ **significant buildings or public open spaces** - to identify potential areas for environmental enhancement and desire line traffic management;
- ❖ **key views to and from the area** - to enhance important views and identify areas for screening;
- ❖ **drainage and consideration of natural flow paths** - any site layout must ensure that rainfall that exceeds the capacity of drainage systems has minimal impact upon new infrastructure. Flow paths that lead to property flooding or to critical roads being inaccessible are not acceptable.

For guidance that covers topography and natural features items, Scottish Government's **Green Infrastructure: Design and Placemaking**  should be referred to:

- ❖ **topography** - identify design constraints and assist with the alignment of new roads and location of drainage systems;
- ❖ **hydrology** - to assist with defining the SUDS selection and design;
- ❖ **street trees** - identifying existing to be retained or provided to enhance public space considerations;
- ❖ **significant flora and fauna habitats** - to protect and enhance features of ecological importance.

Following site analysis then the design team, with the architect or master planner working in tandem with infrastructure designers, engineers and landscape architect should work through the design aspects or building blocks of street design, roughly as the hierarchy set out in **Designing Streets** .

2.2.3 Street Design Hierarchy

The pages that follow use the same aspects of design as *Designing Streets* [🔗](#) and are noted, for ease of reference, in the same order as the policy document. The triangle contains links to the relevant page of guidance within *Designing Streets* each aspect refers to. Table 2 opposite is adapted from the table in *Designing Streets* showing how each aspect of street design links to the Six Qualities of Successful Places.

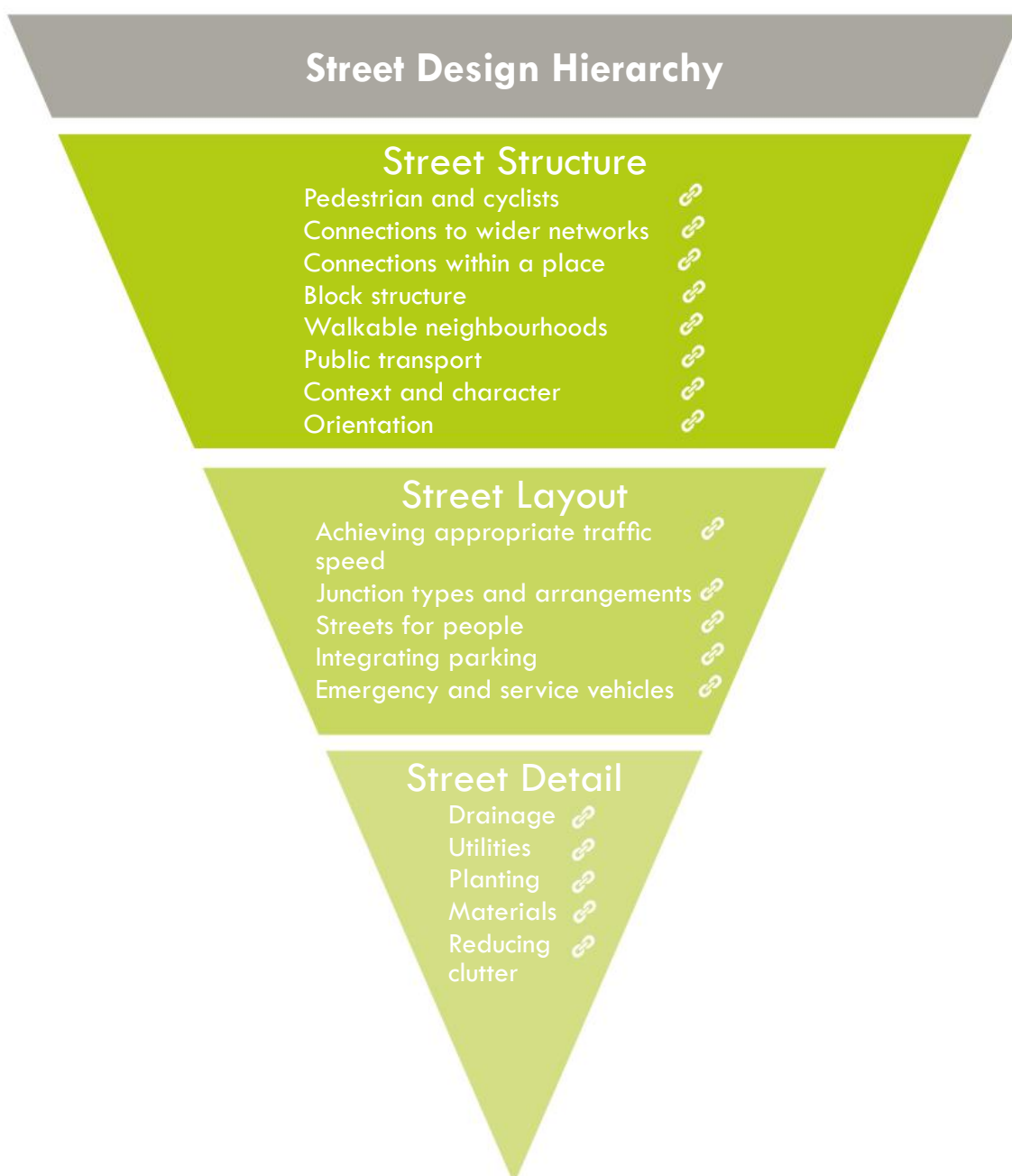



Table 2 *The Six Qualities of Successful Places: Key Considerations for Street Design*

<i>distinctive</i>	<i>safe and pleasant</i>	<i>easy to move around</i>	<i>welcoming</i>	<i>adaptable</i>	<i>resources efficient</i>
Street design should respond to local context to deliver places that are distinctive	Streets should be designed to be safe and attractive places	Streets should be easy to move around for all users and connect well to existing movement networks	Street layout and detail should encourage positive interaction for all members of the community	Street networks should be designed to accommodate future adaptation	Street design should consider orientation, the integration of sustainable drainage and use attractive, durable materials that can be easily maintained
Block structure Context and character	Pedestrians and cyclists Achieving appropriate traffic speed Reducing clutter	Connections within a place Public transport Junction types and arrangements	Walkable neighbourhoods Streets for people	Connections to wider networks Integrating parking Service and emergency vehicles	Orientation Drainage Utilities Planting Materials

2.2.4 Street Structure

(a) Pedestrians and Cyclists

Developments can take a variety of forms, with different requirements both internal and external to the site. The designer must therefore examine the user hierarchy in the proximity of the development to ensure that relevant design standards are achieved and that the needs of all road users are met, especially the requirements of pedestrians, cyclists, public transport and disabled users.

Designing Streets  identifies a change to mode hierarchy for residential and low use street with pedestrians having greatest consideration. Consideration of pedestrians and cyclists first means that conditions should be reviewed to determine whether changes can be made to volume, speed and road space provided to other traffic, before segregation and formally defined at-grade crossings are provided.

This user hierarchy is endorsed by this guide for strategic and main roads also. If developments are to meet the needs of pedestrians and cyclists and establish those as the preferred modes of travel within a new neighbourhood, the design of infrastructure must be focused, firstly on those needs. The removal of the requirement for a traditional roads hierarchy and the introduction of this National Road Development Guide provide designers with the freedom and flexibility to produce layouts that take full cognisance of the mode hierarchy.

Where a combined cycle and pedestrian route is proposed reference should be made to Transport Scotland's [Cycling by Design](#) and [LTN 1/12 Shared Use Routes for Pedestrians and Cyclists](#) to assist with design guidance.

(b) Connections to Wider Networks

To meet the objectives outlined in this guidance, developments need to be well connected to their surroundings. It is acknowledged that the provision of multiple access points has implications on the amount of land available for development, but to create quality neighbourhoods a balance needs to be struck.

It is important to note that the number of vehicle accesses into a development should not preclude the provision of additional, high-quality pedestrian, cyclist or public transport only accesses via footpath, cycle track or bus-only links.

A key aspect of connectivity is adaptability and to consider connections for future adjacent developments without leaving ransom strips. An outward looking block structure by necessity considers development edge treatment, which permits future adaption readily.

Developers are recommended to work with Local Authority officers to ensure their proposals are well connected as part of a strategic approach to the transportation network.

The existing road network must be capable of coping with the existing as well as levels of all types of traffic generated by the development. The road and paths created within a development must connect into the existing road and other user networks in a logical and progressive manner.



The extent of a proposed development may require existing routes for vehicular traffic as well as pedestrians or cyclists to be assessed to ensure that the traffic generated by the new development does not exceed the road capacity. Where a **Transport Assessment** [↗](#) identifies a need for additional traffic management, particularly to a strategic or main road, the resultant design requires early and detailed consultation with the road authority to develop proposals. Where any requirement to mitigate the effect of the development on adjoining roads is identified, the developer will be required to fund appropriate remedial measures as a part of their development that could be for vehicles but equally could be for higher pedestrian use such as new or improved controlled crossing points.

(c) Connections within a Place

Permeable layouts make navigation through developments simpler and easier and reduce frustration. They shorten distances and increase the attractiveness of walking and cycling as preferred modes for certain journeys.

Policy states that street structure should be connected and permeable, as such the use of cul-de-sac layouts is strongly discouraged. An alternative layout to address infill sites could consist of a courtyard development which provides a good sense of place as well as limits the scale of such a street network. Refer to **Designing Streets** [↗](#), page 19.

(d) Block Structure

The block structure readily enables a range, variety and choice of desire lines for all road user modes as well as addressing adaptability. Grid structure patterns traditionally sit comfortably alongside strategic or main roads.

Roads bordering the rear of housing areas enclosed by high boundary fences to provide private rear space result in unattractive isolated and unsecure links. A multi-function courtyard approach can greatly benefit this design aspect.



(e) Walkable Neighbourhoods

Good connectivity to surroundings should enable access to shops and services outwith the development. However, within the development there is still a need to ensure that movement can flow through the development creating places in their own right.

(f) Public Transport

Public Transport routes must be positively identified at the outset of a development and provision made prior to private transport plans being established and adopted by those moving to the new development. The potential for bus penetration within large developments to give convenient accessibility should be highlighted within any Transport Assessment report.

Good public transport provision should be available at the initial phase of any new development, either by linking to existing networks or by establishing new routes and should therefore be discussed with local transport operators at an early stage.

All details in relation to the provision of bus stops and related infrastructure requirements should be obtained at an early stage by consultation with the Roads Authority's Transportation Manager or nominated representative.

(g) Context and Character

When assessing the potential visual impact of new development, designers should work within the context of broad urban design aims, taking cognisance of such aspects as the existing character and qualities of urban design, architecture and landscape of the area, historical patterns of development and social and cultural factors which impact on the environment. National planning policy contained in [Designing Streets](#) and [Designing Places](#) illustrates how these issues may be addressed in a comprehensive way to help create development which contributes to local identity and enhances the sense of place. This National Roads Guide describes methods by which the policy can be more consistently applied.

(h) Orientation

Refer to page 31 of [Designing Streets](#) for the principles of guidance on how streets should be orientated to maximise the benefits of sun and wind, elements of the micro-climate of the place that should be considered also by the roads engineer in the positioning of more technical elements of design.

2.2.5 Street Layout

Achieving Appropriate Traffic Speed (Pages 32-35 of [Designing Streets](#))

(a) Low Use and Residential Streets



This section that covers the principles of design speed is a vital area where engineering input at an early stage can help to create a balanced solution that takes account of the safety of all road users and the crucial factor of driver behaviour. **Transport Research laboratories report TRL 661** [notes](#) that, in their study, the largest effect on speeds was found to be associated with reduced lines of sight.

New developments are recommended not to use vertical traffic calming features such as speed cushions and humps as these may have detrimental effects on disabled and infirm road users. However, vertical traffic calming features such as raised tables at junctions may be suitable in new low use residential developments. Wherever possible, slower speeds should be promoted through other road alignment.

Methods of reducing vehicle speeds include (findings from **TRL 661 Report**):

- ◉ *reduced forward visibility (reduced forward visibility from 120 m to 20 m = 20 mph on links and 11 mph at junctions);*
- ◉ *narrower lane widths (5 m wide road = 4 mph on links, approaching junctions = 10 mph);*
- ◉ *shorter block lengths (see forward visibility);*
- ◉ *block paved or setted road surfaces (= 5 mph reduction);*
- ◉ *presence of on-street parking features within the carriageway (=2 mph to 5 mph - CAUTION aim for off-street or reduce interaction with pedestrians - near miss concern).*
- ◉ *informality in street and junction layout.*



Since each method has different impacts in speed, clear understanding of each type of speed reducing element and what impact it can have is expected from the designer rather than a simplistic assumption of effect.

(b) Strategic, Arterial or Roads Serving Commercial and Industrial Use

Due to the detrimental effect vertical traffic calming techniques, such as speed bumps, has on disabled or infirm passengers its use is limited and restricted to residential areas, the use of this on other types of roads requires detailed substantiation and consultation with the Local Authority in advance. The proposed use of such vertical traffic calming measures in the vicinity of hospitals and such establishments is unlikely to be supported.

Street layout information within **Designing Streets** [🔗](#) identifies acceptable SSD values for both x and y terms for cars and light vehicles. This section gives guidance on Stopping Sight Distance (SSD) for streets where 85th percentile speeds are up to 60 Km/h (37mph), this will generally be achieved within 30mph limits with the potential to be achieved within 40 mph limits. The SSD, the distance drivers need to observe and stop within a given speed, includes the perception and reaction time. For new streets the designer sets the design speed but on existing streets the 85th percentile, wet weather speed is used. It is important to note that the updated SSD values are appropriate for cars and light vehicles but bus and HGV have different deceleration characteristics.

(c) Rural Areas

In rural areas not subjected to local speed limits, **TD9/93** [🔗](#) is taken as a starting point for new routes which aligns design speed to the Alignment Constraint (bendiness and sight distance) and

Layout Constraint such as determined from carriageway width, verge width and junction and access frequency. It is essential that the designer understands the concepts of road width and forward visibility to reduce traffic speeds into the overall design of a scheme to ensure that appropriate speed levels conducive to road safety are evidenced and designed into proposals.

2.2.6 Road and Lane Widths

Whilst not a specific aspect of design within DS, this guide goes into more depth on the subject of widths of carriageways as part of an overall layout.

This guide is not as prescriptive as previous versions of Roads Development Guides regarding road widths; this is specifically to enable a designer to select an appropriate road treatment in keeping with the placemaking and design concept. Where the movement function is high, a range of minimum standards associated with a roads function will be identified to assist designers.


There are also a number of locations where the road will change its function and as such it is possible that the design parameters will change along the length of a road and it is essential that the designer understands the parameters used for place and movement to understand the standards which must be followed. These parameters are explained in more detail in Part 1.

It can also be seen that even on roads where either place or movement dominates the designer's thinking there can be changes to the balance between them and the road design should alter to reflect locations where the balance moves between the two parameters.

However, user requirements are considered critical in the road design and the use of swept path analysis to provide evidence in support of proposed road width and other design factors are considered critical in support of a proposal. Swept path analysis, or tracking, is used to determine the space required for various vehicles and is a key tool for designing carriageways for vehicular movement within the overall layout of the street. The use of this technique often proves to be beneficial in determining how the street will operate and how vehicles will move within it.


Layouts designed using a high 'place' function should be designed to enable buildings to be laid out to suit the character of the street, with footways and kerbs helping to define and emphasise spaces. Designers have the freedom to vary the space between kerbs or buildings. The kerb line does not need to follow the line of vehicle tracking if careful attention is given to the combination of sightlines, parking and pedestrian movements.

Every road needs to be designed to match its place and movement function, but it must also be capable of coping with the types of traffic and other maintenance events. All types of traffic using a road require to be able to manoeuvre along the road while not adversely impacting on the place function and must remain safe for the road users. Refer to 3.1.3 for details.

This should not be interpreted in a manner where roads widths in areas with a high 'place' function are designed for the movement of occasional HGV traffic as the use of the road by vehicles such as waste management vehicles, as clearly their use is minimal. Refer to Emergency and Service vehicle provision, page 44 of [Designing Streets](#) .



When allocating dimensions for road boundaries a number of criteria need to be considered, which includes both vehicular and non-vehicular/pedestrian demands; current and potential future requirements of the infrastructure and the impact different drainage methods would have on the design.

Traffic congestion impacts on air quality and as a result place quality. Where traffic assessment figures indicate a traffic volume in excess of 10,000 Annual Average Daily Traffic (AADT) advice is required from the road authority regards minimum road widths. Where cycle lanes are provided and specifically on a strategic or main road, a minimum allowance as detailed in **LTN 2/08 Cycle Infrastructure Design**  should be made to permit safe overtaking.

The design process to be followed should be to progressively build up the road width by creating 'lanes' to meet the requirements of all road users. An effective understanding of this system permits the designer latitude to develop a road with adequate facilities to suit the location and the place function while ensuring that the overall final design is safe and adequate for movement. In essence, the 'lane' width and therefore road width is built up within the design based on User Requirements.

The requirements of each of the roads users is detailed below, while remembering that the road is made up of elements for vehicles, both motorised and non-motorised; pedestrians and other areas for parking, landscaping and 'place' functions. Incorporating SUDS, trees, street furniture or other such aspects become straightforward to include in the overall design. Due regard for disabled users is required.

One of the six qualities of successful places is 'adaptability'. The design of a road, particularly strategic roads, using the above lane analysis will identify a minimum road width readily. However

the resultant creation of 'the Road' between property boundaries has a permanent effect of defining public space. Careful consideration needs to be given to this regards future integration within the overall context of the area.

(a) Junction Types and Arrangements

Pages 36 to 37 of [Designing Streets](#) indicates a range of junction types and arrangements. Research provided by [TRL and TMS Consultancy](#) has updated geometric guidelines including changes to junction spacing, visibility splays and forward visibility. The immediate effect changes road layout design substantially, over former understandings, permitting more traditional layouts in urban areas. For detailed understanding of visibility at junctions, reference to [Designing Streets](#), [Manual for Streets](#) and [Manual for Streets 2](#) is strongly recommended. Reduced sightline requirements at residential road junctions, based on evidence to reduce speed, permits tighter corner details. Junctions are an integral aspect of any development design and are critical as they influence the inclusion of larger public spaces such as squares and meeting points as well as deal with traffic conflicts.

(b) Streets for People

Page 38 of [Designing Streets](#) describes how streets are about places of activity where people of all ages can interact as well as provide for the movement of motor vehicles. This tendency to favour co-operative rather than segregated streets referred commonly as a shared spaces require careful consideration regards the design and creation.

(c) Shared Surfaces

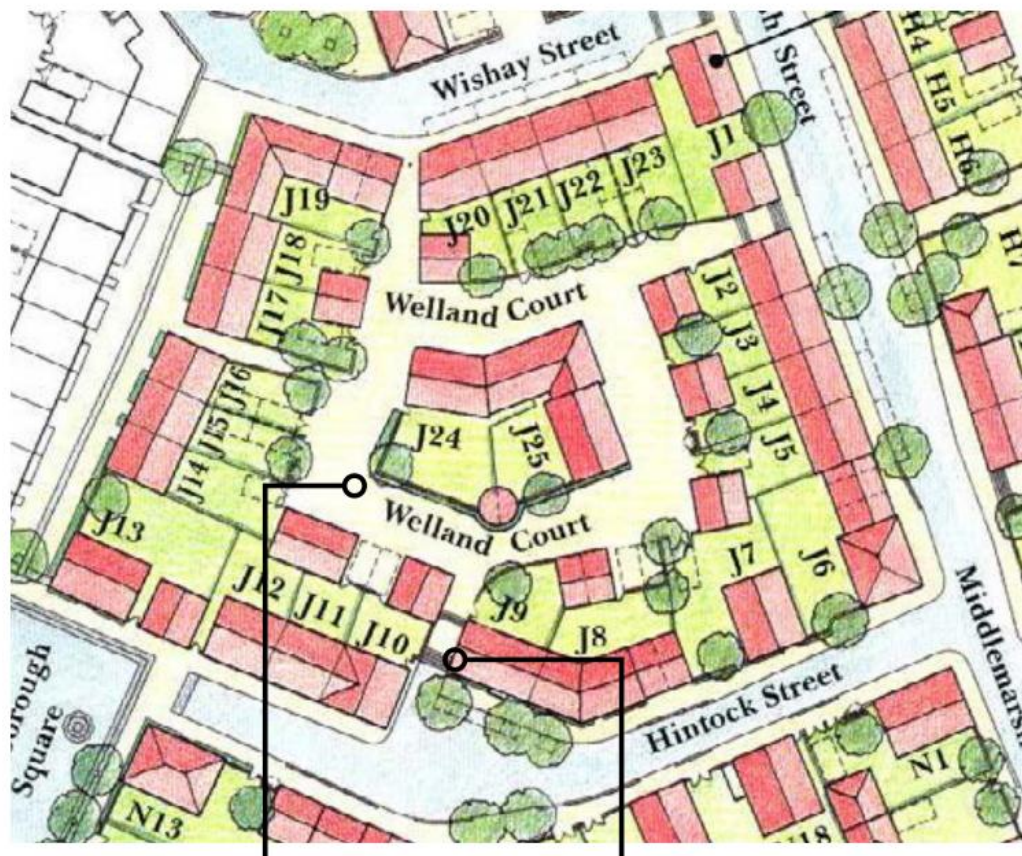
Shared Surfaces are areas where streets are shared between pedestrians, cyclists and all motor vehicles. This technique is normally restricted to areas where vehicle speeds and volumes are demonstrably low so an environment is created in which all road users have equal priority within the street. Particular regard must be given to disabled users. Reference to [Sight Line](#) is encouraged to support such applications.

Community courtyards, contained within a block structure layout readily provides for shared surfaces and amenity space, these areas should be designed for low traffic speed and volume and can address waste management, utilities and SUDS (Figure 5).

Shared surfaces normally contain street furniture or planting, to add to the sense of place and assist in keeping vehicle speeds to appropriate levels. However, shared surfaces can also be used in high street and other pedestrian dominant environments to reinforce the user hierarchy.

Note: An audit of such areas which indicates clear regard and consideration to disabled users and equalities legislation during design is required to support such street proposals. Additionally, designers are required to provide a holistic understanding of these areas which not only address layout and equality requirements but underground servicing also: refer to Quality Audit. It is recommended that underground utilities are considered at an early stage and maintenance access together with reduced pavement disruption is designed in.

Figure 5



Example of shared surface with integrated parking



Example of typical court access

There are some key design principles that should be taken into account when considering a shared surface scheme. **These principles are important in the implementation of successful schemes such that if not incorporated, it may be inappropriate for the scheme to be considered.**

In terms of the principles, shared surface streets should:

- ❖ *have a design speed close to walking/cycling speed, ie less than 10mph;*
- ❖ *feature controls on parking, permitted parking only in designated and well defined areas and limiting parking so that it does not dominate the street;*
- ❖ *feature measures to encourage social activity within the street, such as benches, play areas and street furniture;*
- ❖ *be clearly a different environment from a traditional street, by means of surfacing, signing and the presence of planting green space, trees or street furniture;*
- ❖ *be designed wherever possible with community involvement, to ensure the buy-in of the main end users of the scheme;*
- ❖ *take full cognisance of the needs of disabled people and vulnerable road users, in appropriate locations, providing safe space to protect users and assist with navigation through the area; and*
- ❖ *provide considered access to underground services, drainage and location of street lighting systems such that comply with regulation and best practice.*

(d) Integrated Parking (Page 40 of Designing Streets [↗](#))

Parking and Servicing requires recognition of the development's function balanced against reducing the visual dominance of parked vehicles. Internal accommodation or possibly year round landscaping to parking areas needs consideration.

In addition, the evolution of car design has resulted in increased car sizes over recent years, rendering much of the previous car parking spaces guidance outdated and no longer fit for purpose. Refer to Parking Standards in Part 3.

To better accommodate vehicle parking whilst balancing the impact on a place, garage parking allowance should be considered providing the garage dimensions permit the effective use of that building for that purpose. Key requirements for a garage space is that a car can easily access the garage and the driver can egress the car comfortably thereby encouraging the garage's use for that purpose. Consideration to the in-curtilage parking and positioning of a building within a plot together with storage and cycle parking should be given to reduce visual impact. Refer to Parking Standards in Part 3.

For flatted or other types of developments, underground or internal undercroft parking is a good solution and is practical for developments of a size where access ramps can be accommodated or topography easily permits its use. Effective design of internal parking permits buildings to be located forward on the building plot thereby removing the traditional parking area at the front of buildings and maximising private space to the rear of the building.

Research by Transport Research Laboratory (TRL 661 [link](#)) has shown that the presence of on-street parking can reduce vehicle speeds. However, there remains concern that crossing the road between parked cars remains a safety issue, particularly for young children. Additional design challenges need to be met where the road constitutes an arterial road and where the surrounding function is more than residential only. Car free developments are not considered appropriate, as residents will park in surrounding streets, thereby limiting effectiveness. Parking should be allocated on an estate-wide basis



Provision for bicycle parking requires particular attention when considering the form of a new development. Reference to [Cycling by Design](#) and [LTN 2/08 Cycle Infrastructure Design](#) is recommended for all new road layouts. Larger developments with significant infrastructure may warrant off-street or parallel-to-street dedicated facilities. The guidance above relating to the designer making the road up from user defined lanes can assist in this provision. In encouraging cycling it is important that safe, secure and convenient places are provided within developments for the storage of cycles. Inconvenient or difficult to access facilities should be avoided.

(e) Emergency and Service Vehicles

Types of traffic using a road do require adequate facilities to ensure a safe environment; HGV and bus traffic lanes by necessity are wider than car only lanes. The sharing of road space for cyclists requires additional space as does on-street parking. In essence, the lane width and therefore road width is built up within the design based on User Requirements. This should not be interpreted as merely all residential streets must always cater for HGV waste management and winter maintenance vehicles as clearly their use is minimal. Reference for Emergency and Service vehicle provision is detailed in [Designing Streets](#). Further guidance on this is detailed later: refer to 3.1.5.

2.2.7 Street Detail

(a) Drainage and Sustainable Urban Drainage Systems (SUDS)

Water quality and the need to consider controlling rainwater runoff rates and its infrastructure are two key factors that have driven the need to identify more sustainable drainage solutions for all forms of new development. There is now a legislative requirement, through the introduction of [The Water Environment \(Controlled Activities\) \(Scotland\) Regulations 2011](#), commonly referred to as CAR, that to comply with General Binding Rule (GBR) 10, surface water runoff from areas constructed after 1 April 2007 must be drained by **Sustainable Urban Drainage Systems (SUDS)** so that all reasonable steps are taken to ensure the discharge will not result in the pollution of the receiving water environment.

The design of an integrated sustainable urban drainage system needs to be considered by the developer at an early stage to ensure the benefits of such a system are fully realised within the proposed development.

Design guidance can be obtained from The [SUDS Manual, CIRIA no C753](#) and from [SUDS for Roads](#). Additional local guidance for developers may also apply.

Developers are recommended to consider a SUDS system in terms of a master planned approach as a sectionalised or phased approach is unlikely to gain approval.

A key requirement is that the in-perpetuity maintenance and management of any Road SUDS system is clearly attributed to a regulatory body such as Scottish Water or the Local Authority

and that this agreement together with boundaries of responsibility is clearly indicated on plans submitted for RCC.

The design of new residential developments should apply the following principles:

- ❖ *SUDS must be an integral component of the design from its inception, with the connections into the wider network identified.*
- ❖ *All parts of a shared surface water system for road and curtilage water must be designed to allow future adoption/vesting by an in perpetuity regulatory body. This will normally mean that on any specific site, Scottish Water and/or the local authorities entering into an agreement to confirm adoptable standards together with future maintenance boundaries at the outset and that agreement forms a material part of the RCC application. Refer to the SUDS Schedule on page 172.*
- ❖ *SUDS should be developed in conjunction with the roads layout and landscape strategy, have regard to any sensitive environmental receptors and be integrated with the wider wetland habitat networks.*



Initial investigations on drainage and SUDS need to establish the soil and hydrological conditions of the area and the site. This information directs the design principles for the development and are submitted as part of the RCC application process including future regime for maintenance, discharge location and methodology of calculating surface water discharge rates.

The levels of treatment listed below represent best practice. Please be advised that for mixed use developments, the level of treatment required will be determined by the use with the highest sensitivity within the development.

- ◉ All roads schemes typically require two levels of treatment, except for residential developments of 50 houses or less and retail/commercial/business parks with car parks of 50 spaces or less. For technical guidance on SUDS techniques and treatment for roads please refer to the **SUDS for Roads** [manual](#).

More detailed information:

- ◉ Residential developments of 50 houses or less and retail/commercial/business parks with car parks of 50 spaces or less require one level of treatment for all hard standing areas including roads.
- ◉ Residential developments of more than 50 houses and retail/commercial/business parks with car parks of more than 50 spaces require two levels of treatment for all hard standing areas including roads. An exception is run-off from roofs which requires only one level of treatment. Recommend best practice, the second level of treatment to be a basin or pond designed in accordance with **Sewers for Scotland Third Edition** [link](#).
- ◉ Industrial developments require three levels of treatment for hard standing areas and two levels of treatment for roads. An exception is run-off from roofs which requires only one level of treatment. Recommend best practice - the second level of treatment to be a basin or pond designed in accordance with **Sewers for Scotland Third Edition** [link](#).

Developers should also note the following:

- ◉ The appropriate levels of SUDS treatment should be provided in new developments. Further advice regarding the surface water treatment, and levels of treatment, is available from the following **SEPA link** [link](#).
- ◉ Any in-curtilage SUDS (private) **must** have a strategy and evidence for long-term maintenance.
- ◉ **Whole Life Costs (WLC model)** [link](#) and future maintenance issues will be key to the successful selection of any given SUDS design. Surface water discharge from SUDS does not require a licence under the WEWS CAR regulations unless they are draining:
 - ➡ >1,000 residential houses;
 - ➡ >1,000 car parking spaces;

- ▢ industrial areas;
- ▢ major road/motorway;

in which case a simple license is required. This applies to surface water discharges arising from the above activities which are new or enlarged. It does not apply to existing surface water discharges, unless SEPA considers that additional controls in the form of a licence are required.

In the case where soil saturation levels have been reached, flood paths are required to be identified such that roads are kept free of ponding water and that housing or buildings are not put at risk.

(b) Flood Risk Management

A key requirement for any development is flood management and determining any potential flood risks. All developments should be screened to determine if there are any potential flood risks from the following sources:

- fluvial (flooding from rivers and burns);
- pluvial (ponding of rainwater which has not entered any drainage network, normally occurring in low lying areas);
- sewer;
- overland flow/flood routing;
- ground water;
- coastal flooding.



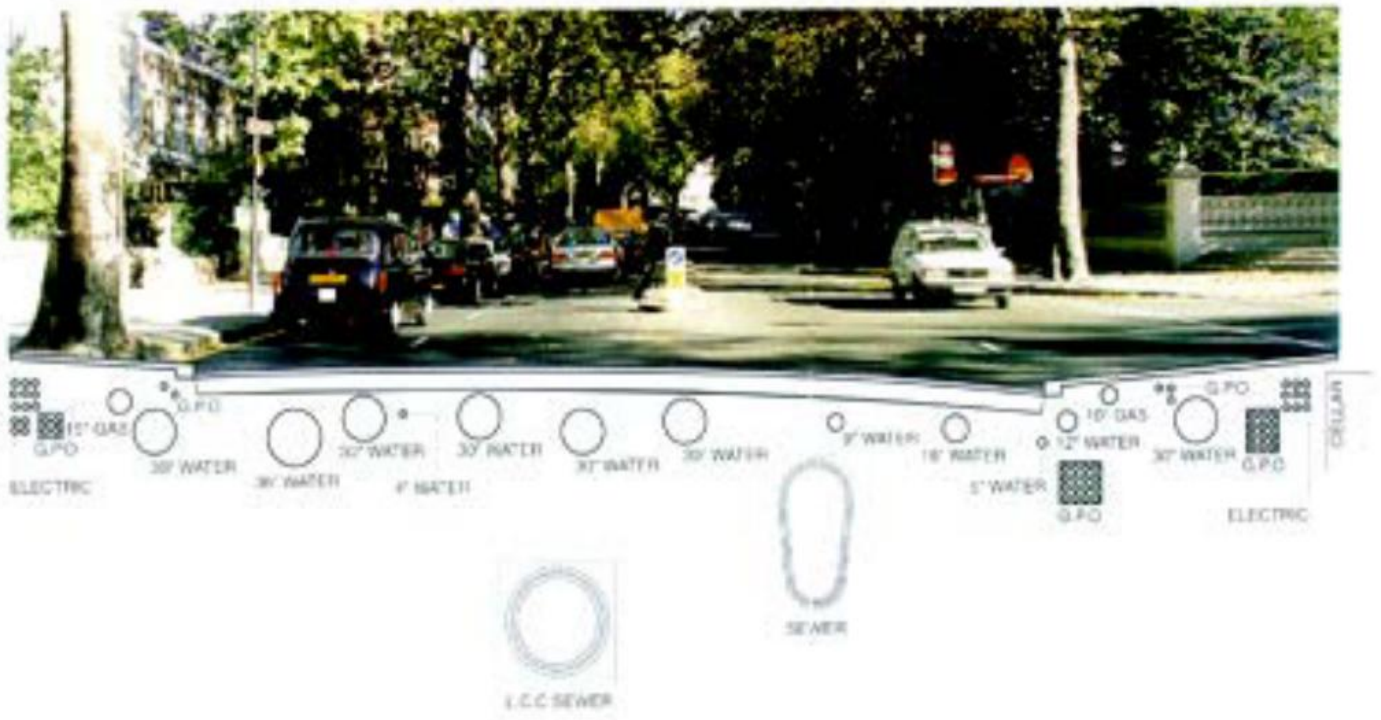
If any of the aforementioned flooding sources are identified there will be a requirement to carry out a **Flood Risk Assessment**.

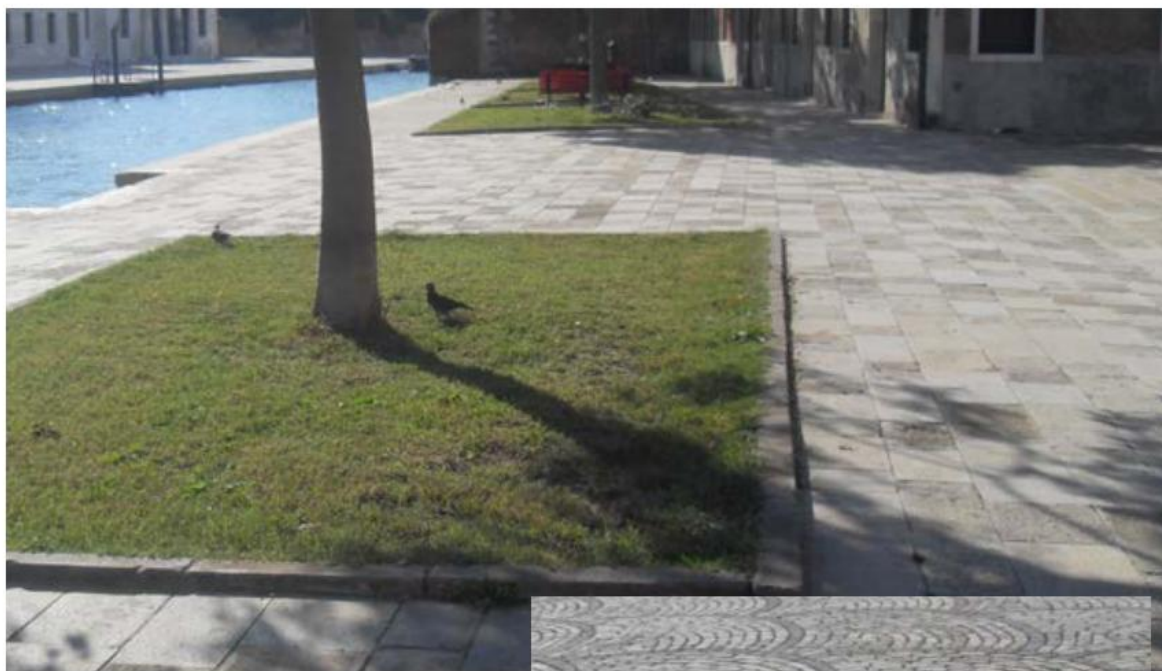
The Local Authority's Flood Management team should be consulted at the conceptual stage of all development to discuss these requirements.

(c) Utilities

All developments require utility servicing and this should be planned at the outset so as not to conflict with other road aspects and as a rule are placed within the road boundary. The use of ducting and utility combined ducts which result in minimum disturbance to the road surface for maintenance is encouraged. The provision of service strips requiring ground management requires clear demarcation from private ground. Where green service strips are proposed alongside shared space, these are intended to connect to adjacent garden grounds. These are unlikely to be supported where walls, fences or hedges are proposed separating these from such gardens

Where high-quality surfaces are proposed, ducting of utility apparatus is highly recommended to maintain the long-term integrity of such surfaces and reduce risk to such utility apparatus.





(d) Planting

Developers will require to arrange maintenance of planting or by an agreement with the Local Authority. Local Roads Authorities will not generally adopt planted areas except for grass verges within the road boundary, main road visibility splays and elements of the SUDS systems. Developers must detail management undertakings on proposed road adoption plans.



(e) Materials

Page 50 of [Designing Streets](#) outlines the principles of distinctiveness and durability to allow ease of maintenance. Section 2.4.10 in the adoption chapter that follows goes further in outlining the needs from the Roads Authority point of view.

(f) Reducing Clutter

Page 51 of [Designing Streets](#) outlines the principle to keep road or street marking and signage to a minimum. Locate furniture for maximum pedestrian benefit and light our streets discreetly.

2.2.8 Risk and Liability

Changes to road layouts and updated technical details as a result of [Designing Streets](#) (see page 60-63 of DS), SUDS and traffic management processes has caused some concerns for designers regarding litigation and liability. This is largely unfounded but to assist with these concerns reference should be made to UK Roads Liaison Group's [Highway Risk and Liability, Second Edition](#) for clarity based on stated case law.

2.2.9 Transport Assessments (Public Transport and Travel Plans plus Quality Audit)

Initial considerations should be to seek confirmation from Local Authority on whether a Transport Assessment (TA) or Transport Statement (TS) is required. There is no requirement to appoint a firm of Transport Engineers to undertake a TA but seeking advice from suitably qualified professionals would be recommended. The next stage is to submit a proposed scope for the TA for comment by the Local Authority and/or Transport Scotland (as necessary) and seek agreement to this before undertaking the assessment. If the scope is not agreed there may be a requirement to provide an addendum to the submitted document or a completely new submission.



Detailed advice on Transport Assessments can be found in the [Transport Assessment Guidance](#) and refer to section 3.2 in this Guide.

The Scottish Government guidance on Transport Assessments sets out requirements according to the scale of development being proposed; from a local development which requires a simple Transport Statement providing an explanation of transport issues through to a major development where detailed technical analyses will be required in a Transport Assessment accompanied by a supporting Travel Plan.

A Transport Assessment (TA) is required for most large developments where there is the potential for a major traffic impact on the surrounding transport network. These developments will typically include the following:

- ❖ food and non food retail stores of over 1,000m² Gross Floor Area;
- ❖ hotels with more than 50 beds;
- ❖ residential developments with 100 dwellings or more.

Transportation Statements which are a slimmed down version of a full TA are usually required in the following circumstances:

- ❖ hotels with less than 50 beds;
- ❖ residential developments with between 50 and 99 dwellings.

Please note however, that these are only guidelines and that a full TA can be asked for if the Council considers that the traffic impact of a proposed development merits such an investigation.

2.3 Adoption of Infrastructure

Adoption and Maintenance (Roads, SUDS, Landscaping (Public open space) etc)

2.3.1 Adoption of Roads

In Terms of Section 151 of the **Roads (Scotland) Act 1984** [↗](#), a road is defined as any way (other than a waterway) over which there is public right of passage etc (by whatever means) and includes the road's verge, and any bridge (whether permanent or temporary) over which, or tunnel through which, the road passes: and any reference to a road includes a part thereof. In terms of Section 16 of the **Roads (Scotland) Act 1984** [↗](#), the Local Roads Authority will, **upon request**, adopt, ie **add to its list of public roads**, any new road (including any associated footway or verge) constructed in accordance with a Construction Consent.




The Local Roads Authority will also include this road and associated footways, verges, drainage systems, green space, public areas and any other related infrastructure into its Roads Asset management Plan. However, clear demarcation of responsibilities must be identified and agreed by local authorities, Scottish Water and any other third party agencies party for the future maintenance of any element of the road and its drainage system, including open public space as a part of the RCC application.

Private Accesses

It is important to make the distinction between roads (recorded on the list of public roads or not) and private accesses. Roads have a public right of passage whereas private accesses are controlled by the owner(s) and there is no public right of passage. At the planning of a new road, its status as a Private access is identified and that it is not the intention of either the Developer or the road authority to ever have the road added to the list of Public Roads.

The suitability of a private road can be judged against some or all of the following criteria:

- ❑ *the road serves less than the adoption standards (2.1.4);*
- ❑ *the development is enclosed with no right of passage;*
- ❑ *the development consists of dwellings that are never to be adopted as permanent dwellings. For example, holiday homes that limit occupation to no more than 11 calendar months of any year regardless of numbers.*

For a road that for any reason has not been added to 'the list of roads' it is necessary to identify a responsible person as Road Manager who is identified through the Road Authority on the Scottish Road Works Register as defined in terms of the **Transport (Scotland) Act 2005**  in perpetuity.

Phased adoption of a project:

To avoid long delays between construction and adoption of roads, developers are recommended to programme construction to enable the adoption of roads to be phased as sections of work are completed, subject to the following:

- (a) *Each phase should have a separate Construction Consent **and if applicable, a Road Bond for Residential Developments.***
- (b) *Carriageways, footways, verges, relevant elements of a SUDS systems and lighting will not be adopted separately.*
- (c) *In general only lengths of road between junctions will be adopted.*
- (d) *All roads submitted for adoption should form a continuous system with existing public roads.*

Note: Roads Authorities may choose not to adopt a completed section of road which is being used by construction traffic to access further phases of the development.

2.3.2 Adoption of Parking Areas

In both new development and redevelopment, the developer will normally be required to provide parking spaces in accordance with the parking standards detailed and agreed at a Local Roads Authority level. The suitability of such areas for adoption or maintenance by the Local Roads Authority will normally be judged against the following criteria:

- (a) *Parking areas should be constructed in accordance with a Construction Consent.*
- (b) *Parking areas contiguous with the carriageway will normally be adopted as public roads provided that their use by the general public is not restricted in any manner.*
- (c) *Off-road parking areas, which have been identified as meeting a general public parking need and have been constructed to appropriate standards may be taken over for maintenance purposes (as agreed in advance by the Local Authority guides).*
- (d) *Parking areas provided in lieu of garages or private driveways for the regular parking of residents' cars will not be taken over for maintenance purposes by the Local Roads Authority and must, therefore, be subject to private maintenance agreements. They will remain either the responsibility of the Local Housing Authority or of the proprietors or factors in the case of private housing.*
- (e) *Clear demarcation must be provided between the prospective public road and privately maintained parking areas.*

2.3.3 Housing Courts

Housing Courts consist of a combination of the above elements and may be considered for adoption by the Roads Authority. Housing courts should be constructed in accordance with a Construction Consent.

Housing Courts serving less than 20 dwellings may be considered unsuitable for adoption.

2.3.4 Service Areas

Service areas in industrial or commercial developments, which provide loading facilities for the premises, will not normally be considered for adoption even though these may take the form of paved areas contiguous with the carriageway. A clear delineation of the private area will be required.

2.3.5 Adoption of Road Lighting and Electronically Controlled Signals etc

Lighting installations or electronically controlled signals on publicly maintainable roads, footpaths and parking areas may be taken over by the Roads Authority for operation and maintenance prior to the completion of the road works, provided that the following requirements are met:

- (a) *The submission of a separate acceptable **Completion and Inspection Certificate** for any lighting installation or part thereof that requires to be adopted during the construction period.*

- (b) *Acceptance by the developer of responsibility for any necessary repairs or replacements, arising from faulty workmanship or from the failure of materials, during the twelve months following adoption of the road as detailed in the RCC.*
- (c) *Written assurance from the developer that all roads concerned will be offered for future adoption in a timescale commensurate with the lighting adoption maintenance period.*
- (d) *Final acceptance will be withheld until all columns and control pillars etc have been numbered and, if required, painted.*

The road will not be adopted until the road lighting and control is completed.

2.3.6 Adoption of Cycle Tracks

A cycle track is a road for use by pedal cycles only or by pedal cycles and foot only. The adoption of cycle tracks will therefore follow the procedures for the adoption of roads. The suitability of cycle tracks for adoption will be judged against the following criteria:

- (a) *Cycle tracks should be constructed in accordance with a Construction Consent.*
- (b) *Cycle tracks must form part of a general cycling network interconnecting houses, shops, schools, public transport, etc and be available to cyclists and pedestrians on an unrestricted basis.*
- (c) *At least one end of the cycle track should be connected to a public road carriageway to facilitate access for maintenance purposes.*

Where a cycle track is constructed by the developer on land primarily intended for recreational or similar purposes to be managed by Council's Services, the cycle track will not require to be adopted but a Construction Consent may be required; Road (Scotland) Act 1984 Section 151(3). If built by a Developer it needs technical approval.

2.3.7 Adoption of Cycle Parking, Bus Shelters, etc

The provision of bus shelters, cycle parking and other facilities may be constructed as part of a development to satisfy the requirements of the Council.

These will normally be adopted subject to the following criteria:

- (1) *They should be constructed in accordance with the Council's requirements.*
- (2) *They should form part of a general network connecting centres of activity or other sections of public road and be available to users on an unrestricted basis.*

2.3.8 Adoption of Sustainable Urban Drainage Systems (SUDS) for Roads

In terms of this guide where any part of a road is drained into SUDS that system is subject to a Construction Consent.

As a fundamental element of that Consent, a clear demarcation in the form of a **schedule of agreement** (refer to section 3.9) together with plans indicating the prospectively adoptable elements by the Road Authority and Scottish Water which identifies the detailed SUDS adoption agreements in advance of each specific development will be required as part of the Construction Consent process.

The element of SUDS that is apportioned to the Road Authority will be adopted providing:

- (a) *all elements of the SUDS for roads should be constructed in accordance with a Construction Consent;*
- (b) *written evidence that the proportion of SUDS to be vested by Scottish Water is to be constructed to their standard.*



2.3.9 Pipes and Culverts Under Roads

For pipes and culverts under roads a hydrological study of the catchment area along with a hydraulic design of the proposed pipe or culvert and outfall should be provided along with confirmation that this has been checked independently. Grilles should be designed to facilitate ease of maintenance and prevent flooding and, where possible, grilles should allow for overflow during flood conditions or where the grille face is blocked with debris: refer to section 3.9.

(a) Drainage Outfall to Watercourse

Where connection of the road drainage to a public sewer is not possible alternative arrangements for road drainage should be agreed with the Roads Authority, Water Authority and **Scottish Environmental Protection Agency (SEPA)** [🔗](#).



2.3.10 Structures Agreements

Where a Construction Consent provides for a road to be supported by a bridge, the Roads Authority will normally enter into an agreement with the developer, in terms of Section 79(1)(c) of the **Roads (Scotland) Act 1984** [↗](#), whereby the bridge will heritably vest in the Local Roads Authority. Other essential structures such as retaining walls will also require an agreement to enable these structures and solums to vest in the Local Roads Authority. However, where the bridge or other structure and solum has not been so acquired, the Local Roads Authority will be responsible only for maintaining the road surface.

2.3.11 Roads Bonds

In terms of Section 17 of the **Roads (Scotland) Act 1984** [↗](#) and the *Security for Private Road Works (Scotland) Regulations 1985 Amended 1998 (SI 2080)* developers are required to make financial provision with the Local Roads Authority in order to safeguard the completion of roads detailed under the Act and which are the subject of a Construction Consent. Refer to **SCOTS RCC and Bond Guidance** [↗](#).

To clarify this issue, everything that conventionally constituted a road will be included in that valuation and includes carriageway, footways, cycle tracks, remote footpaths, verge, service strips, lighting, drainage and any other works normally associated with the road works.

The valuation of the Road Bond is set by the Local Authority based on costs for them to have the works completed up to the standard of the Construction Consent and is not subject to negotiation by the Developer.

Such provision may take the form of a Road Bond or deposit and protects prospective house purchasers from having to bring incomplete roads up to adoptable standards. **It should be noted that no building works can commence until such securities have been lodged and Developers must give “at least four weeks” prior written notice of intention to commence such works to the Local Roads Authority.**

A security in favour of the Roads Authority will also require to be lodged in cases where substantial works for commercial developments affecting the existing road network are being undertaken by private bodies eg roundabout, underpass etc (this by means of a Section 75 Agreement or Planning Obligation made under the [Town and Country Planning \(Scotland\) Act 1997](#) as amended by the [Planning etc \(Scotland\) Act 2006](#)). The Regulations concerning Road Bonds do not, however, cover private accesses.

Evidence of a sewer bond may be required from a developer prior to works commencing as part of the RCC process.

2.3.12 Delineation Public/Private

Delineation will be required between all private areas and the public road. This should be achieved by means of flush kerbs or other agreed form of delineation at the boundary and may incorporate gateways and/or change of surfacing.

2.3.13 Dilapidation Surveys

In a case where construction traffic from a major development exceeds previously experienced volumes on the adjacent public roads serving the site and this results in an increased rate of deterioration in those roads, the developer may be asked to enter into an agreement with the Local Road Authority in terms of Section 96 of the [Roads \(Scotland\) Act 1984](#). This agreement allows the Council to recover extraordinary expenses in repairing roads damaged by heavy vehicles or other extraordinary, vehicles or traffic, as a direct result of a development.

2.3.14 Quality Audit Including Safety Audit

Quality Audit should be incorporated into the overall street design submission, advice. Reference to Quality Audit - section 3.3.

A consistent approach to QA using DS should to be encouraged. A method that forms part of a toolbox aimed to gain wider, more consistent implementation of [Designing Streets](#) is described in section 3.3, Quality Audit Summary Report.

2.4 Applying for Construction Consent

2.4.1 Responsibility for Design

It is important to recognise that the granting of Construction Consent does not imply that the Local Roads Authority accepts any responsibility for the accuracy and suitability of any elements of the design. The responsibility of the Designer under the CDM Regulations 2007 shall remain with the applicants design consultant or agent.

2.4.2 Application Content Details

An application for Construction Consent should be made on Form CC1. Completed application forms should be submitted **at least three months prior to the commencement of construction** to the Local Roads Authority. Layouts which clearly do not conform to the Guidelines may have the drawings and documents returned for a new application to be submitted.

It is important to note that an application for Construction Consent will only be accepted once the submitted documentation is of a sufficient standard that it is judged by the Local Authority to describe all the construction details sufficiently that permits construction to progress without further information. Confirmation that a construction consent is acceptable and is being progressed should be confirmed by the Local Authority in writing.

(a) Submission of Plans

Applications for Construction Consent should be accompanied by one electronic and three paper copies of each of the following (initially only one paper copy is required for a preliminary check of the proposals):

- (a) **A location plan**, preferably on the Ordnance Survey base, to a scale of 1:1250 or 1:2500, showing the proposed road network and its relationship to existing development and road network.
- (b) **A layout plan** of the carriageways, footways, drainage system, verges, footpaths, retaining walls, cycle tracks, bridges and earthworks to a scale of 1:500 (1:200 where pedestrian/vehicle shared surfaces are proposed) showing:
 - (i) the proposed centre, building and kerb lines (and also the heel of the footway where this differ from the building line);
 - (ii) curve radii of the road alignment and junctions;
 - (iii) traffic calming measures where appropriate;
 - (iv) dimensioned visibility splays at road junctions and private accesses;
 - (v) forward visibility distances at bends;
 - (vi) vehicular access points to properties;

- (vii) *pedestrian crossing points at junctions and other locations;*
 - (viii) *the location of all road gullies, (if applicable);*
 - (ix) *the location of all the road drainage system and SUDS components and its discharge points (applicants can obtain information on discharge points from Scottish Water);*
 - (x) *the location and type of lighting columns and lanterns, wall-mounted lighting units (if applicable), control pillars, underground cables and road crossing ducts;*
 - (xi) *the location of all underground services and ancillary apparatus;*
 - (xii) *the full extent of all cut and fill slopes;*
 - (xiii) *the boundaries of any areas which it is intended will subsequently be offered for adoption or maintenance;*
 - (xiv) *road signs and road markings etc;*
 - (xv) **future maintenance responsibility of road drainage system by (a) Local Authority, (b) Scottish Water, (c) the developer;**
 - (xvi) **future maintenance responsibility of roads, footways, remote footpaths, cycle tracks, service strips, verges, SUDS, green space and public areas;**
 - (xvii) *fences and wall heights*
 - (xviii) *swept path analysis.*
- (c) **A longitudinal section** along the carriageway, footpaths and cycle tracks giving vertical alignment details, road drainage gradients with manhole positions marked thereon, together with the nature of the substrata to a depth of 1 metre below road formation level or to rock head where bedrock is at a depth less than 1 metre.
 - (d) **Typical cross sections** through the carriageways, footways, footpaths, verges, cycle tracks and adoptable parking areas detailing widths, crossfalls, construction depths and materials used, kerb and edge details and typical details of gullies, gully connections, filter trenches, swales, detention basins and underground storage.
 - (e) **A Quality Audit** should also be included following the template in section 3.3 of this guide. Where appropriate it should **include a range of audit or reports as identified, including a safety audit** for the design.
 - (f) **A Factual Ground Investigation Report** and corresponding **Interpretative Report** making specific recommendations on the design of the proposed road.

The details submitted for construction and the specification for materials therein must comply with these guidelines. This may be indicated by quoting the relevant clause number of the specification, but it will not be sufficient merely to state that construction is to the agreed specification.

(b) Design of Structures

Where the submission includes proposals for road structures (eg culverts, retaining walls or bridges) the application will be subject to Technical Approval Procedures as outlined in BD2 of the Design Manual for Roads & Bridges.

(c) Docqueting of Plans

It is essential that the plans, detailed drawings and specification submitted with the application are docqueted. *“This is the an/drawing/specification referred to in the application”*, and personally signed and dated by the applicant or agent.

(d) Notification of Owners

Where any person other than the developer owns land which fronts, abuts or is comprehended in **the new road(s) or the extension of the existing road(s)** for which Construction Consent is being sought, the developer will be required to declare on Form CC2 that all such persons have been notified of the application for Construction Consent by the issuing of Form CC3, Notice for Service on Owner.

(e) Owner's Objections

Any person to whom the application has been intimated under the provisions of the preceding paragraph may, within twenty-eight days of the date of intimation, make written representation to the Local Roads Authority. Any such representations will be considered before Construction Consent is determined.

(f) Hearing of Applicant

Should it be considered that the application for Construction Consent should be refused or granted subject to special conditions, the applicant may within twenty-eight days of the date of intimation of such a decision appeal to Scottish Ministers.

2.4.3 Construction Period

It will be a standard condition of any Construction Consent that the construction be completed within the period specified in the Consent. This period will not be less than three years. If, as a result of a change in circumstances during construction, it is demonstrated that the specified period is no longer realistic, the Local Roads Authority may grant an extension subject to any conditions they consider necessary. In certain circumstances where requested by the Local Roads Authority a new application for Construction Consent must be made as well as a re-evaluation of the bond.

2.4.4 Amendments to Consent

Should the developer, for any reason, wish to depart significantly from the construction specification or layout details for which Construction Consent has been granted, he must submit a new application for Construction Consent. The new application will be subject to a revised Road Bond valuation.

Major changes may also require the submission of a revised Planning Permission. Under such circumstances, the local planning authority should be consulted for further advice.

Construction Consent approvals may be transferred from one applicant to another at the discretion of the Local Roads Authority, but may under certain circumstance result in a resubmission.

2.4.5 Recycled Materials

In accordance with Environmental Policies, local authorities actively encourage the use of recycled or alternative materials in road construction to minimise the environmental impact of the extraction of aggregates.

Recycled materials should be from a licenced recycling station which has demonstrated to the satisfaction of the Local Roads Authority its ability to produce recycled materials to the required performance standards.

Where Council specification are not available for the use of a particular material, proposals shall be submitted to the Local Roads Authority along with test certificates and details of source of supply for consideration. Refer to [MCDHW - Series 600](#), [700](#) or [800](#); also [WRAP Resource Efficiency in Highways](#).

2.4.6 Road Lighting and Signing

The developer will be responsible for the provision of all road, footpath and cycle track lighting, signing (whether illuminated or not) and alterations to existing lighting deemed necessary under Construction Consent.

2.4.7 Private Signs

It should be noted that it is illegal to erect private signs on street furniture or within the road boundary; for example, signs directing the public to developments. Approved signs, to the recognised standard, can be erected with the prior approval of the Local Roads Authority.

2.4.8 Road Bond

Where a developer is required to lodge a Road Bond or deposit, it should be submitted to the Road Authority at least 14 days prior to any house building commencing. Refer to 2.3.11 and [SCOTS RCC and Bond Guidance](#).

2.4.9 Construction Consent Forms

All the relevant Construction Consent forms, as detailed opposite, are included in the Appendices for the use of the applicant. Permission is hereby granted for these forms to be photocopied.

Form	Title
CC1	<i>Application for Construction Consent to Construct or Extend a Road</i>
CC2	<i>Notification of Adjacent Properties (Docquets of Service)</i>
CC3	<i>Notice of Service</i>
CC6	<i>Application for Addition of Roads (including footways/cycle tracks) to List of Public Roads</i>
CC8	<i>Carriageway Design Certificate</i>
CC9	<i>Construction Consent Checklist</i>

2.4.10 Non-Standard Materials

Where the developer proposes or is required to use, in the opinion of the Local Roads Authority, non-standard materials the developer should maintain a stock of 5% of non-standard materials at all times for the design life of the road. Alternatively the developer should deposit a stock of 5% of these materials with the Local Roads Authority within 3 years of completion of the contract subject to the availability of depot space

2.4.11 Failure to Comply

It should be remembered by developers that failure to comply with the procedures given in this document may result in refusal of Construction Consent. Developers are therefore encouraged to liaise with the relevant Authority at all stages of a scheme.

2.4.12 Inspection Procedures During Construction

(a) Notice of Commencement

- (1) **Four weeks' notice** must be given to the Local Roads Authority of the start of roadworks together with names and telephone numbers of responsible persons who may be contacted in connection with the construction of the works.

- (2) **Inspection and Testing**

During the construction period, irrespective of whether or not it is intended that the road(s) be subsequently adopted as public, the Local Roads Authority representative must be afforded access to the site to ensure that the works are being undertaken in conformity with the Construction Consent. The developer and/or his contractor should provide every facility to enable the Local Roads Authority representative to examine the works being executed and the materials being used, but will remain responsible for ensuring that standards are met.

(3) Notice of Operations

The developer or his contractor must give the Local Roads Authority representative a minimum 48 hours' notice (excluding weekends and public holidays) of:

- (a) completion of formation;*
- (b) commencement of each pavement layer to the carriageways, cycle tracks, footways and footpaths;*
- (c) each concrete pour (including blinding) and commencement of steelfixing where reinforced concrete is used;*
- (d) striking of formwork;*
- (e) setting out of road lighting plant positions, backfilling of cable trenches and painting of lighting columns;*
- (f) placing and testing of drainage systems.*

It should be noted that these are minimum requirements and that, in certain cases, the developer may be required to notify the Local Roads Authority's representative of additional construction stages.

Developers should also note that failure to notify the representative as above can result in covered over work to be exposed for inspection at the developer's expense to ensure that the construction complies with the Construction Consent.

Finally, failure to notify can result in delays to adoption or potentially seriously compromise the adoption process.

(4) Charges for Inspection and Testing

The Local Roads Authority reserves the right to charge for expenses incurred in inspecting, including any resultant undertakings, along with testing arising from the granting of Construction Consent. Samples of the various materials proposed to be used should be supplied, free of cost to the Local Roads Authority, together with particulars as to the source of supply or manufacture of such materials; or, at the discretion of the Local Roads Authority, test certificates may be submitted indicating the suitability of the materials proposed for use.

(b) Maintenance Period Inspection

On completion of a development road constructed in accordance with a Construction Consent, a request should be made to the Local Roads Authority to have a inspection carried out. As a result of this inspection, a list of any remedial work required to bring the road(s) up to the Local Roads Authority's standards will be prepared. Following the satisfactory completion of any such remedial work and the required maintenance period, an application may be made for the addition of the road(s) to the Local Roads Authority's list of public roads.

2.4.13 Applying for Adoption of Development Roads

(a) Application for Adoption

Following completion of a development road constructed in accordance with a Construction Consent, an application (using Form CC6 for its inclusion in the Local Roads Authority's list of public roads) may be submitted to the Local Roads Authority by the person to whom such consent was granted.

It should be noted that where at the planning stage it is the clear intention of the developer to have the road added to the list of Roads on completion, some Local Authorities may streamline this process by wording the Construction Consent's application forms in such a manner that this is agreed at that stage which precludes completion of this form at the later stages.

(b) Documents to Accompany Application

Prior to the Construction Consent being entered into its Maintenance Period, submission in the form of two copies of the plans, one paper set and an electronic set, containing all relevant as-built details, must be made to the Local Authority. The roads offered for adoption should be shown in colour, and the plans should clearly indicate the ownership of all areas so coloured. The application for adoption should include the Safety File as required under the Construction (Design and Management) Regulations 2007.

(c) Road Lighting

Similar to above the submission should include two copies of a signed Lighting Completion and Inspection Certificate CC10 together with as installed plans which must show the positions and circuit arrangements of all lighting apparatus.

(d) Road Drainage

The road drainage offered for adoption should be shown in colour and should clearly show future maintenance responsibility by:

- (a) the Local Authority;
- (b) Scottish Water.

The application for adoption should also include a CCTV survey of the road drainage to be adopted by the Local Authority.

(e) Adoption Inspection

Within a period of twelve months from the time of application for adoption of a development road, an inspection will be undertaken by the Local Roads Authority to ensure that the road has not deteriorated to a standard below that required for adoption.

2.4.14 Addition to List of Public Roads

Following a satisfactory adoption inspection, the road(s) shall be added to the list of public roads, in terms of Sections 16 and 18 of the [Roads \(Scotland\) Act 1984](#), as appropriate.

2.4.15 Release of Road Bond

The Local Roads Authority may on request of the Developer release an appropriate amount of the Road Bond in respect of a section of road within a Construction Consent where:

Stage 1 - *In accordance with the Road Construction Consent and the road being constructed up to Binder Course, Surfacing Course where modular blocks are specified, the Sustainable Urban Drainage System or other drainage system is complete and functioning, all underground infrastructure is fully installed and standards of work agreed with the adopting authority and any appropriate kerb log is completed.*

Stage 2 - *Completion of all other items as detailed on the Construction Consent up to substantial completion which should only omit such items as grass or soft landscaping elements due to annual planting periods.*

Stage 3 - *Expiry of the Maintenance period (or the expiry of maintenance period of defects required identified during that period) or the addition of the private road concerned to the local Authorities List of Public Roads, whichever is the earlier.*

The Local Roads Authority will retain **a minimum** of 10% of the original security lodged until such time as the road has completed satisfactorily its maintenance period or been added to the list of Public Roads, whichever is earlier.

Part 3

ROADS DEVELOPMENT GUIDE



*Click map to see
regional
variations*



DETAILS

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3 Details

3.1 Road Design

3.1.1 Junctions

The range of junction types and arrangements are discussed in [Designing Streets](#) (page 36). This section details required junction criteria to enable a design to function correctly in relation to its user demands.

The functionality of a junction design should be demonstrated by swept path (or tracking) analysis based on the defined user needs appropriate to that junction. The swept path defines the minimum road space required to serve that junction's needs but is not considered necessarily the required kerb boundary line. It merely demonstrates the junction's ability to accommodate the intended traffic use.

(a) Form of Junctions

Where any new development gains access to the existing road network, the detailed form of the junction will depend on various factors including user demand in the form of volume and type of traffic, the manoeuvres made by these vehicles, the potential delays and queues, provision for vulnerable road users etc.

(b) Location

It is preferable to site any junction on level ground or in sags rather than at, or near, the crests of hills. Where possible, T-junctions on curves should be sited so that the minor road is on the outside of the curve. Junctions on the inside of sharp curves are most undesirable.

(c) Visibility Splay Area

Stopping sight distances and visibility requirements are detailed in [Designing Streets](#) (pages 33-35).

(d) Visibility Splay at Bend

Where the side road joins the road at a bend the Y distance should be measured on the kerb line along the bend but the visibility splay will be determined in a straight line (see Figure 6).

(e) Effects of Gradients on Visibility

When a minor road forms an uphill approach to the major road care should be taken to ensure that objects within the visibility triangle although less than 1.05 metres above carriageway level do not interfere with visibility.

Figure 6 Visibility Splay



(f) Frontage Access and Parking at Visibility Splays

Obstructions to visibility are detailed in [Designing Streets](#) (page 35). Encroachment of parking spaces into visibility splays should be avoided where practical.

(g) Speed Control

Within residential areas low radii corners and/or narrow trafficked lanes can be incorporated which will assist speed reduction.

(h) Forward Visibility

Application

In residential developments, the reduction of drivers forward visibility heavily influences the reduction of vehicle speeds which is considered essential for the road network to function safely.

However, on main and strategic routes, forward visibility is considered where journey time is an economic factor.

Height of Visibility Envelope

Refer to page 33 of [Designing Streets](#).

Construction of Forward Visibility Splay

To ascertain whether the appropriate forward visibility will be achieved a line should be drawn along the vehicle path at a distance of 1.5 metres from the kerb to represent the driver's position (page 35 [Designing Streets](#)).

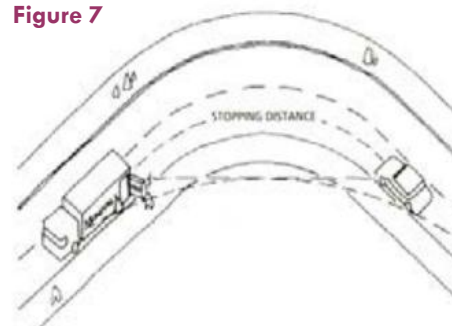
Visibility at Curves

Refer to [Designing Streets](#).

Reduced Forward Visibility

Forward visibility can be reduced below the constructed visibility splay process in [Designing Streets](#) page 35 by applying to the road authority and outlining the reasons justifying the reduction within the Quality Audit (see Figure 7).

Figure 7



Main and Strategic Roads or Steep Gradients

MfS2 suggests that Bus/HGV SSD should not be assessed except where it is in excess of 5% of traffic flow. Additionally, where steep road gradients are considered to be factors the basic formula for calculating SSD (in metres) is recommended: refer to section 2.2.5.

$$SSD = vt + \frac{v^2}{2(d + 0.1a)}$$

Where: v = speed (m/s)

t = driver perception - reaction time (seconds) (for HGV and bus traffic, use pre MfS1 value of 0.375g)

d = deceleration (m/s²)

a = longitudinal gradient (%) (+ for upgrades, - for downgrades)

3.1.2 Private Access

(a) Access Criteria

Similar to the above criteria, private vehicular access to developments will require to accommodate the numbers and types of vehicles using the access in a safe manner. The form of access may also require to be enhanced in order to accommodate pedestrians and cyclists.

(b) Segregation at Commercial Accesses

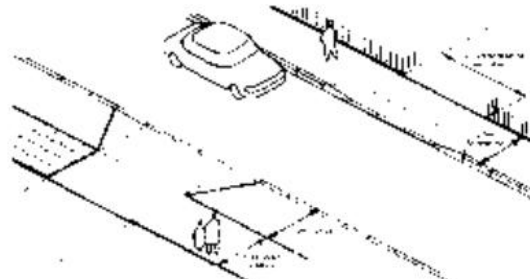
In the case of commercial developments, vulnerable users should be provided with a separate pedestrian access.

(c) Individual Dwellings

In general, access to individual dwellings should be by means of a dropped kerb footway crossing as shown in Figure 8. In rural or semi-rural areas the x and y distance is dependent on the speed of traffic on the road based on the relevant speed limit applicable at that location.



Figure 8 Driveway Access



(d) Access Layouts

Access layouts are shown in Figures 9 to 11. Note: These details require to be updated to narrow ramps and consistent passage along footway.

Figure 9 *Single Minor Commercial Access, Housing Court or Car Park up to 50 spaces*

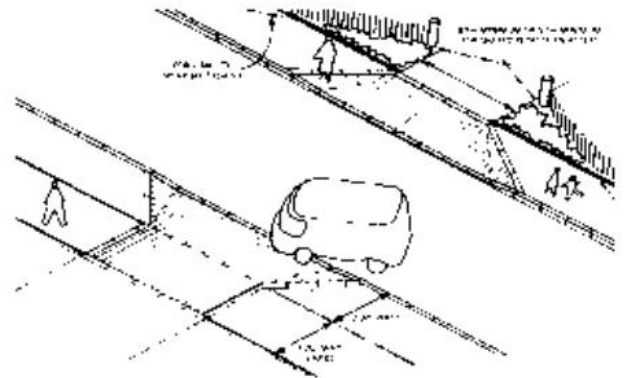


Figure 10 *Minor Commercial Access or Car Park with more than 50 spaces*

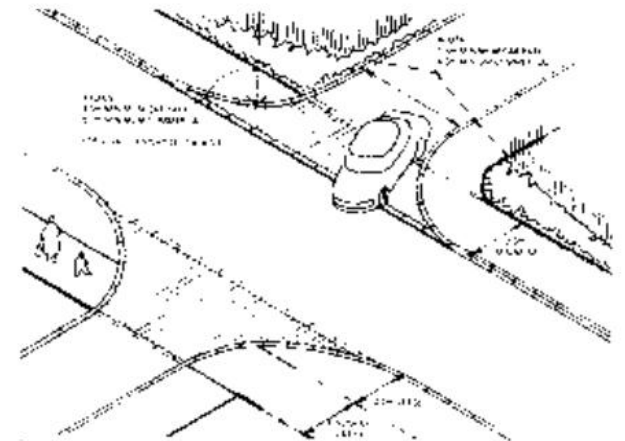
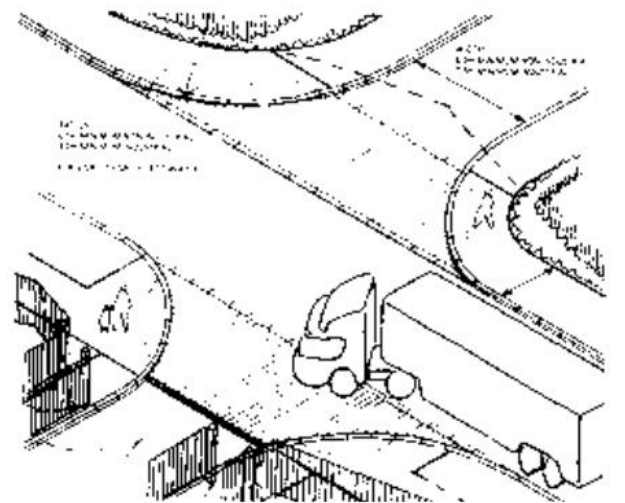


Figure 11 *Major Commercial or Industrial Access*



3.1.3 Design Details

(a) Minimum Traffic Lane Widths

Public Transport

Carriageways on bus routes should not generally be less than 6.0m wide, although this could be reduced on short sections with good inter-visibility between opposing flows.

Bus priority is most commonly achieved by providing with-flow bus lanes, and unless signed to the contrary they can be used by cyclists. Bus lanes should be 4.25m wide and the minimum preferred width is 4m; this allows buses to overtake cyclists safely and reduces the likelihood of interference from general traffic in the adjacent lane. The minimum recommended width is 3m.

Service Vehicles

Service vehicles by their very nature are infrequent users of the road and their incorporation into the design should not dominate the overall design.

The frequency with which they use each road should be considered and the road should be designed to match the need. High frequency use of HGV service vehicles will require that the road width is suitable to accommodate these vehicles traveling in both directions and the width should ensure that they can pass each other safely and at the appropriate speed. Where indicated by a swept path analysis, bends may also incorporate appropriate widening to ensure that they can travel along the road in a safe and appropriate manner.

Where their use is less in residential areas with a high place function and they are unlikely to meet each other traveling on opposite directions, the road width can be reduced accordingly. In these circumstances HGVs can use all parts of the road and cross the centreline. However, and road design in these situations must incorporate a swept path analysis to ensure that all HGV service vehicles can travel along the road without complicated manoeuvres being required.

Figure 12

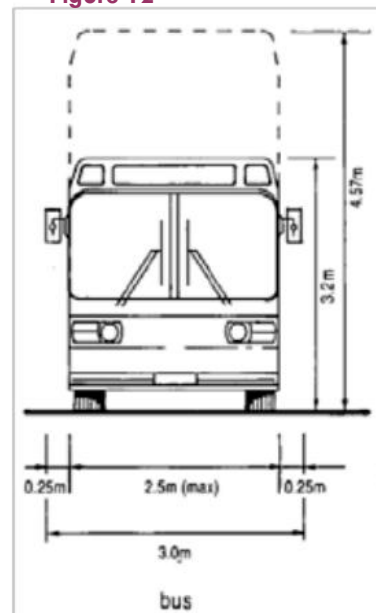
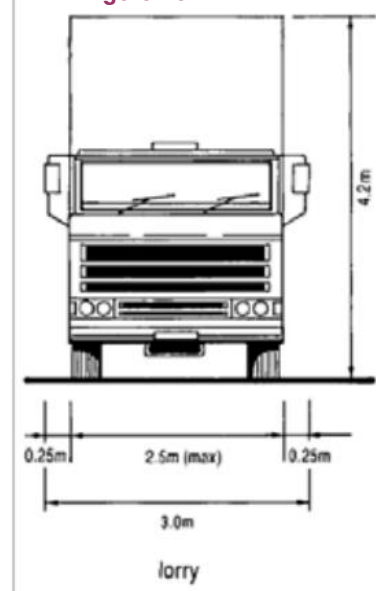


Figure 13



Design Considerations

UK practice has generally adopted a standard lane width of 3.65m but this should not be taken as a preferred value in all circumstances.

On strategic and arterial routes generally subject to national speed limits, this road width should be used and the layout should generally meet the standards in [DMRB](#).

The geometric design of a carriageway has generally been based on the notion of a design speed, which in the past has tended to be fixed along a route, or a substantial section of a route. The images on page 17 of this guide indicate that it is insufficient to consider that a road remains unchanged along its length and the balance between place and movement alters along its length. Therefore it is acceptable to vary road widths to suit circumstances.

The findings in TRL661 indicates that the context through which drivers pass does have an effect on their chosen speed and that speeds will be affected by road width and alignment and areas where conflict may be perceived by drivers.

Narrower lanes will be appropriate in many circumstances, particularly in built up areas, resulting in carriageways that are easier for pedestrians to cross and encouraging low traffic speeds without causing a significant loss of traffic capacity. The needs of cyclists will need to be expressly considered however, as discussed above.

Road design should therefore create an environment where drivers tend to slow down to an appropriate level in areas with a high place function which are generally urban areas, where road space is shared between motorised traffic, pedestrians, cyclists and public transport, and keeping speeds low has been demonstrated to have significant safety benefits.

The lane widths should be determined based on the following local consideration:

- ❖ *the volume and composition of vehicular traffic;*
- ❖ *pedestrian and cyclists' needs;*
- ❖ *the demarcation, if any, between carriageway and footway (eg kerb, street furniture or trees and planting);*
- ❖ *whether parking is to take place in the carriageway and, if so, its distribution, arrangement, the turnover of spaces, and the likely level of parking enforcement (if any);*
- ❖ *the design speed; and*
- ❖ *the curvature of the street (bends require greater width to accommodate the swept path of larger vehicles).*

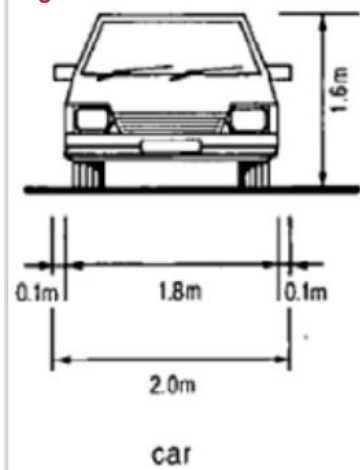
Road design should therefore commence with an analysis of the types of road users anticipated on the route along with the design speed.

This should be considered along with the percentage of HGVs and buses and where this is expected to be high then widths should be able to accommodate these larger vehicles to pass each other in free flowing traffic.

The road width should be considered by the creation of lanes which allow the appropriate vehicles to travel along the road.

Typical vehicle widths are shown in figures 12 to 14 and summarised in the table below and these can be taken as a guide to minimum lane widths.

Figure 14



Vehicle	Width (m)	Total Width (m) (see figures)
Bicycle	0.6	1.0
Bus	2.5	3.0
HGV	2.5	3.0
Van	2.2	2.6
Car	1.8	2.0

The road width can then be defined by the clearance necessary to allow vehicles to travel at the appropriate speed. Clearances need to be specified between vehicles and between the vehicle and the kerbline as detailed in the table below.

	20 mph Design Speed	30 mph Design Speed
Kerb to vehicle clearance	200 mm	250 mm
Vehicle to vehicle clearance	300 mm	800 mm

Thus for example, where HGVs and buses make up only a small proportion of traffic flow, 2 m wide lanes would be sufficient for most vehicles. For a design speed of 20 mph the appropriate clearances would give a carriageway width of 4.7 m. Note: refer to minimum road widths. Conversely for a design speed of 30 mph with a large number of HGVs and buses then 3 m wide lanes with the appropriate clearances would give a carriageway width of 7.3 m.

Carriageway and lane widths do not have to be constant. Varying the width through non-parallel kerb lines or other physical limits can create interest, provide informal parking opportunities at widenings and traffic speed reduction at narrowings. The needs of cyclists at narrow points should be considered in detail.

These widened areas should be sympathetically designed to address the visual intrusion of unsympathetic road features such as traffic signs, road markings, street furniture and excessive carriageway width. These can be in conflict with local place functions. The opportunity for designers to employ 'natural' features should be considered, for example grass or grassy banks, appropriate trees and shrubs and also seating. Experience has shown that a more sensitive approach can bring sensitive benefits.

Where HGV and/or bus flows are low, it may not be necessary to design carriageways to cater for two large vehicles meeting at any point on the road. This will include refuse vehicles, delivery vehicles and removal vehicles. Tracked routes for these vehicles will need to prove that the road width is capable of allowing these vehicles to pass along the road in a forward gear without requiring to reverse at any point along the route.

Where HGV and/or bus flows are higher carriageway widening may be required for horizontal curves. This should be assessed using tracking software.

The use of overrun areas can be considered to accommodate larger vehicles and further guidance is given on their use in [Designing Streets](#) .

Drivers' perception of the appropriate driving speed is also influenced by the relationship between the width of the street and the height of vertical elements. It can be shown that speeds are lower where the height of vertical features is greater than the width of the street. Therefore care should be taken where the carriageway is widened that a vertical effect to narrow the visual width is created by the inclusion of trees or other vertical features.

One of the six qualities of design included in *Designing Streets* is 'adaptability' and the design of a road must consider any future development to ensure that property boundaries do not define the end of a road. Careful consideration needs to be given to road widths to allow future integration with other areas, particularly in the context of larger master planned residential areas.

Design Parameters

The design parameters to be utilised for each type of road within the road hierarchy are given in Table 3 on the following page.

Table 3 *General Road Geometry*

Maximum Gradient	
Strategic Road	6%
Industrial Road	5%
Primary Street	8%
Residential Street	8%
Shared Surface Road	8%
Minimum Gradient	
Strategic Road	0.8% (0.5% with special drainage provision)
Industrial Road	0.8%
Primary Street	0.8%
Residential Street	0.8%
Shared Surface Road	0.8%
Minimum Vertical Curve Length ($K \times$ algebraic difference in gradient)	
Strategic Road	Crests: $K=17$ (10 if traffic calmed) Sags: $K=13$ (9 if traffic calmed)
Industrial Road	$K=6$ (minimum length = 20m)
Primary Street	$K=6$ (minimum length = 20m)
Residential Street	$K=3$ (minimum length = 15m)
Shared Surface Road	$K=2$ (minimum length = 10m)

Notes:

- (1) Roads intended for use by buses are subject to a maximum gradient of 6.7%.
- (2) Roads constructed with modular surfacing are subject to a minimum gradient of 1.25% and a maximum of 7%.

(b) Housing Road Widths

Minimum Road Width

The development of a road layout must consider the user defined use in the quality audit. This approach permits variance on a road design however the functionality must be retained with minimal road widths. Where roads are narrow, consideration for placing street lighting such that it is set back from vehicular passage whilst being on adoptable land must be demonstrated in application plans.

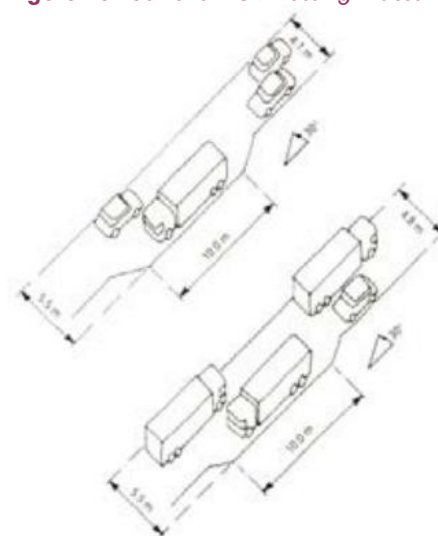
Shared Surfaces

The above hold true for shared surfaces however provision for pedestrian passage and disabled users must be demonstrated in application plans as well as regard for locating and protecting street lighting columns.

Passing Place Configuration

A passing place should provide a minimum road width of 5.5 metres and the length is proportionate to the mean average vehicle type of the road users, reference to on street car parking bays sizes together and vehicle types will assist this design (see Figure 15).

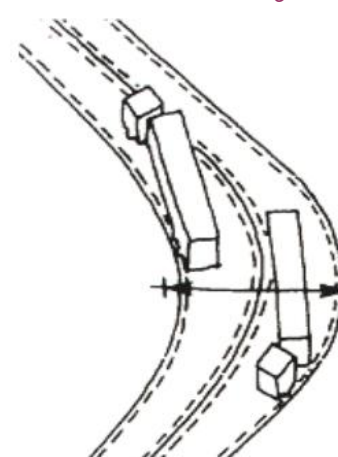
Figure 15 Car and HGV Passing Places



(c) Carriageway Widening on Curves

Swept path analysis will dictate minimum road width criteria at such locations. As a rule, vehicles should not cross the center line of a road which has a speed limit of 30mph or more or carries more than 500 vpd. On a swept path analysis, where a large vehicle is indicated as crossing the center line of the carriageway to negotiate a bend or junction, traffic volumes must be minimal with associated speeds less than 10 mph for the crossing vehicle (see Figure 16).

Figure 16 Car and HGV Passing Places



(d) Gradients and Crossfalls

Minimum Gradients

Channel gradients should not be flatter than 0.8% (1 in 125). A change from camber to crossfall should not coincide with a sag point in the longitudinal gradient or on a section of road where the gradient is less than 1% (1 in 100).

Crossfalls

Carriageways should be cambered with a fall of 2.5 per cent from the centerline to the channel except on curves where, to eliminate adverse camber, a crossfall between channels should be provided as per the place/movement link design tables in Part 1.

The carriageway cross fall may vary when applying other design criteria such as roundabouts and corners and is dependent on design speed and change of direction refer to [TD 16/07](#) and [TD 9/93](#).

Maximum Gradients

Steep gradients should be avoided as the associated footways can cause problems for those with a mobility handicap. Gradients in excess of those shown may be permitted in hilly terrain at the discretion of the Local Roads Authority.

Lay-by

Lay-bys should be provided with a 2.5 per cent crossfall. Channel gradients should not be flatter than 0.8% (1 in 125).

Shared Surface

For roads surfaced with block paving a 2.5 per cent crossfall should be provided throughout with a minimum longitudinal fall of 1.25% (1 in 80).

Junctions

The maximum gradient, rising or falling, on the final approach of a minor road at a junction should be limited to 2 per cent for a minimum distance of at least 12 metres from the major road. At other locations the gradient of the minor road over the X distance at a junction should not exceed 4%.

Length of Maximum Gradient

The lengths of gradients which are near to the maximum permitted gradient should be kept as short as possible and should not include any horizontal curves within them, except where the radius of the horizontal curve is very large.

Vertical Curve Length

The length of a vertical curve is based on the difference in gradient multiplied by the factor K. See Table 3 on page 78 for the appropriate K value.



Steep gradients can cause mobility problems

(e) Vehicle Clearance

Vertical Clearance

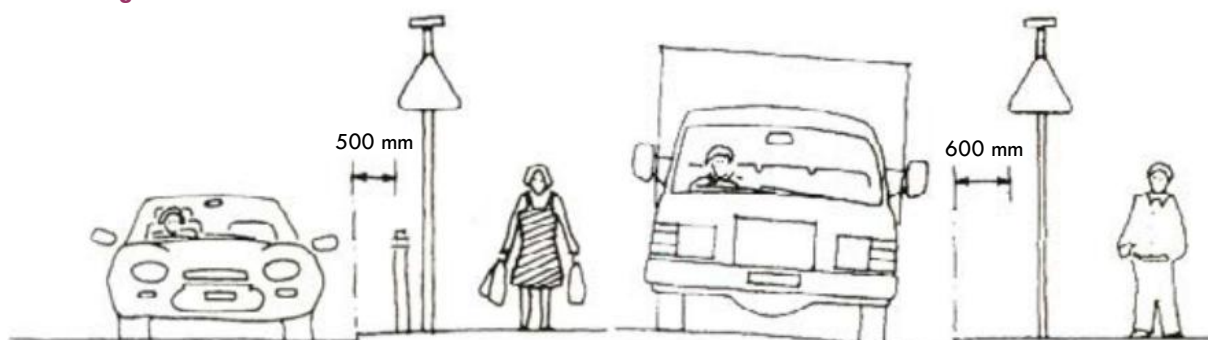
The minimum headroom for any structure, other than a footbridge (which must be constructed with a 5.7 metres clearance), must be 5.3 metres when spanning a Strategic or main Road and 5.1 metres for all other roads, including access through pends where servicing is required.

Generally, 2.1 metres clearance will be all that is required for an access, or covered parking area, which will only be used by private cars, but care should be taken to ensure that refuse vehicles can safely service the area without blocking the adjacent road. Consideration must also be given to changes in the longitudinal profile of the driving surface approaching a vertical clearance and how vehicles negotiate the vertical restriction in comparison to a simple level approach and exit to a vertical clearance.

Horizontal Clearance

A horizontal clearance of 0.5 metres should always be provided between the edge of the carriageway and any vertical objects such as signs. Where the crossfall on the carriageway exceeds 4% this clearance should be increased to 0.6 metres.

Figure 17 Horizontal Clearance



(f) Turning Areas

Loop Road Preferences

Turning areas are referred to in [Designing Streets](#) (page 37). The developer should demonstrate provision of servicing route so that service vehicles do not need to reverse. Wherever possible this should be achieved by the provision of roads forming loops thus avoiding the need for turning areas and minimising mileage for delivery, service and public transport vehicles, alternatively, reducing development impact so that all aspects are accommodated.

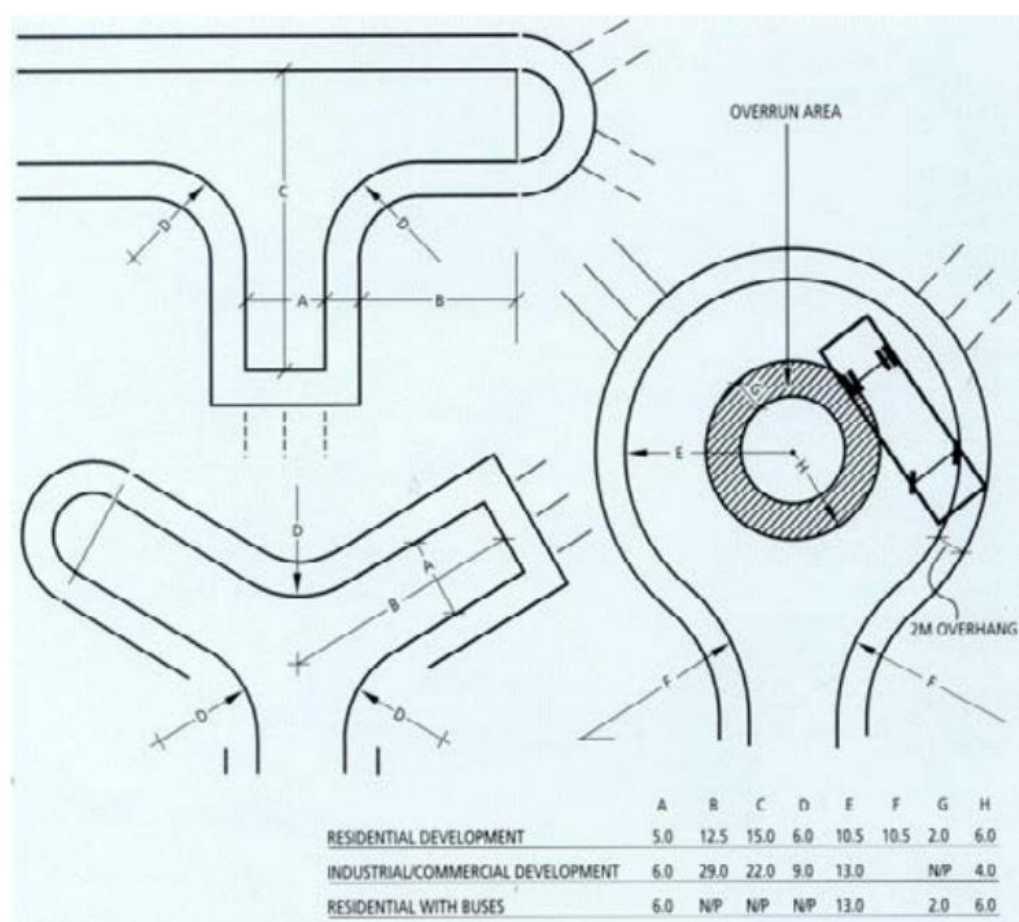
Provision

In general where roads are not provided in a loop form and culs-de-sac are used in a layout, they should terminate in turning circles. Where lack of space precludes the creation of a turning circle, turning heads may be substituted. However it should be noted that over-development of a site to the detriment of such infrastructure requirements is likely to be unacceptable.

Dimensions

The dimensions of turning areas should suit the characteristics of the largest vehicles to use the facility regularly. In residential roads these will normally be refuse collection vehicles, while in industrial/commercial development it may be necessary to cater for 15.5 metres long articulated vehicles or 18 metres long drawbar trailers. The turning areas detailed in Figure 18 are based on the turning circles of these vehicles between kerbs. The length of any hammerhead may be extended from the minimum values shown in Figure 18 at the discretion of the Local Roads Authority.

Figure 18



Overhang

Where there is no adjacent footway, turning areas should be provided with a 2 metres wide verge or margin to allow for any overhang of vehicle bodies when manoeuvring.

Self-Policing

Parking in turning areas should be discouraged by locating turning circles well clear of frontage development, or by arranging for premises and designated parking bays to take access via the turning area.

Environmental Design

In residential areas the use of less formal shapes for turning heads may be acceptable as illustrated in Figure 18 as long as the shape used still incorporates the basic turning head dimensions which must be detailed on drawings submitted for construction consent.

(g) Provision for Public Transport

Provision for Buses

Amendments including facilities on existing roads to accommodate bus penetration may be required, at the developer's expense. All details in relation to the provision of bus operation should be obtained at an early stage by consultation with the Local Roads Authority.

Scottish policy is:

- ❖ to provide the environment for bus to act as an effective economic enabler by providing competitive, high-quality public transport;
- ❖ to enable bus to provide an effective alternative to the car by improving reliability, average bus speed and encouraging improvements to the quality of services and infrastructure;
- ❖ to encourage investment in more efficient vehicles that produce less greenhouse gases and contribute to the targets in the Climate Change (Scotland) Act 2009;
- ❖ to link communities, people, places of business and employment and essential services through encouraging the maintenance and development of the bus network in Scotland.



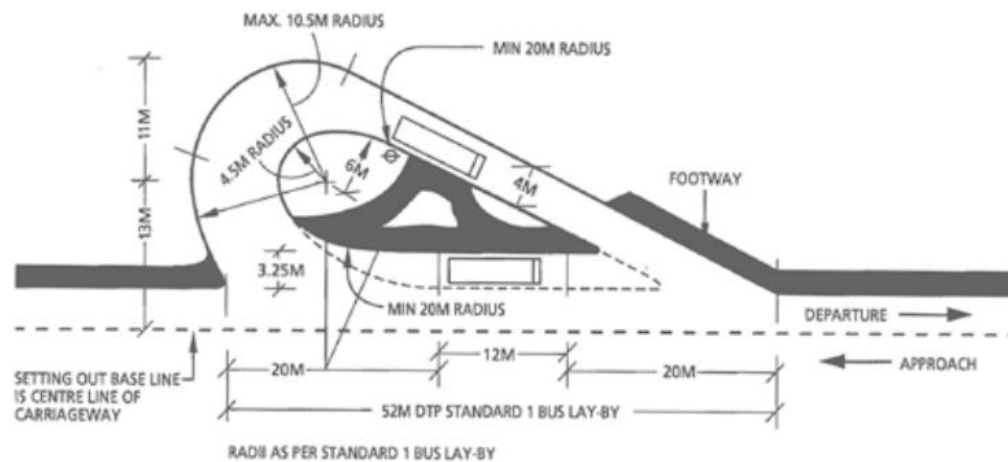
Public Transport

Developers should be aware of the existing structure of the public transport network, including proposed additions or alterations. Measures can be provided in the design of a development to encourage the use of the public transport network by ensuring that it is readily accessible. This will require direct footpath and cycleway links to existing or proposed bus and light rail stops and railway stations. Direct vehicular access may also be made available to permit dropping off and picking up, where space and demand exists. For exceptionally large developments, developers may be asked to provide a new station within the rail network.

Bus routes should have a minimum road width of 6.0 metres.

For details of bus stops and other public transport facilities information is available in [I.H.T. Guidelines for Planning for Public Transport in Developments](#).

Figure 19 Bus Turning Area (2 metre overhang required)



Bus Stop Provision

Good public transport provision should be available at the initial phase of any new development, either by linking to existing networks or by establishing new routes and should therefore be discussed with local transport operators and the Local Authority's Transportation manager at an early stage.

Designing for Bus Passengers

When a new bus stop is likely to be used by more than 50 passengers a day, shelter facilities should be provided. Where real-time information services can be made available, such facilities should also be considered.

All details in relation to the provision of bus stops should be obtained at an early stage by consultation with the Local Authority's Transportation manager or nominated representative.

3.1.4 Pedestrians and Cyclists



(a) Provision for Vulnerable Users

A network of routes, which are safe and convenient, should be established to cater for the needs of the pedestrian, including those with a disability and cyclists.

An audit which indicates how due regard to disabled road users was considered is required as part of the RCC submission.

Cycle routes can comprise either cycle tracks (for pedal cycles only or pedal cycles and pedestrians), or cycle lanes, (part of the carriageway reserved for the exclusive use of pedal cycles).

(b) Pedestrian Provision

Pedestrian Network and Routes

Pedestrian movements should be made as convenient, safe and pleasant as possible by careful attention to the design and layout of pedestrian routes. The pedestrian network should reflect nature desire lines and be more attractive for pedestrians to use than the vehicular route. The provision for cyclists should be examined at the same time as the provision for pedestrians as the two can often be combined.



Definition of Footways and Footpaths and Bridleways

The **Roads (Scotland) Act 1984** [↗](#) defines a “footway” as a way, over which there is a public right of passage by foot only, which is associated with a carriageway and a “footpath” as a way, over which there is a public right of passage by foot only, which is not associated with a carriageway.

Pedestrian Crossings Considerations

Particular attention should be paid to the locations at which pedestrian routes cross the carriageway (eg at road junctions) so that footway and footpath users are not exposed to unappreciated dangers. Judicious use of hard and soft landscaping can guide pedestrians to suitable crossing points and help prevent children running directly onto the carriageway and consideration should be given to the possible need for crossing facilities adjacent to shops, clinics, community facilities and other generators of pedestrian traffic. Desire line should be considered and tighter radii of the carriageway kerblines (if kerbs exist) are helpful in encouraging direct connections for users on foot.

Pedestrian Crossings

At designated pedestrian crossing points, kerbs should be dropped to permit easy access to and from the carriageway for pedestrians with prams and wheelchairs. Kerb upstands range from 0 mm to 10 mm at such crossings

Grade Separated Pedestrian Crossings

Where both vehicular and pedestrian flows are very high, footbridges and underpasses may be appropriate for carriageway crossings. They should be designed to be obviously more convenient, pleasant and safe to use than any alternative route. This will often involve elevating or depressing the carriageway to ensure that footways and footpaths have minimal changes in level.

Controlled Pedestrian Crossings

Where grade separated can not be justified or provided it may be necessary to balance the competing demands of pedestrians and vehicles by providing a controlled crossing, eg a pelican crossing or pedestrian stage in traffic signals.

Tactile Slabs at Controlled Crossings

A tactile surface should be provided on the approach to all controlled crossing points. Further details of the layouts and use of tactile slabs are given in the **DfT Guidance on the Use of Tactile Paving Surfaces** [↗](#).



Enhancement of At-Grade Uncontrolled Pedestrian Crossings

Uncontrolled crossings may be necessary where the path and road networks cross but the flows are not high enough to justify a controlled or grade separated crossing. These crossing points may be enhanced by introducing traffic calming, thereby making it easier for pedestrians to cross the road and where possible a tactile surface should be provided in accordance with D.E.T.R. [Guidance on the Use of Tactile Surfaces](#).

Pedestrian Routes on Arterial Roads

Where pedestrian routes of necessity run beside arterial Roads, separation from the carriageway by either a hard or soft landscaped strip, at least 2 metres wide may be advisable, in the interests of road safety and of improving the environment of the road. Reasoning should be included in the quality audit.

Width of New Footways

There is no maximum width for footways; widths should take account of pedestrian volumes and composition. In locations with a high 'place' function footways should be of sufficient width to cater for peak demand without causing crowding and the risk that people will be pushed into the carriageway.

Table 4 specifies the required widths of footways which depend upon the level of pedestrian activity. These widths may require to be increased to cater for high pedestrian volume.

Table 4 Footway Widths

Frontage Development	Width (metres)
None	2.5 - 3.0*
Industrial	2.0 - 5.0
Residential	2.0 - 3.0
Local Shops	4.0
Major Shops	5.0

* minimum 3.0 metres for arterial road

Width of New Footpaths

Table 5 on the following page details appropriate widths for footpaths and pedestrian areas intended for adoption. These widths may require to be increased to facilitate maintenance of the footpath and/or underlying services.

Table 5 Footpath Widths

Type of Footpath	Width (metres)
Minor pedestrian routes	2.0*
Major pedestrian routes	3.0
Shopping precinct	3.0
Footbridge	2.5
Underpass (2.3 headroom)	2.5

* May be inadequate for maintenance purposes in order to accommodate services

Obstacle to Pedestrian Desire Lines

Any street furniture which is to be provided, such as planters and litter bins should be located in such a way as to maintain a 2 metre wide obstacle free footway. Local narrowing to 1.4 metres over a 3 metre length may be permitted to accommodate street furniture, however, furniture should be reduced to a minimum and grouped together outwith the pedestrians' desire lines of movement (Figure 21).

Reduced Footway Width at Refurbished Buildings

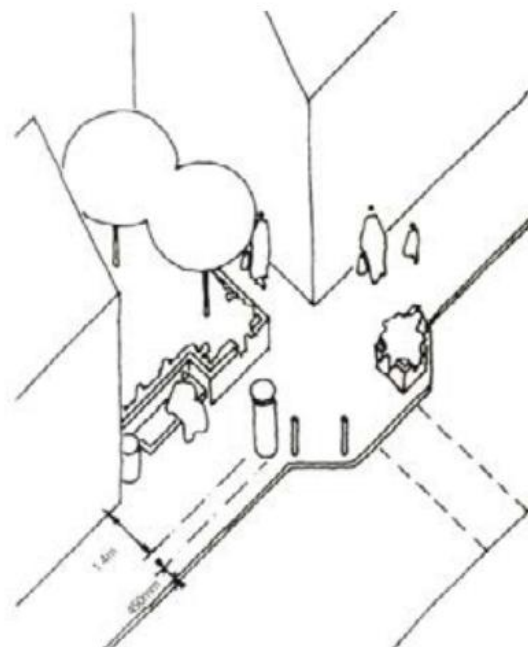
Where existing buildings are being rehabilitated or modernised it may be permissible, with the approval of the Local Roads Authority to reduce the footway width.

Pedestrian Priority at Vehicle Access

Where vehicular access to premises is taken across a footway, the ramped portion should be confined to the front 600 mm that is immediately adjacent to the carriageway, thus emphasising the pedestrians' priority. The short ramp adjacent to the dropped kerb also encourages a reduction in the speed of vehicles crossing the footway.

Desirably, gradients on footways and footpaths should not exceed 5 per cent, with a nominal maximum of 8 per cent. They should be constructed with maximum crossfall of 2.5 per cent. Steeper gradients may occasionally be permitted, subject to the provision of a handrail on at least one side and rest platforms at 10 metre intervals.

Figure 21 Obstacles to pedestrian desire lines



Steps or Ramps on Footway

Pedestrian ramps should have a maximum gradient of 10 per cent. Ramps with gradients of between 5 per cent and 8 per cent should be no more than 6 metres long and steeper ramps a maximum of 3 metres in length. Landings should be provided at the top and bottom of every ramp, and at every turn within a ramp. Stepped ramps should be avoided wherever possible and must not provide the sole means of pedestrian access or be used on wheelchair routes.

Steps will not normally be adopted as they pose problems not only for prams and wheelchairs but also for mechanised maintenance. They should therefore never form the sole pedestrian route and wherever practicable steps should be avoided. However, since some people find walking on any sloping surface difficult or impossible, steps may be provided in addition to long ramps where they are essential to meet the requirements of a pedestrian desire line. Each flight should rise a maximum of 1.2 metres and comprise between three and twelve uniform steps. Longer flights should be split into sections by landings. Steps should have 0.3 metre permanently nonslip treads and a minimum clear width of 1.4 metres.

Street lighting should be provided to light steps adequately and provision of Winter maintenance grit boxes should be made at the top of all steps.



Landings

Landings on ramps and stairways, and rest platforms provided adjacent to footpaths and footways, should preferably be 2 metres long x 2 metres wide with an absolute minimum dimension of 1.35 metres by 1.35 metres.

Handrails

Refer to DfT Traffic Advisory leaflet [6/02 Inclusive Mobility](#).

Handrails should be provided at both sides of steps (or centrally on steps a minimum of 3 metres wide) so they can be used by either hand. Handrails should comprise 50 mm diameter, galvanised, mild steel tube and must be securely fixed. They should be set 1 metre above a ramp and 0.85 metres above the tread of a step. They should extend at least 0.3 metres horizontally beyond the top and bottom of a ramp or flight of steps and should be returned at each end. Handrails can sometimes be difficult for people to grip and the most comfortable cross section for a handrail is circular with a diameter of 45 or 50 mm. Handrails where fixed to a wall should have a gap of 45 mm between the rail and the wall. Free standing handrails should be complemented with a lower rail set not more than 0.3 metre above the walking surface.

Disabled and Equalities Requirements

Refer to UK Government guidance: [Inclusive Mobility 2005](#).

Disabled Access to Buildings

For disabled access to buildings, ramps should be incorporated off road. Where this is not possible then ramps on existing footways may be permitted for refurbishment of existing buildings as per Figure 20 and Table 6. Reference should be made to the Technical Standards (Scotland) Buildings Regulations and DfT advice [6/02 Inclusive Mobility 2002](#).



The categories of buildings requiring disabled access are:

- (1) Home*
- (2) Institutional
- (3) Offices
- (4) Any Shops above 500m²
- (5) Assembly place, eg pubs, halls
- (6) Industrial

* Where a house contains a Surgery, ie Doctor, Dentist, then the requirement applies.

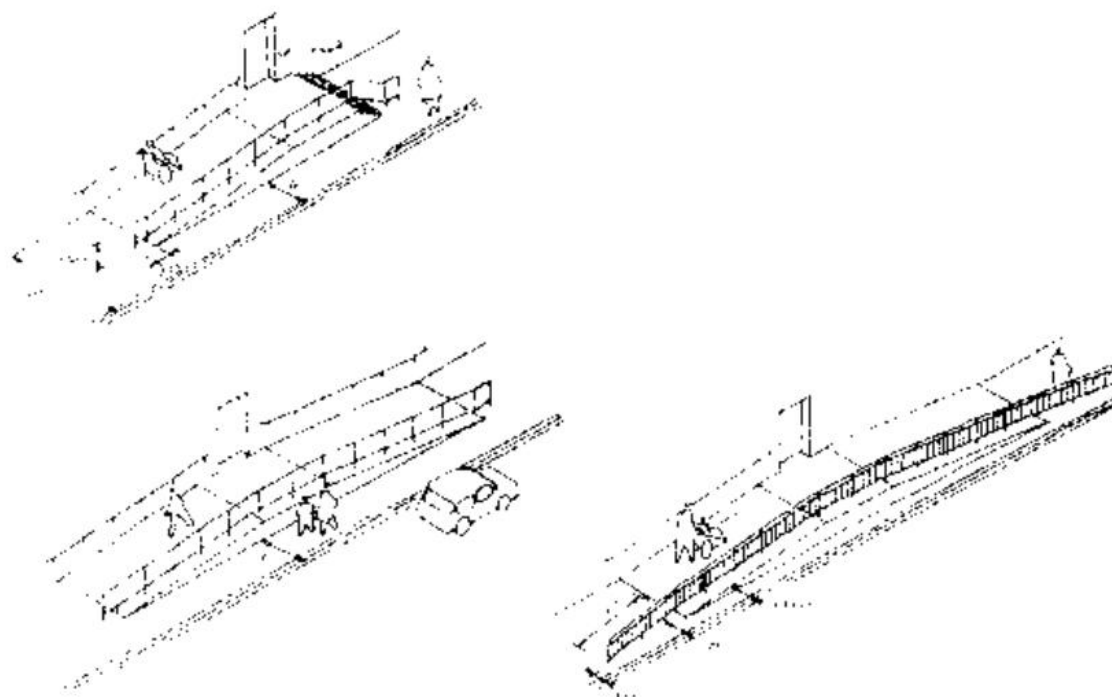
Table 6 Footway Ramp Widths

	W(m)	O/A Width (m)			
		Type A	Type B	Type C	
Non Shopping	1.40	3.20	3.20	2.25	Desirable
		-	3.00	-	Minimum "W" on Ramp*
		3.00	2.80	2.05	Absolute Minimum**
Local Shopping	2.80	4.60	4.60	3.65	Desirable
		-	4.40	-	Minimum "W" on Ramp*
		4.40	4.20	3.45	Absolute Minimum**
Major Shopping	3.50	5.30	5.30	4.35	Desirable
		-	5.10	-	Minimum "W" on Ramp*
		5.10	4.90	4.15	Absolute Minimum**

* On the through ramp layout original footway level is preferred to have minimum width. However, marginal o/a width reduction possible if ramp is made to provide minimum width with 1m footway alongside.

** Absolute minimum achieved with min edge width 400m reducing to 200m in Type A & B, and 600 to 400mm for Type C.

Figure 20 Ramp Dimension



Vertical Features

Generally free standing objects such as bollards and seats should be 1 metre high so that they are more obvious and can be more readily seen at waist height than at knee height. Where possible they should also be in a contrasting colour to further highlight their position. Consideration for these details require to be demonstrated through a disability audit.

(c) The Cycle Network

Objectives

A cycle network should be established to serve the needs of cyclists with the main objectives being the following:

- (a) Cyclists should be segregated from large volumes of vehicular traffic, especially where roundabouts are located, or fast moving traffic (>40mph).
- (b) Vehicle speeds should be reduced where there is a large number of cyclists.
- (c) Safe crossing points should be provided for cyclists at roads with major traffic flows.

Further Advice

Further and more comprehensive details of provision for cyclists can be obtained from Transport Scotland's publication **Cycling by Design** [🔗](#) (Revision 1, June 2011).

Cycling Facilities

The following definitions apply to facilities for cyclists:

- (i) A safer signed route is a route signed along minor roads, cycle tracks and cycle lanes.
- (ii) A cycle track has the same meaning as described in the **Roads (Scotland) Act 1984** [🔗](#). It is thus a 'road' for cyclists or cyclists and pedestrians segregated from the carriageway.
- (iii) A cycle lane is a lane provided for cyclists within a carriageway.

Collectively these facilities can be used to form a cycle route.



(d) Geometric Standards for Cycle Routes

Dimensions

To allow the free movement of cyclists certain standards will require to be met and typical dimensions are given in Table 7 on page 94.

Surface

The surface of all cycle routes should preferably be a smooth non-skid wearing surface with a different colour from any adjacent traffic surfaces. Where the cycle route is part of the carriageway then particular attention should be paid to the surface condition on the inside edge where cyclists ride.

On Road Cycle Lanes

Cycle lanes should be 2 metres wide on busy roads, or where traffic is travelling in excess of 40 mph. A minimum width of 1.5 m may be generally acceptable on roads with a 30 mph limit. Cycle lanes less than 1.2 m width are only recommended at lead-in lanes to advanced stop lines where there is insufficient width for wider lanes.

The ideal minimum widths required for vehicles to overtake cyclists in comfort given in LTN 2/0838 are:

Car passing at 20 mph - 3.8 m

Car passing at 30 mph - 4.3 m

Bus/HGV passing at 20 mph - 4.6 m

Bus/HGV passing at 30 mph - 5.05 m

These are not necessarily lane widths, however. If traffic flows are generally light enough for vehicles to pass cyclists fairly readily by moving at least partly into the opposite lane then the overall carriageway width will be available. Lane widths of 3 m or less will make it less likely that drivers will try to squeeze past cyclists without pulling around them.

If traffic speeds are higher and motor vehicles are not able to move into the opposite lane to pass cyclists with comfort, then cycle lanes may be justified so that excessive lane widths are not provided, which would otherwise encourage higher speeds. Where there is more than one lane in either direction, some authorities have divided the carriageway into unequal lanes, giving more space on the nearside lane to assist cyclists.

Crossfalls

A standard crossfall of 2.5% is required generally but may be increased over short lengths, such as superelevation being applied on a tight bend.

Minimum Radius

The minimum desirable radius for a bend on a local cycle track is 15 metres. At junctions where turning speeds should be low, junction radii may be designed down to an Absolute Minimum radius of 4.0 m.

Gradients

Generally, cycle track gradients should not exceed 3% but a gradient of 5% is allowed over a maximum length of 100 metres and 7% over a maximum length of 30 metres. Gradients of 7% or more are not recommended except over very short lengths.

Table 7 Dimensions for Cycle Routes

Constraints at Boundary	Segregated			Shared
	Footway/ Footpath	Cycle Track	Verge	
Open Site or 0.5 m verges	1.2 m	1.5 m	-	2.5 m
Wall, bushes etc on kerbline	1.2 m	1.5 m	-	2.7 m
Carriageway on cycle track side	1.2 m	1.5 m	0.5 m	3.2 m

Road Crossings

Care must be taken where a cycle route crosses a road and that adequate visibility is provided, otherwise barriers or posts will be required to slow cyclists down. Where cycle routes cross pedestrian routes then it may be necessary to introduce some form of traffic calming, such as a footway rumble strip, on the cycle route itself to alert cyclists that pedestrians are likely to be crossing ahead.

Grade Separated Crossings

Grade separated crossings where facilities have been provided for the mobility handicapped will also be suitable for cyclists. However, where subways are concerned a clear headroom of 2.5 metres is required as a desirable minimum and on bridges a parapet height of 1.5 metres will be required.

Roundabouts

Care should be taken in the installation of roundabouts where there is a large number of cyclists using the junction as they often experience difficulty in using roundabouts. Further information and guidance on junction control may be obtained from the appropriate technical memoranda or advice may be given by the Local Roads Authority.

Traffic Calming

Where the use of the road by the cyclist is high, ie where a cycle route uses residential roads, or traffic calming has been added to an arterial road, then it may be appropriate to consider alterations which would assist the cyclist.

3.1.5 Servicing

(a) Off Road Servicing

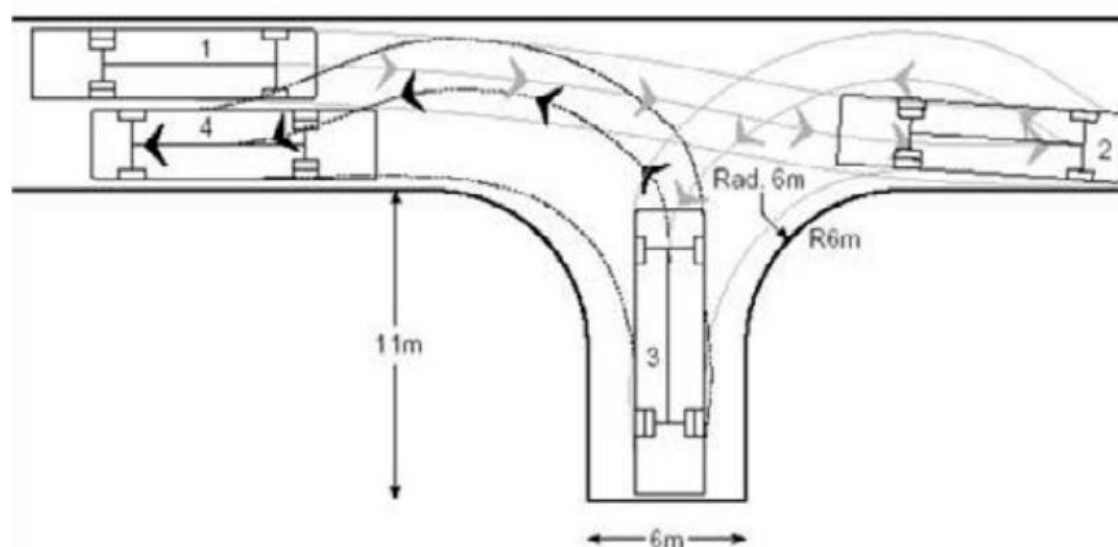
All development should be designed such that premises can be serviced from vehicles parked off the main carriageway without adversely affecting road safety. For residential and small commercial properties, servicing can generally be satisfactorily undertaken via access driveways but, for major commercial and industrial premises, a separate service area should be provided.

(b) Range of Servicing Provision

Service areas range from single bays to sophisticated structures incorporating loading bays and mechanical goods handling equipment. The size and layout of all service areas should be such that all vehicles can enter and leave in a forward gear and do not need to reverse on the public road. Developers will be required to prove through swept path analysis that all the necessary manoeuvres can be successfully completed (Figures 22).

Figure 22 Refuse vehicle swept path envelope

FTA Large rigid design vehicle
Side road stub



(c) FTA Guidance

Advice given in the Freight Transport Association's (FTA) guide '*Designing for Deliveries*' will assist in producing an internal layout suitable for the type of goods vehicle likely to be servicing the development.

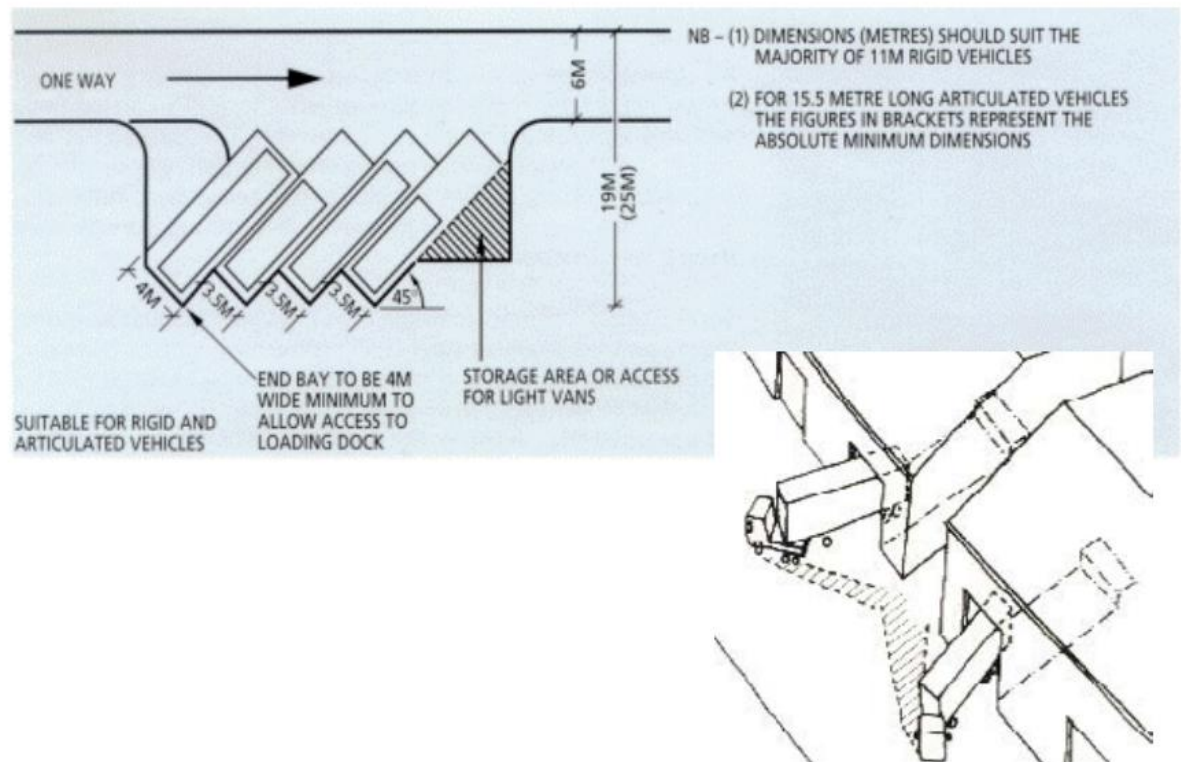
(d) Interpretation of FTA Guidance

The standards given in the FTA guide are representative of the standard driver in standard conditions and should not be compromised. Use of the recommendations will ensure that all drivers and vehicles can manoeuvre in the service yard within reasonable safety margins.

(e) Service Yard Design

Service Yards should be designed to allow access from the adjacent road without causing delay to through traffic, even if a vehicle is waiting to exit. Loading bays should be provided to allow goods vehicles to load and unload in a convenient and safe manner. Most of these loading bays will be arranged to allow access to the rear of the vehicle and consequently adequate space must be provided to allow the goods vehicles to turn and reverse into the loading bay. The total depth of the bays can be reduced where vehicles are parked at an angle with a saw-tooth loading deck but this arrangement is appropriate only when used with a one-way circulation system. Drivers should not incur blind spots when manoeuvring in the yard (Figure 23).

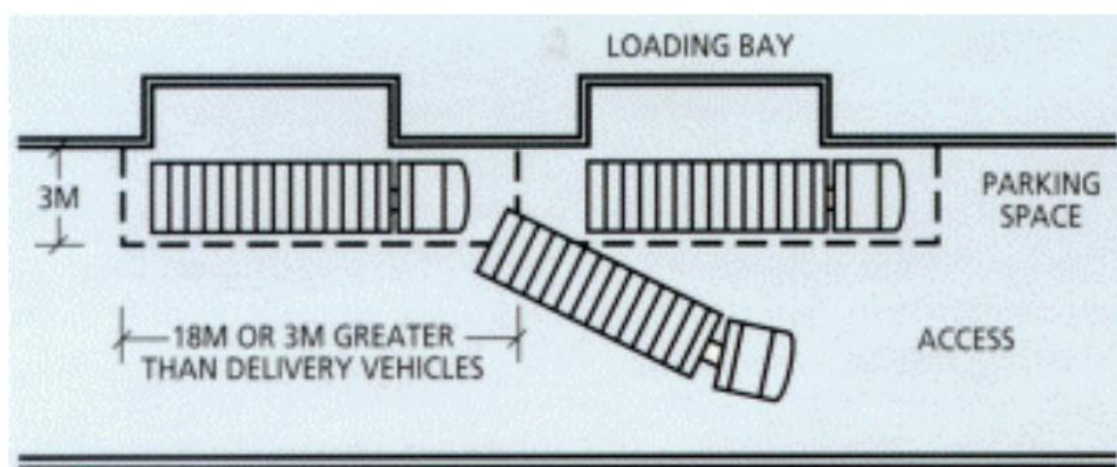
Figure 23 Reversing blindspots



(f) Loading from Parallel Bays

Where vehicles are to be loaded or unloaded while parked parallel to the kerb in service roads, parking bays, 3 metres wide and at least 3 metres longer than the vehicles using them, should be clearly designated. The width of the service road should be increased accordingly. Bay widths should be increased where side loading of vehicles by fork lift trucks is contemplated to give a clear width of 3 metres between adjacent vehicles (Figure 24).

Figure 24



(g) Refuse Collection

Where Standard issue wheeled bins or sack collection are used, a designated collection area is required (ie nearest kerbside or other place agreed by the Council).

Where communal waste and recycling facilities are provided, the maximum distance from bin storage area to refuse vehicle should be no more than 10 metres and should incorporate a level hard surface and dropped kerbs where appropriate to aid correct manual handling techniques. There should be an available width of 1.5 metres and head room of 2 metres to enable bins to be manoeuvred safely.

The refuse collection vehicles are a maximum of 12 metres long and 2.54 metres wide (excluding mirrors). The working length of the vehicle should taking account of the size of the bin and space to allow operatives to stand clear of the bin whilst on the lifting equipment should be 16 metres (Figure 24).



Access roads should be built to withstand a gross vehicle weight of 32 tonnes with an axle loading weight of 11.5 tonnes. The turning circle requirement should be in the region of 24 metres or a suitable swept path hammer head detail. Refuse collection vehicles should not be expected to carry out a lengthy reverse manoeuvre if at all possible.

(h) Overnight Parking

Provision must be made in commercial and industrial developments for the overnight parking, off the public road, of all associated vehicles. Where large numbers of servicing movements are anticipated, consideration should be given to the provision of parking bays for vehicles awaiting access to loading bays. It is essential that these vehicles can park at locations which will not interfere with the safe manoeuvring of any other vehicles. The dimensions of the parking bays should be similar to those of the loading bays but reference should be made to *'Designing for Deliveries'* published by the FTA for layout details. Provision must also be made for car parking as detailed in [Chapter 7](#).

3.1.6 Statutory Undertaker Services

(a) Consultation

The provision of statutory or other services laid underground constitutes a basic element of development design. It is essential that the Statutory Undertakers, who provide such services are consulted during preparation of design briefs, in order that their requirements can be co-ordinated in the design and a balance struck between their needs and other objectives. Refer to [NJUG Publications](#) [link](#).

Developers should be aware that the local Water Authorities have no statutory responsibility for the disposal of road surface water. Connection of road water into a surface water/combined sewer will only be allowed through agreement with Scottish Water. This must be considered up-front to confirm the proposed road drainage system and as part of the planning process.

(b) Services Located in Roads

In the interests of both the Statutory Undertakers and other providers such as district heating schemes, and their consumers, all mains and services serving more than one proprietor should be located in land which is both publicly maintained and readily accessible. It has been recognised that these criteria are best met by public roads and, as well as making provision for pedestrian and vehicular movement, it is therefore a function of most roads to provide routes for underground services.



The key driver should be that all services are provided such that they can be maintained without damaging or affecting the road design life. Ducting is considered an acceptable method of providing denser utility provision which permits upgrades without extensive road disruption.

(c) Services in the Carriageway

Regards sewers, early consultation should be made with the Local Water Authority regarding their provision, in accordance with the [Sewerage \(Scotland\) Act 1968](#). Early consultation should include surface water sewers for the drainage of roofs and paved areas within the curtilage of premises, and the foul water drainage system. All services other than sewers, and occasionally water mains, should be grouped in 'service strips' located within the limits of the footways, verges and adoptable footpaths with a minimum of service connections across the carriageway.

Other utilities will not normally be placed under carriageways, with the exception of road crossings. This is due to the need to ensure that the road is not compromised as a result of inability to provide proper compaction, or due to collapsing ducting and the likes. Also, there is a need to ensure that the utility is not at risk of damage due to vehicle loading - either during the construction or operation of the road.

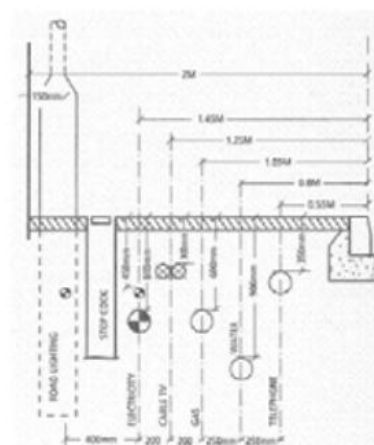
Where service crossings are required within carriageways, there should be a local deepening to provide 900mm cover from the finished road surface to the top of the service. Alternatively, protection (such as concrete surround or cover) can be applied, however it should be noted that this can give rise to future maintenance issues, and this should be agreed with the Statutory Undertaker at early stages. All services should be individually ducted at increased depths in accordance with the requirements of the Statutory Undertakers as directed by the Local Roads Authority.

Crossings of narrow residential roads should be located at passing places to minimise disruption to traffic flow during maintenance/repair works.

(d) Services in Service Strips

The width of a service strip will depend on the number and type of premises served. All domestic services (gas, electricity, lighting, water and telecoms) will normally be accommodated in a maximum 2 metres wide reservation and Figure 25 shows typical positions. This diagram is, however, only a guide and does not absolve the designer from negotiating with each Statutory Undertaker at the earliest possible stage. Special arrangements will require to be made where a footway is less than 2 metres wide and local widening in excess of 2 metres may be necessary to accommodate access chambers or where roads have tight bends.

Figure 25 Services Under Footway



(e) Services in Shared Surfaces

In shared surface layouts, all services should continue to be located in land eligible for adoption by the Local Roads Authority. Where the development calls for the use of a shared surface road construction, particular attention must be paid to the placement and provision of service strips. Where possible, service strips should be located outwith the running surface, and consideration should be made for their placement within a landscaped zone adjacent to property garden areas. If locating service strips within the running surface, care should be taken to ensure that it is situated within an area which is subject to less traffic where possible, eg to the side of the surface. Service strips should be maintained at a width of 1.8-2.0m, with an absolute minimum of 1.5m permissible for shorter lengths or to accommodate road geometry or restrictions.

In the event that the service strip must be located within the shared surface running area, early consultation with the utility providers is essential. A modified layout for the placement of services and/or a modified road construction detail may be required. Typically, the standard arrangement for the placement of services does not lend itself to situation where the service strip is located within a running surface zone of a shared surface; the typical depth of utilities is likely to result in the service being situated within the road construction layers. This gives rise to concerns over both the integrity of the road, and the protection of the service, with particular issues being raised surrounding the adequate compaction of construction layers immediately above the service.

Where a service strip must underlie a Shared Surface road, under no circumstances should any manhole be located within the 3.5 metres wide running width of the shared surface unless an alternative vehicular access is provided. Manholes should preferably not be located in the service strip but may be located within parking areas or widened areas within the total road width, by agreement with the Statutory Undertakers.

Engagement should be sought with the Statutory Undertaker and the Local Authority to determine whether the services should be installed at an increased depth, or whether a modified road construction detail is used.

Care should be taken when specifying the use of geogrid or geotextile in lieu of additional depth of construction material, as the maintenance and access arrangements for servicing utilities located beneath these elements must be taken into account.

Where service strips are under private control, they must continue to be maintained, and agreed maintenance methods determined. This may therefore require a wayleave agreement.

(f) Street Furniture and Lighting Columns

All street furniture should always be located within adopted or prospectively adoptable land and normally be located at the rear of footpaths/footways or recessed behind them and no furniture or structures should obstruct any road junction sight line. Conversely, no services other than road lighting cables should be located within 0.5 metre of the rear of the footway to allow for lighting columns and joint pillars or other street furniture. Guidance regarding the provision of road lighting is contained in section 3.4.11.



(g) Service Strip Remote from Carriageway

Where service strips are not located adjacent to carriageways their width must allow for access by mechanical plant and/or vehicles for maintenance or repair. In all cases there must be a permanent and continuous demarcation of the boundary between the service strip and any adjacent private property (eg by a fence, wall or concrete edge kerbing).

(h) Maintenance and Emergency Access

Ready access must be available at all times to all parts of service routes for maintenance and in cases of emergency. Lorry access will be needed to some places such as manholes, electricity sub-stations, telecom junction boxes and gas governor house installations; and the Statutory Undertakers requirements for such facilities should be ascertained at an early stage. They should be positioned so as to minimise disruptions to vehicle and pedestrian access when service maintenance is being carried out, whilst ensuring that access to services will not itself be obstructed by parked vehicles. Special consideration in this respect will be necessary where services run beneath or adjacent to single lane carriageways and parking bays.

(i) Hydrants

The position of all hydrants should be agreed with the Firemaster and Water Authority. Hydrants should not be located where vehicles are likely to park.



(j) Surface Finish of Service Strip

The surface finish of all service strips must form an integral part of the environment and be acceptable for general maintenance by the Local Roads Authority. Service strips should be protected when there are risks from damage from occasional overriding by vehicles.

(k) Planting and Service Strips

It is essential that any trees adjacent to service strips are located so that their roots will not damage services underground or be damaged themselves during the maintenance of such services.

Ducting services past tree roots can provide normally an acceptable compromise for all parties.

Advice should always be sought from the Statutory Undertakers when considering planting in the vicinity of services. Refer to [NJUG Publications](#) .

(l) Road Opening Consultations and Consents

The developer is responsible for contacting the Statutory Undertakers regarding the position of, and connection to, any existing underground plant. In all cases, the necessary Road Opening Permit under the Roads (Scotland) Act, 1984 or Permission in Writing under the New Roads and Street Works Act, 1991 must be obtained from the Road Authority before any excavation is undertaken in a public road.

3.1.7 Rural Areas

(a) Introduction

The main part of the Guidelines considers the urban situation and its immediate environs. However, areas of a rural nature should be considered differently.

(b) Hierarchy

Circumstances when rural standards may be applied should be discussed early in the planning stage and may include:

- ◉ *developments adjacent to and accessing directly onto an existing unrestricted road;*
- ◉ *developments which are likely to remain remote from existing settlements for the foreseeable future and require a new road that ultimately accesses to the existing unrestricted road network.*

Rural areas can be treated similar to the urban areas but the significant difference will be to ensure that adequate visibility is provided on roads which are subject to speed limits which are in excess of 30mph.

Required provision for public transport and footways should be referred to the local authority.



(c) Road Widths

Introduction


Consideration will also require to be given to road widths in a remote rural situation. The basic road widths for Residential Roads, within this document, are based on user defined swept path analysis and this remains the case. However, consideration must be given to the additional traffic flow which will be generated by the development on the existing surrounding road network.

Dwellings/Traffic Flow/Road Widths

The developer will have to demonstrate the level of the existing traffic flow and the likely peak generated flow created by the new development and depending upon the new total flow the following new road types and minimum widths are suggested as likely to be appropriate.

Adjacent future development identified through either Master planning or Local Development Plans need to be considered such that developments are adaptable to these future requirements.

Developing on Existing Roads

Where a development is proposed on a road which does not meet these criteria then the developer will be required to widen the road along the frontage of the development or the access road to the development to the appropriate width and provide new and/or passing places where required to mitigate the development traffic. Note this requires statutory consents such as a Section 56 [Roads \(Scotland\) Act 1984](#) .

Passing Places on Existing Roads

On an existing narrow rural road, passing places should be constructed to enable user defined traffic to pass. The design of such a passing place should consider functionality against a balanced view of placemaking aspirations and a presumption against urbanising the countryside.

All passing places should provide a minimum overall width of 5.5 metres. Locating passing places is dependent on gaining the maximum benefit balanced with planning legislation.

Where possible, it is advisable to have intervisible passing places, adjacent passing places should be placed on alternate sides of the road or on corners where maximum benefit is gained.

Locating passing places on bends on existing roads is advisable to assist vehicle conflict where reversing or anticipating and negotiating passing vehicles is more difficult.

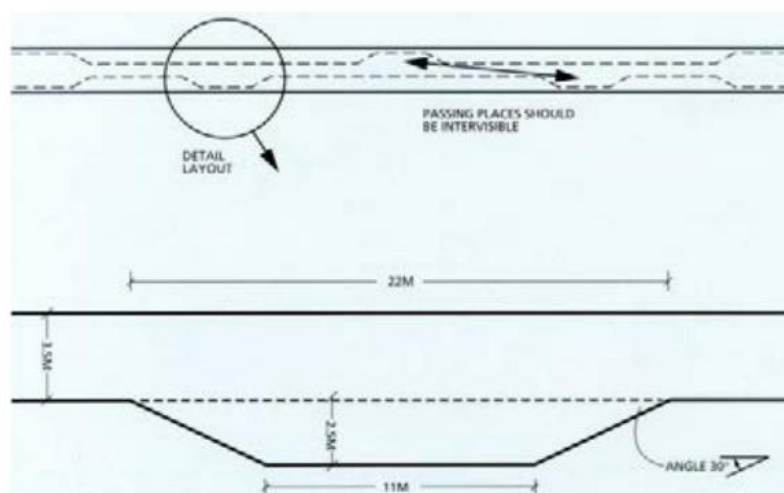
Advice on specific numbers and locations should be sought from the Local Authority in advance.



Passing Places on New Access Roads

All passing places on a new access road should be constructed to the dimensions given in Figure 26. All passing places should be intervisible. Adjacent passing places should be placed on alternate sides of the road. Advice on specific numbers and locations should be sought from the Local Authority in advance.

Figure 26
New Access Passing Places



Visibility Splay

Visibility splays are calculated in the same manner to the method used in the Urban area for the X distance, but the speed which the Y distance is based on will be higher. In certain circumstances, the design speed for the road will not be known and it may be necessary to measure the actual speed at which the traffic is travelling in order to calculate the Y distance.

Speed Visibility Relationship

Where the traffic speed can be measured, the 85%ile speed should be measured in wet weather and then this measured speed can be compared against the speed, or the next highest speed in Table 8, which then gives the Y distance. If there is not an opportunity to measure the speed then Table 9 should be used and the Y distance obtained from the appropriate speed limit.

Table 8 Wet Weather - 85 Percentile Speed

Major Road Speed (mph)	75	62	53	44	37.5	30
Y Distance (m)	295	215	160	120	60	43

Table 9 Speed Limit

Speed Limit (mph)	70	60	50	37	30
Y Distance (m)	295	215	160	59	43

Access Points

Where a development is proposed from a road with a high traffic flow which is not subject to a 30 mph speed limit, particularly in more rural areas, and the access is to be gated then the gate should be set back by at least 6 metres so that cars entering or leaving do not require to stand on the carriageway while the gates are opened and closed. All gates must open inwards towards the site. If the development is to cater for larger vehicles or is a field access when it will be necessary to set the gate back by a distance which will accommodate a turning manoeuvre appropriate for the vehicles which are likely to be using it. On roads with a low traffic flow this requirement may be waived at the discretion of the Local Roads Authority.



Consultation

Developers are advised to consult the Local Roads Authority at an early stage to determine the road requirements of the development.

3.1.8 Street Planting Considerations

This aspect should be considered in conjunction with any SUDS design.

(a) Visual Aspects of Housing Developments

It is important to the general appearance of a housing development that emphasis is placed on the careful design of gardens and public open spaces. Every attempt should be made to reduce the visual intrusion of roads in a housing environment by the judicious use of hard and soft landscape treatments while ensuring that security is not compromised.



Maintaining existing trees that are in good condition and of value is well understood to accentuate the value of a new development.

Reference to the Scottish Government's [Green Infrastructure: Design and Placemaking](#).

[Trees in Hard Landscapes: A Guide for Delivery](#)

[Trees in the Townscape: A Guide for Decision Makers](#)

(b) Function of Planting

A clear planting concept is required which satisfies the relevant functional and aesthetic objectives and helps form a relationship between the road and the surrounding environment. For example, planting may be employed to provide:

- ◉ *absorption of pollution and carbon capture;*
- ◉ *screening;*
- ◉ *reduce impact of noise;*
- ◉ *direct pedestrians;*
- ◉ *create vistas or focal points;*
- ◉ *act as a barrier;*
- ◉ *create shade;*
- ◉ *provide seasonal colour.*



The style of planting should suit the context of the road; for example, an urban environment will often demand more formal, geometric planting design whereas in rural areas naturalist planting and informal treatments can be more appropriate. Simplicity is often the best approach; a correct choice can create maximum impact while minimising initial and maintenance costs.

(c) Maintenance Consideration

Landscape design should seek to provide an attractive environment. In a planted area to be offered for adoption, consideration must not only be given to the function but also to the maintenance requirements. Management and maintenance problems can be largely avoided by appropriate design and proper consideration from the initial stages of the design process. The role of the Local Authority with regard to maintenance of planting is discussed in section 2.3.

(d) Other Landscape Features

Other landscape elements such as lighting, signs, barriers, walls and bridges should be considered within the overall design of the scheme and seen as opportunities to give a sense of place. Colour, scale and style all require careful consideration to ensure that these elements reflect an appropriate character. Boundary treatments are especially important; appropriate wall and fencing techniques should be used to create enclosure and properly define land in private or public ownership.

3.1.9 Additional Considerations

(a) Traffic Management

The layout of a development may be influenced by existing or proposed traffic management measures and the Local Roads Authority should be consulted about these at an early stage. Where the Local Roads Authority decides that traffic management measures should be introduced to facilitate a particular development, the developer may be required to reimburse the Authority for expenses incurred in the promotion and implementation of these measures. Note, that due to the process, the successful promotion of a Traffic Regulation Order is not guaranteed.

(b) Traffic Noise

The developer should consult with the Local Planning Authority to determine their requirements for dealing with external noise. Traffic noise from the following sources should be taken into account:

- (a) *existing roads;*
- (b) *new roads being constructed as part of the proposed development;*
- (c) *alterations to the road network to accommodate the proposed development;*
- (d) *Road Authority's alterations to the road network for construction within a period of five years and/or included in the Structure Plan.*



Figure 27 Traffic Noise


(c) Grit Bins

In all residential developments, and especially where pedestrian or vehicular routes have maximum permissible gradients, it will be necessary for the developer to provide either a widened portion of footway or an area of hardstanding to facilitate the placing of grit bins and to provide grit bins where required by the Local Roads Authority.






The provision and location of grit bins can be contrary to placemaking impacts and requires to be considered in context with function and place and should be considered as a part of the quality audit. Access for winter maintenance vehicles to maintain winter supplies must be considered in context also.

(d) Fire Fighting


Notwithstanding the recommended road widths in these guidelines, all roads should accommodate access and operation of fire tenders. The width of roads and reinforced emergency vehicle paths and their proximity to buildings is detailed in Part E of the Building Standards (Scotland) Regulations. This document specifies **a minimum width of 3.7 metres adjacent to low rise dwellings** to facilitate the use of pumping appliances (this width is increased to 4.5 metres to permit the use of heavy rescue and fire fighting equipment where buildings are 9 metres or more in height). **It should be noted that a basic vehicle path of 3.5 metres width (2.75 metres at pinch points) is appropriate for access but not operation of the fire tender.** Refer to [Designing Streets](#) .

3.2 Transport Assessment

A Transport Assessment (TA) will be required to be submitted to the Local Roads Authority (LRA) for all developments which have transportation implications. Developers must refer to the guidance contained within the current edition of the Scottish Government publication [Transport Assessment Guidance](#) . All developers must initially contact their Local Roads or Planning Authority to determine whether within any current local plan, the need for a Transport Assessment has been identified. The Transport Assessment Form in the Scottish Government publication [Transport Assessment Guidance](#)  **must** be submitted to the Local Roads Authority for all developments regardless of size. If the thresholds in the Scottish Government publication [Transport Assessment Guidance](#)  Table 3.1 are exceeded then a Transport Assessment must be submitted.

Following receipt of the Transport Assessment Form:

- (a) *Where threshold levels are met or exceeded, the Local Roads Authority will determine the extent and scale of any Transport Statement/Transport Assessment required, the details of which must be agreed by submission of a Scoping letter by the developer to the Local Roads Authority.*
- (b) *Where threshold levels are not met, a Transport Statement/Transport Assessment may still be required by the Local Roads Authority depending on the traffic sensitivity and transport implications of the development site.*

Further information can be obtained by reference to the Scottish Government website using this link .

A TA should examine the potential impact of a development on the surrounding transport network. This includes all transport modes such as walking, cycling, public transport and the private car. It should demonstrate that the site is a sustainable site in terms of transport usage and that private car usage can be minimised. A TA should include the following:

- ◉ a description of the proposed development, including plans showing the site location and site layout;
- ◉ a description of the current and existing transport network in the area that should include current footways and cycle routes (both off-road and on road);
- ◉ a description of the current public transport provision in the area. Current guidance states that the development should be no more than 400 m (a 5 minute walk away) from a bus stop. It is important that the most accurate information is provided and public transport information can be found on the Council's Public Transport bus timetable web pages;
- ◉ a forecast of the likely vehicle trip generation figures for the year of opening of the proposed development. This is normally provided by using the industry standard **TRICS** [trip generation database](#). It is imperative that the current version is used and that all outputs are included as an appendix in the final report and all assumptions made are clearly stated in the report.

Committed development in the vicinity of the development should be included within the report.

Full traffic counts and junction analysis for all junctions 'in scope' of the development. Junctions in scope are usually those within the vicinity of the proposed development or those which will be impacted by traffic travelling to and from the proposed development. Junction analysis can be carried out by using several industry standard packages such as **ARCADY**, **OSCADY** and **PICCADY** [trip generation database](#).

A Travel Plan (or Travel Plan Framework) showing what measures will be taken to reduce the dependence on the private car for trips made to and from the development.

The first step would be to appoint a firm of transport consultants to carry out the assessment. Most transport planning consultancies are able to fulfil this task and applicants should therefore obtain a number of quotations before deciding on which firm should undertake the work. The consultants should produce a 'scoping report' stating the methodology that they propose to adopt in carrying out the full assessment. This must be agreed by the Council before they can proceed to undertaking the full report. It is strongly recommended that the consultants actively engage in discussions with Council officers at the outset to agree the parameters for the study.

A full study should then be prepared and this should be agreed with the Council. The final report should be submitted as part of the planning application in order for the application to be determined fully by planning officers of the Council.

References

- ◉ *Transport Assessment Guidance 2012* [trip generation database](#)
- ◉ *Scottish Planning Policy (SPP) 2014* [trip generation database](#)
- ◉ *Planning Advice Note PAN 75 (Planning for transport)* [trip generation database](#)

3.3 Quality Audit

Auditing Quality Using Designing Streets

Designing Streets [↗](#) is a policy document that contains guidance on getting street design right - so it should be the central reference when checking the quality of proposals for new streets within all urban and rural boundaries in Scotland. Checking quality should be a clear consistent method to reach collaborative agreement on how a proposal complies with **Designing Streets** [↗](#). This page(s) and the associated Quality Audit Summary Report explain what should be done and how



Why?

Quality Auditing (QA), as noted on page 58 of **Designing Streets** [↗](#), can simply be a sequence of checks to inform the design process and provide opportunities for developers to explain their reasoning. Any process that notes observations and records the decision-making process should help to deliver and maintain high quality places, for the benefit of all end users. QA joins-up assessment so one aspect of design doesn't dominate. A barrier to previous QA approaches has been a perceived duplication of work, so this method uses to the key considerations of **Designing Streets** [↗](#), as used also in SCOTS guidance to avoid repetition. It should assist in a streamlined process of aligned consents:

Part 3

ROADS DEVELOPMENT GUIDE

Previous approach with multiple audits	✓	New approach to auditing quality based on Designing Streets  Building Blocks	
Non-motorised User/Walking Audit and Cycle Audit/Review Accessibility and Equality Audit	✓	A Single Quality Audit Against Designing Streets	Pedestrians and Cyclists
Functionality Audit	✓		Block structure, public transport, junction types and arrangements, service and emergency vehicles, connections within a place
Visual Quality & Amenity Audit, Street Lighting Audit, Street Character Review	✓		Context and Character, streets for people, reducing clutter
Parking Review	✓		Integrated parking
Drainage Report	✓		Drainage, utilities
Maintenance Audit	✓		Materials, planting
Road Safety Audit	✓		Achieving appropriate traffic speed
Traffic Generation Report Community Use Audit	✓		Connections to wider networks, walkable neighbourhoods, orientation

10+ audits

✓

1 unifying audit

Which audit gets priority?

✓

A balanced approach

Duplication and overlap

✓

DS broken down to building blocks or design aspects

Planning/roads assessed separately

✓

Planning/roads (layout) assessed in parallel

Overall 'place' gets missed

✓

Streets contribute to places

Who?

Engineers make individual value judgements on appearance, functionality and safety. But, when quality checks are done collaboratively by a professional team, balanced decisions are verified. This QA process encourages the team to engage as positive 'placemakers', to become adept at contributing creatively to places, and not be restricted to applying one particular infrastructure standard. The QA should be produced by the developer's team and openly discussed with local authority officers during pre-application discussions. At key stages the planning case officer and local authority officers responsible for Roads Construction Consent (RCC) should keep a summary on file, have access to an audit trail and any subsequent adoption agreement.

When?

Reviewing proposals to ensure that broad objectives are achieved cannot be solely undertaken at the finished scheme stage so QA should be an iterative part of the design, construction and stewardship process, particularly beneficial in the following circumstances:

- ◉ option testing stage;
- ◉ pre-application stage, then updated for planning and RCC applications;
- ◉ where strong tensions exist between different objectives;
- ◉ for schemes within existing streets, providing an opportunity for decision-makers to make a balanced assessment before approving a particular improvement solution; or,
- ◉ to explain thinking on street design aspects such as accessibility that can feed into a Design Statement, or Design and Access Statement, if one is required.


A summary report could be updated a few times but should at least be submitted along with a RCC application that should align with the planning application. The same information will sum up the layout of roads/streets and public spaces.

How?

1 Briefing

The project brief setting out the vision of development is possibly the most important reference for any project so QA begins by checking against design objectives set at this early stage. All project briefs for works that impact on the design of street should define clear objectives related to the 6 *Qualities of Successful Places* as defined in Scottish Planning Policy (SPP).

2 Design Stages

As a project's design evolves, assessing the quality of street design depends on breaking the 6 qualities down into **Designing Streets**  18 'key considerations' or aspects of design:

Block structure	Pedestrians and cyclists	Connections within a place	Walkable neighbourhoods	Connections to wider networks	Orientation
Context and character	Achieving appropriate traffic speed	Public transport	Streets for people	Integrated parking	Drainage
	Reducing clutter	Junction types and arrangements		Service & emergency vehicles	Utilities
					Planting
					Materials

Considering all aspects together puts *place before movement*, with streets designed to facilitate quality of life rather than only be only transport corridors.

The following steps describe how to complete the **Quality Audit Summary Report** template that follows, designed to concisely record a snapshot:

- Step A** *Reference the brief and an annotated plan, a 'B-Plan' colour-coded analysis (see page 21 of **Designing Streets** [↗](#)) to help identify and precisely locate specific design issues that the QA deals with.*
- Step B** *Summarise and record an assessment of each aspect of design (ordered in the hierarchy of street structure, street layout and street detail) to form a decision-making trail.*
- Step C** *Summarise or link to additional audits (that form part of an overall balanced view, with no superior status) such as:*
 - A Road Safety Audit**, if required, to build on achieving appropriate traffic speed. Agree the scope at the initial stages, identify potential safety problems and assess possible actions to reduce risk. Included summaries of balanced decisions to mitigate residual conflicts (ref: **HD 19/15** [↗](#)).
 - A Transport Assessment**, if required, will appraise the operational implications of development then look at mitigations such as physical changes to existing connected networks, or travel plans (ref: **Transport Assessment Guidance** [↗](#)).
 - An Equalities Audit**, with due regard to the **Equalities Act 2010** [↗](#), will appraise desire lines together with material colours adopted in the design.

Other Audits, depending on the scale and nature of a project, considered in more depth, for example: security or lighting of public spaces. Some aspects such as drainage or materials specification may be agreed in principal at planning then supplemented later. Any specific report that significantly affects overall quality, can be linked or appended.
- Step D** *End with a judgement, reached via multidisciplinary collaboration (on the overall quality of street design). This judgement should be supported with a risk assessment (severity/likelihood of occurring) appended (see **HSE Risk Assessment** [↗](#)) which addresses all the audit/report findings into a final balanced conclusion report.*

3 Construction

As completion nears a QA review should ensure recommendations have been taken on-board and objectives delivered. Consideration of the findings of a post-completion RSA (stage 3), if applicable, can be taken into account.

4 Maintenance and Monitoring

During the maintenance period a review should establish if the objectives and any expected changes in road user behaviour have been achieved. This could include the conclusions of a stage 4 RSA.

5 Quality Audit Summary Report

This QA report template should be used to summarise the process undergone as part of the design and implementation of a new road or street project.

It should demonstrate what consideration has been given to all the key areas outlined in **Designing Streets** and should provide an audit trail of the decision making process where a compromise or departure from normal standards has been opted for.

[Quality Audit Summary Report Template](#)

3.4 Construction Design

3.4.1 Geotechnical Considerations

(a) Introduction

The extent and type of ground investigation requirements with detailed reporting will be dictated by the nature of the proposed development, former land use and local ground conditions.

The Interpretative Report which must be submitted with the application for Construction Consent will be examined against the engineering drawings submitted and the supporting factual information.

(b) Supporting Technical Documentation

All ground investigation reports should comply with BS 5930: 1999 Code of Practice for Site Investigation. The Factual Ground Investigation Report should include the following minimum information:

- (a) *exploratory hole logs to BS 5930: 1999;*
- (b) *laboratory test data to BS 5930: 1999 and BS 1377: 1990 relevant to the proposed form of road construction;*
- (c) *a location plan of the site at 1/2500 scale with the proposed road superimposed;*
- (d) *a plan at 1/500 scale showing the co-ordinated location of all exploratory holes and the proposed road.*



The spacing between and the nature of the depth of exploratory holes is dependent upon the ground conditions and nature of development (Figure 28). Typically, exploratory holes should be sunk at a maximum spacing of 25 metres offset from the centreline of the proposed road where necessary to ensure sufficient transverse coverage along the site. Where changing conditions demand clarification closer spacing may be necessary.

Where it is proposed to locate a road over land previously used for industrial purposes or waste disposal, it is essential that chemical analysis and gas monitoring information is submitted in addition to standard laboratory testing to BS 5930: 1999 and BS 1377: 1990.

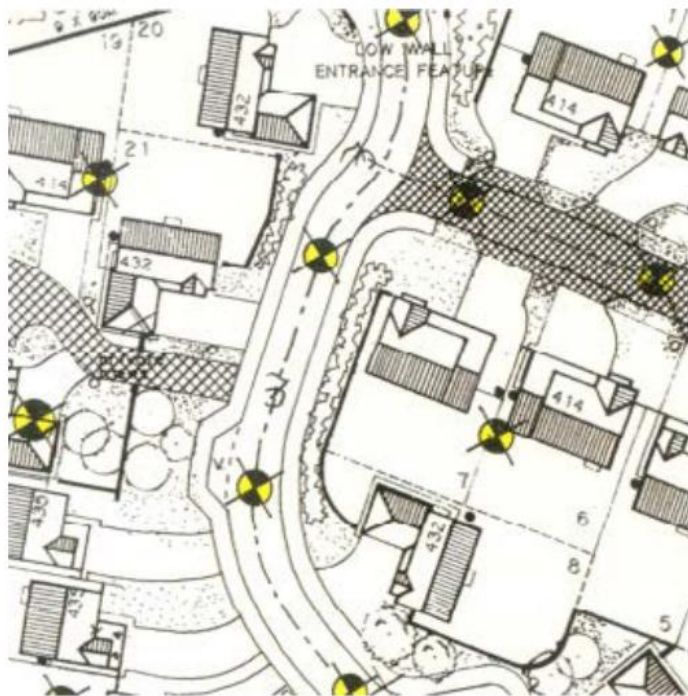


Figure 28
Exploratory Borehole Survey

(c) Interpretative Report

The Interpretative Report must include a Mineral Report specifically dealing with the implication for the proposed road construction.

(d) Brownfield Sites

Where a site has formerly been developed it will likely be covered in fill material, ie a brownfield site. The nature, depth and extent of this material should be defined. The possibility of the ground being contaminated must be considered. The Interpretative Report should assess any contamination and its implications for both road construction and maintenance of the completed road and its drainage system.

(e) Peat

Where a proposed development road is to be constructed over peat or buried peat, it will be necessary to excavate and replace the peat in virtually all cases.

(f) Geotextiles/Polymer Grids


Geotextiles or polymer geogrids may be used as a construction expedient to assist construction; however they cannot prevent consolidation settlement or secondary compression in soft compressible soils.

Geotextiles or polymer geogrids may not be used as a substitute for a capping layer or as a means of reducing sub-base thickness in normal road construction. They may be used in addition to a capping layer or normal pavement construction to resolve a particular problem. The decision to use geotextiles or polymer geogrids must consider the need for long-term integrity, damage from road openings and the practicality of effective repairs to the geotextile/geogrid. Developer to provide a manufacturer quality check of geotextiles/polymer grid.

(g) CBR

The CBR value of the soil shall be determined by the laboratory CBR test in accordance with BS 1377: Part 4: 1990 and test data shall be incorporated in the Factual Ground Investigation Report.

3.4.2 Specifications

The specification for the construction of road pavements and associated structures is detailed in the following link: [DMRB HD 26/06](#) . Clause and Appendix numbers in the following text refer to that specification.

3.4.3 Subgrade Drainage

In addition to the requirement for surface water drainage, it is important to provide efficient permanent drainage of the subgrade and any other permeable layers of the Road.

Where Roads have no frontage development, subgrade drainage will be effected as follows:

- (a) *In cuttings, filter drains which will be required to cater for surface water run off from slopes will also provide a sub grade drainage function by being located deep enough to prevent the water table from rising to within 0.6 metre of the formation level.*
- (b) *In embankments, capping layers and/or sub-base layers must be extended periodically to the face of the embankment to effect drainage of these layers.*

Where roads do have frontage development and adjacent ground levels do not involve embankments or cuttings, it is unlikely that specific measure will be required to effect drainage

of the permeable layer unless the site investigation indicated that either the water table is likely to rise to within 0.6 metres of formation level or that the material below formation level is highly impermeable.

In either of these cases, sub-grade drainage can be effected by ensuring that backfill material to gully connections is permeable and that water which will accumulate in this backfill is provided with an outlet which, while allowing water to permeate into manholes, ensures that bedding and backfill materials of the drain are retained.

3.4.4 Carriageway Construction

(a) Pavements

Carriageway Pavement design should be in accordance with Section 2: Volume 7 of the **DMRB HD 26/06** [🔗](#). This requires details of the ground bearing capacity and the traffic type and volumes to be identified to arrive at a suitable load spreading pavement. A composite construction may be acceptable providing agreement with the road authority is sought in advance.

BS 7533 [🔗](#) for block paving and the additional qualifications and exceptions listed here.

Capping Layer

Where the CBR value is less or equal to 5%, a capping layer is required as per Figure 29.

NB: The design California Bearing Ratio (CBR) should be obtained either by testing or by measurement of the plasticity index of the subgrade material. In the case of CBR testing, the method described in the laboratory test in accordance with BS 1377-4:1990, clause 7 should be used and is only relevant in natural soils and cannot be used for pavement design in fill materials. By their nature fills are random and highly variable in density and CBR testing in them only assesses the quality of the material at the locus of the test. Therefore for pavement construction on fill materials, unless the fill material is equivalent to or better than the specified capping material, a full capping layer is required.

Frost Susceptibility

It is possible for roads designed to have a total bituminous thickness of 170 mm and, with a CBR value < or + to 2%, a 150 mm sub-base and 600 capping layer. In such circumstances

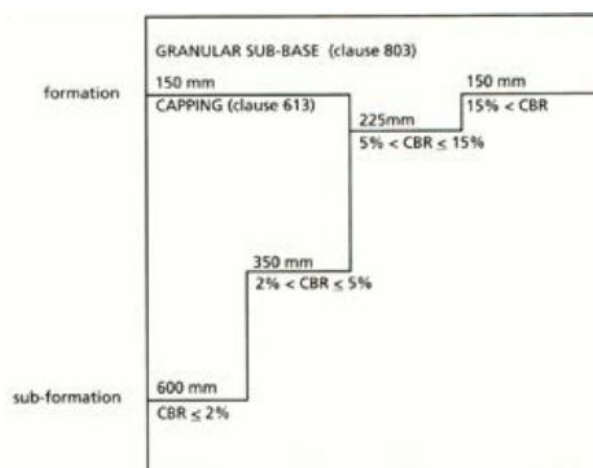


Figure 29 Capping Layer Requirements: subject to frost susceptibility

the upper 130 mm of the capping layer should be non frost-susceptible. In practical terms this effectively means that the sub-base becomes 280 mm with a capping layer of 470 mm. For a $2\% < \text{CBR} \leq 5\%$ where the total bituminous thickness and sub-base thickness together are less than 450 mm the same principle applies (ie the sub-base is increased to achieve 450 mm of non frost susceptible material and the capping layer can be correspondingly reduced). This need not be done if the capping layer is non frost-susceptible.

Increased Capping Layer Thickness

Although Table 10.1 gives various thicknesses of capping layer dependent upon CBR, where CBR is significantly below 2%, these thicknesses may require to be increased dependent upon site and weather conditions prevailing at the time of construction. This requirement will be accompanied by an additional CC8 Engineers report to certify the design. Additional material may require to be removed and replaced by more suitable material. Although the new material may be of good quality, the subgrade shall be assumed to be equivalent to one of a CBR just under 2% and requiring 600 mm of capping layer. The developer should consult the Local Roads Authority for advice in these circumstances.

Formation on Rock

Where the formation is on rock, the granular sub-base will act as a 150 mm depth regulating layer.

Carriageway Construction

Where suitable technical facilities exist it is recommended that the specific circumstances of each site are catered for by designing the road in accordance with the criteria stipulated above, subject to a minimum construction as required to carry 0.5 Million Standard Axles (MSA), for all roads. In this circumstance it will be necessary to complete and return form CC8 'Carriageway Design Certificate' (see Appendices).



(b) The Use of Secondary or Recycled Materials

The use of recycled materials in carriageway and footway construction will comply with HD 35/04 Part 2: Section 1; Volume 7 of the DMRB. Developer to provide test certificates and details of source of supply for secondary or recycled materials.

Based upon the Specification for Highway Works (SHW) [MCHW Volume 1] and HD 35/04 Part 2: Section 1; Volume 7 of the DMRB and advice from WRAP reclaimed asphalt can be used in:

- Bitumen bound materials - base, binder and surface courses (up to 10% by mass reclaimed asphalt may be used in surface courses and up to 50% in all other layers). Asphalt can be recycled back into hot asphalt, a process which gains the benefit from the original bitumen and high quality aggregate; or into cold lay foamed bitumen, which is growing in popularity.

- ❖ Concrete - can contain up to 5% asphalt as a foreign material, but reclaimed asphalt is generally not viewed as a concreting aggregate.
- ❖ Pipe bedding - Recycled asphalt should not be used in pipe bedding or drainage applications.
- ❖ Hydraulically bound mixtures (HBM) for sub-base and base - up to 100% reclaimed asphalt.
- ❖ Unbound mixtures for sub-base - Series 800 permits up to 50% reclaimed asphalt in types 1 and 2 and 100% in type 4.
- ❖ Capping - 100% reclaimed asphalt can be used in this layer.
- ❖ Embankments and Fill - where permitted, up to 100% reclaimed asphalt may be used. Reclaimed asphalt is not permitted as backfill to structures.

Asphalt containing tar or tar bitumen is generally not appropriate for recycling **WRAP** .

(c) Two Stage Construction

Where, owing to the continued use of the road by construction traffic, it is necessary (in order to avoid damage to the surface course) to adopt a two stage construction. The pavement design is required to confirm the load spread pavement capacity over the period of the construction such that the foundation and base is not overstressed, thereby ensuring the initial whole life design period.

Stage One

The first stage for both bituminous and block paved road, shall be the top of the specified bituminous base. Consideration should be given to the temporary drainage of the first stage, to minimise ponding caused by the projection of gully gratings, above the temporary surface, either by adjustment of gully frames or other approved method. This applies particularly in large projects where the construction period may be long and the surfacing course not laid before a winter work period. Any settlement which may occur in the base of bituminous roads shall be made up with regulating course before the laying of the surfacing course, and early reinstatement of openings or failed areas is essential.

Stage Two

Before the binder and surface course - where it is bituminous - is laid, the top surface of the base must be well cleaned and a tack coat applied at the rate of 0.6 litres per square metre. In the case of block paved roads the bituminous base material must be adequately maintained during the first stage and any openings or failed areas reinstated as soon as possible to ensure that the bedding layer thickness is regular and within tolerance.

Design Depth Minimum Requirements

The following criteria, which must be used in designs for specific circumstances:

- (i) design life - 40 years;
- (ii) traffic growth rate - 4%.

Based on the above, the construction specified caters for the following traffic:

- ◉ *Main Road or Industrial Access Road - up to 75 commercial vehicles per day on day of opening.*
- ◉ *Residential Main Road - up to 40 commercial vehicles per day on day of opening.*
- ◉ *Housing Road and Pedestrian/Vehicular shared surfaces or Minor Commercial Access - up to 15 commercial vehicles per day on day of opening.*

In specific circumstances which would permit future overlay in order to extend the pavement life to 40 years (eg where there is no frontage development and the number of commercial vehicles exceeds 100 per day), the design life can be restricted to 20 years, with the agreement of the Local Roads Authority.

(d) Clay, Natural Stone or Block Paving Pavements

All pavements being constructed with Clay, natural stone or Block Paving will be in compliance with BS 7533.

Light colours of blockwork are not appropriate where there is a risk of staining from diesel or oil spillage.

3.4.5 Street Transitions Methods

Direct reference to be made to 'Streets for People' section of [Designing Streets](#) and [TRL 661](#).

Vertical Displacements

Definition

A vertical displacement may be defined as a vertical change to the carriageway which, in residential areas, takes the form of a flat top platform or transition to a shared surface.

Dimensions

Flat top platforms at Raised Junctions in new developments should have a 2.5 metres ramp length and should extend across the whole junction.

Figure 30 details vertical displacement construction. Surface material for Raised Junctions may be asphalt, blockwork or preformed elements laid in accordance with Figure 30 on page 122.

Road Markings

All vertical measures should be highlighted to identify their presence which can be achieved by a change in colour or texture. Where the Local Roads Authority has advised that a 20 mph zone will not be introduced then vertical measures require to be marked in accordance with [The Traffic Signs Regulations and General Directions 2002](#) (and as amended).

Part 3

ROADS DEVELOPMENT GUIDE

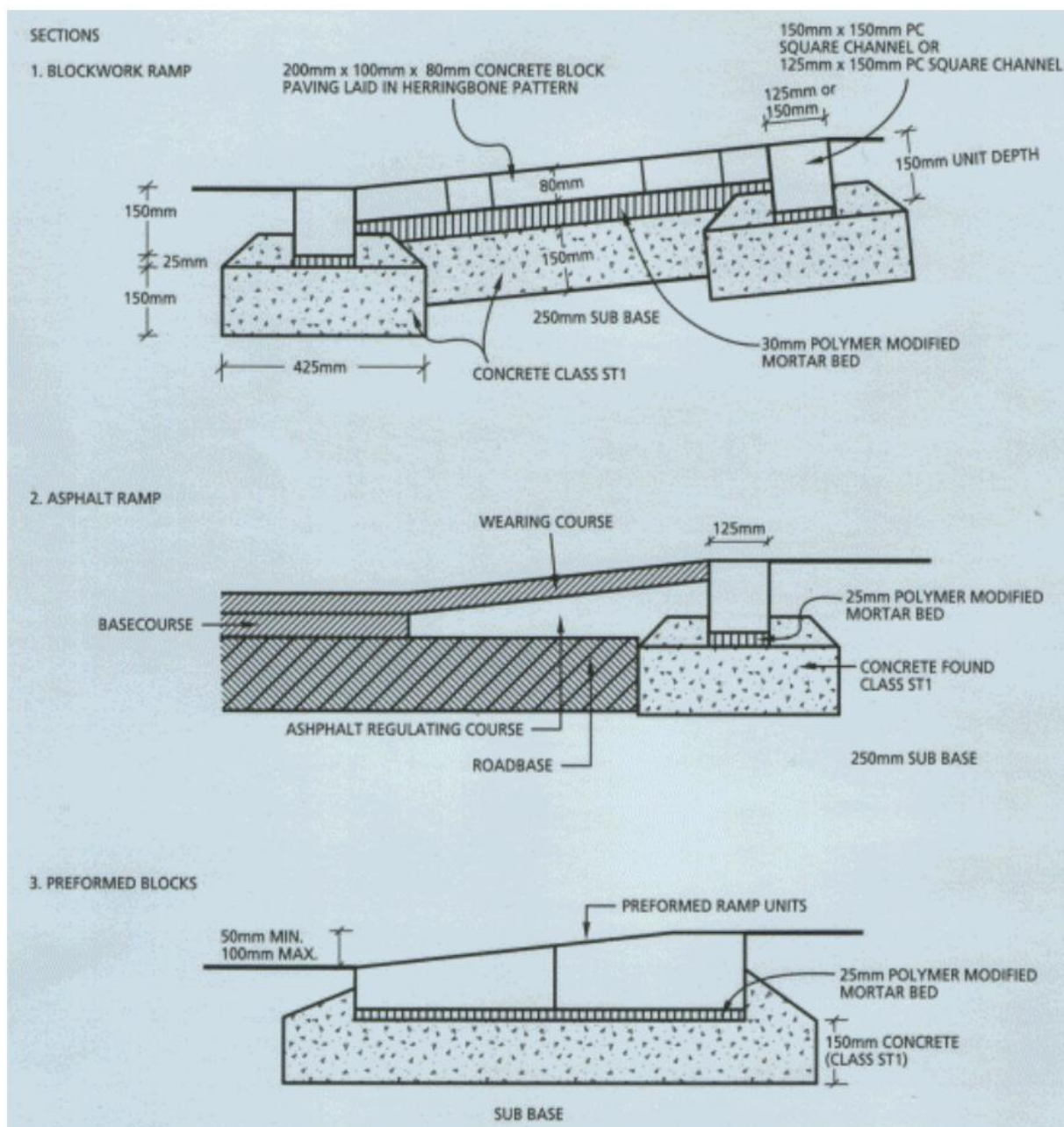


Figure 30 Vertical Displacement Ramp

3.4.6 Footway, Footpath and Cycle Track Construction

Construction Material

Footways, footpaths and cycle tracks pavement design should be in accordance with **Section 2: Volume 7 of the DMRB** [🔗](#) unless an alternative design is agreed with the Local Roads Authority



3.4.7 Kerbs and Edging

(a) Materials/Construction

All carriageways, footways and footpaths should be provided with precast concrete kerb or edging. Alternatively and with the agreement of the Local Roads Authority natural stone kerbs may be acceptable.

On conventional roads, kerbs should be set 125 mm above finished carriageway channel level, except at pedestrian and vehicular crossings where this dimension is reduced, pedestrian crossings range from 0 mm to 10 mm and vehicle access range from 25 to 40 mm. Edging at the heel of footways and footpaths should be set flush with the walking surface.

On shared surfaces an upstand of 40 mm should normally be provided except at junctions with footpaths and private accesses where kerbs should be flush with the walking surface. Approval for any departure from, or clarification of, these standard details should be sought from the Local Roads Authority prior to construction commencing.

(b) Remote Areas

In remote areas, and with the agreement of the Local Roads Authority, cycleways may be constructed without kerb edgings, where the sub-base is laid 500 mm wider than the surfacing to provide shoulders.

3.4.8 Accesses

(a) Driveways

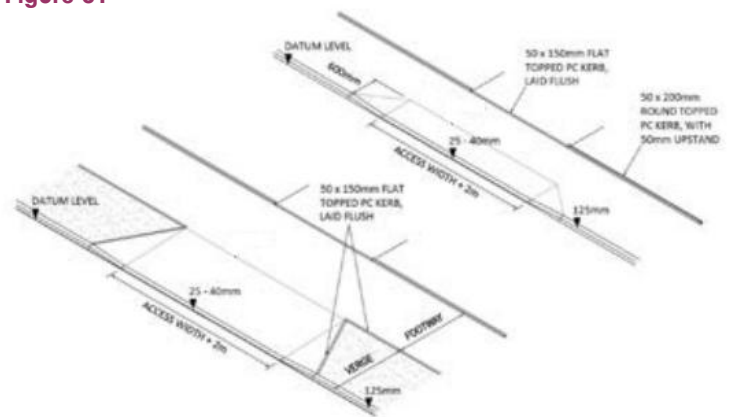
Vehicular access crossings of the footway for individual dwellings should comply with Figure 31 and be constructed to the footway specification. Maintenance difficulties preclude the use of slab footway construction for vehicle access crossings. Pre-cast concrete is more durable.



Figure 31

(b) Other Access Details

Where vehicular access, other than to individual dwellings, is taken over a footway, a crossing, as detailed in section 3.1.2 should be constructed. If the crossing is being built in isolation from other roadworks it is recommended that the specification be agreed with the Local Roads Authority. Rigid construction may be acceptable but reinforcement may be required where the use of heavy vehicles is expected.



(c) Pedestrian Access/Crossings

Reference should be made to [Designing Streets](#) : Street Structure where crossing locations are discussed.

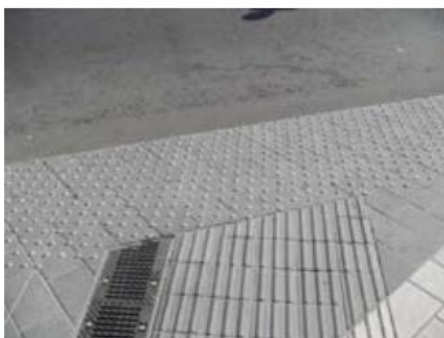
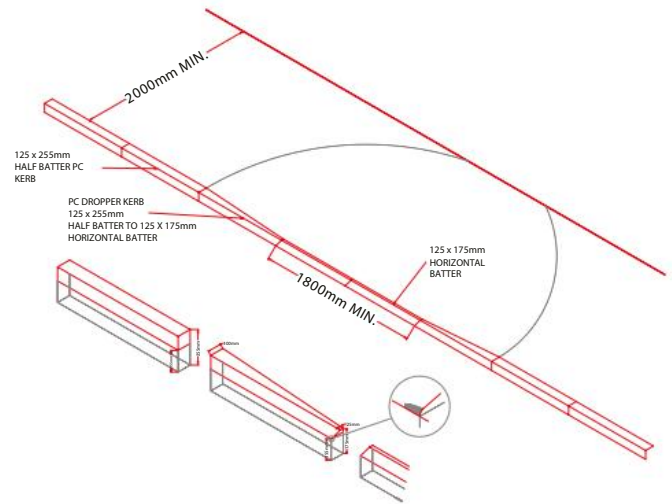
Figure 32 details the requirement for dropped kerbs where pedestrian routes cross the carriageway from adjacent footways, eg at T-junctions and pelican crossings. Pedestrian crossings of a carriageway with an adjacent grass verge should comply with Figure 31 except that the dropped kerb should be set flush, or not more than 6mm upstand, with the carriageway and extend for a minimum length of 1.8 metres.

Tactile Paving Surfaces

Reference to Department for Transport's publication **Guidance on the Use of Tactile Paving Surfaces**

should be sought for formal crossing points however this must be read with further advice from **Designing Streets** regards some layouts.

Figure 32 Dropped Kerb Detail at Designated Pedestrian Crossing



3.4.9 Road Drainage and SUDS

(a) Specification Best Management Practices

The specification for the construction of road drainage shall be the [Specification for Highway Works \(SHW\)](#). Volume 1 of the Manual of Contract Documents for Highway Works. In addition, road drainage should meet with the requirements of Scottish Water and the [Scottish Environmental Protection Agency \(SEPA\)](#).

Design

Road drainage design should be in accordance with the current edition of Sewers for Scotland as regards hydraulic design subject to the qualification that the minimum pipe diameter permitted will be 150mm and the Design Manual for Roads and Bridges as regards pipe strength and bedding for main road loading for pipes in or adjacent to carriageways. Land drainage or other appropriate measures must be taken to prevent water flowing on to the road from adjacent properties.

The road drainage must take full account of sustainable urban drainage systems and use 'Best Management Practice' structures and techniques in dealing with discharges to existing watercourses or public sewers.

Sustainable Urban Drainage Systems

Advice on the design concepts are contained in [SUDS for Roads](#), [Ciria C753 The SUDS Manual](#) and [Ciria C635](#). The final design of the drainage system must be to the satisfaction and meet the requirements of the local Roads Authority, the appropriate [Water Authority](#) and [Scottish Environmental Protection Agency \(SEPA\)](#).

(b) Gully Spacing

Table 10 details the acceptable channel distance between gullies for a road comprising carriageway with two number 2 metres wide footways, based on criteria adapted from [TRRL Report LR 277](#). (Table 10 is based on rainfall intensity of 50mm/hour and width of channel flow of 600mm). The spacing may require to be altered according to the road layout (eg at junctions) and special measures will be required where the grade is necessarily flatter than 0.8 per cent (sags, crests, etc). Advice on these matters should be sought from the Local Roads Authority who should be consulted at an early stage by an developer wishing to carry out a full drainage design. Irrespective of design spacing's, a gully should be positioned:



- (a) just upstream of the tangent point at road junctions;
- (b) short of the point where adverse camber is removed when applying super-elevation;
- (c) at any local low point;
- (d) at speed control measures, where necessary.

They should not be positioned:

- (a) at pedestrian crossing points,
- (b) at driveways;
- (c) at extended channel line of parallel lay-by parking;
- (d) at channel line at bus bays.

Table 10 Gully Spacing for Carriageways

Gradient:		Flatter than	1/150*	1/100	1/80	1/60	1/40	1/30	1/20
		1/150 (0.66%)*	0.66%	1.00%	1.25%	1.66%	2.50%	3.33%	5.00%
Cross Section	C/Way Width		Gully Spacing (metres)						
1 in 40	5.5m	20	30	35	40	45	55	60	75
(2.5%)	6.0m	20	25	30	35	40	50	60	70
Camber	7.3m	15	20	25	30	35	40	45	55
1 in 40	5.5m	10	15	17	20	22	27	30	37
(2.5%)	6.0m	10	12	15	17	20	25	30	35
Crossfall	7.3m	7	10	12	15	17	20	22	27

* Gradients flatter than 0.8% are applicable to sags and crests only

(c) Irregular Areas

For large, irregularly shaped areas the empirically derived formula of one gully for each 100 square metres of catchment may be used. Additional gullies will be required where gradients are steeper than 1/20 or flatter than 1/150 and where surface water draining from adjacent areas may be anticipated.

MORTAR BENCHING TO ALL CORNERS 1:10 SLOPE

PLAN WITHOUT GRATING

FINISHED SURFACE LEVEL

MORTAR BED 10mm - 20mm DESIGNATION (S) SHW TABLE 24/1

BRICKWORK TO SHW C124064 (SEE NOTE 5)

CONCRETE SURROUND TO BE RECTANGULAR IN PLAN FOR DEPTH OF 150mm MIN. BELOW BRICKWORK

FILL MATERIAL OR CONCRETE TO SHW C1508 - 6 (CONSENT REQUIRED FOR PLASTIC LINER)

MIX ST4 CONCRETE

GRATING & FRAME SHALL BE TO BSEN 124 SUBJECT TO A PRODUCT CERTIFICATION SCHEME AS LISTED IN APPENDIX B OF SHW

5mm - 10mm RECESS

KERB

600mm OR 750mm MIN.

450mm DIA. MINIMUM

150mm DIA.

Ø 75mm MIN.

UNTRAPPED OUTLET SHOWN IN OUTLINE. TRAPPED OUTLET AND PLUG SHOWN DOTTED

PRECAST GULLY (GULLY DETAIL NOT TO SCALE)

FINISHED SURFACE LEVEL

GRATING AND FRAME (SEE NOTE 6) SHALL BE TO BSEN 124 SUBJECT TO A PRODUCT CERTIFICATION SCHEME AS LISTED IN APPENDIX B OF SHW

5mm - 10mm RECESS

KERB

600mm or 750mm MIN.

350mm MIN.

220mm MIN.

150mm MIN. CONCRETE BASE SURROUND GRADE 70 (TABLE 17/1 SHW)

150mm MIN.

85mm MIN.

RADIUS 190mm MAXIMUM

430mm MIN. DIA. ABOVE THIS LEVEL

TAPER SECTION

400mm MIN. DIA. AT THIS LEVEL

PLASTIC GULLY POT LINER

1. THE MINIMUM DEPTH FROM THE TOP OF THE GRATING TO THE TOP OF THE GULLY OUTLET IS TO BE 750mm WHEN THE CONNECTING PIPE IS UNDER A CARRIAGEWAY OR A HARD SHOULDER AND 600mm ELSEWHERE.

2. PRECAST CONCRETE GULLIES SHALL BE TO BS 5911: PART 2.

3. WHEN AN INSITU CAST GULLY HAS A TRAP, THE STOPPERS SHALL COMPLY WITH REQUIREMENTS OF BS 5911: PART 2.

4. THE GULLY GRATING NORMALLY SHALL BE D400 OR C250 TYPE AS APPROPRIATE WITH MINIMUM FRAME DEPTH OF 100mm OR B125 FOR NON-CONTIGUOUS PARKS.

5. BRICKWORK SHALL BE FLAT BEDDED (MORTAR THICKNESS 10mm to 25mm) AND NOT TO BE TRAFFICKED UNTIL SPECIFIED STRENGTH (AS INDICATED IN THE CONTRACT DOCUMENT) IS ATTAINED.

6. THE BACK FACE OF THE GULLY POT SHALL BE IN A VERTICAL LINE WITH THE FRONT FACE OF THE KERB AND THIS WILL PRECLUDE CORBELLED BRICKWORK.

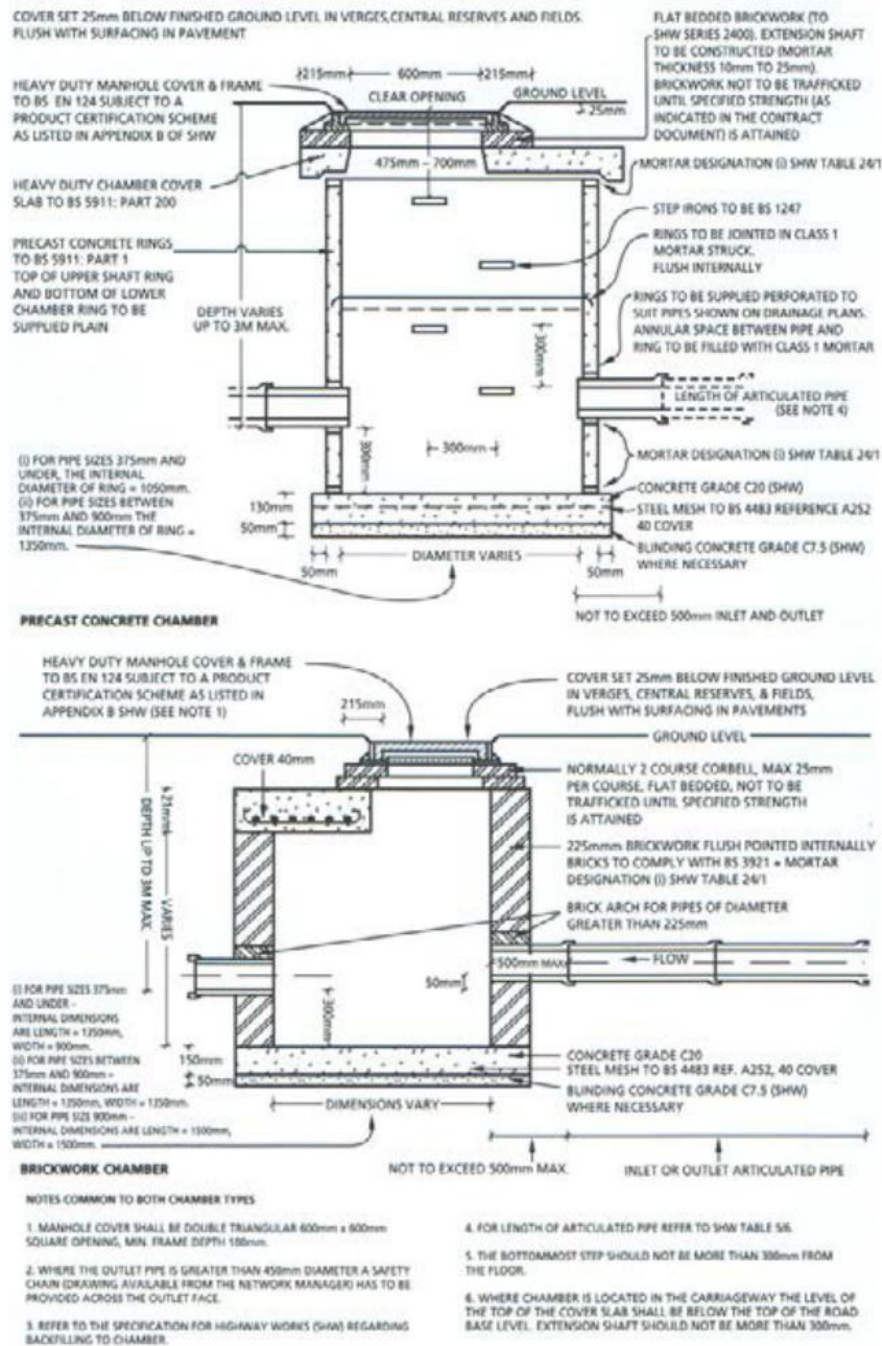
7. CORBELLING TO BRICKWORK IF NECESSARY, 25mm MAXIMUM.

8. LEVELLING BRICKWORK DEPTH SHALL BE A MULTIPLE OF 25mm.

9. WHERE INSITU CONCRETE GULLIES ARE FORMED WITH PERMANENT SHUTTERING SUCH SHUTTERING SHALL HAVE A CURRENT BRITISH BOARD OF AGREEMENT ROADS AND BRIDGES CERTIFICATE.

10. WHERE BOTH NON ROCK AND CAPTIVE HINGE GRATING REQUIRED, THEN TYPE D400 SINGLE PIECE, HINGED, NON RO WATERSHED OR SIMILAR APPROVED TYPE CAN BE USED.

Figure 34 Chamber Construction



(d) Lay-by Drainage

Lay-bys should be drained by means of gullies located on the road channel line or rear of lay-by or other sustainable means clearly demonstrated and which does not encourage flows back onto the road.

(e) Footpath Drainage

Remote footpaths should be constructed with flush edging. Only in exceptional circumstances, and where there is appropriate access for gully cleaning vehicles as agreed with the Roads Asset Manager, should direct drainage into gullies be considered.

(f) Gullies

Road gullies should be trapped and constructed in accordance with clause 508 of the Specification. Gully gratings and frames must be positioned with grating bars not parallel to the kerb to facilitate cyclists and shall be of the captive variety. They shall comply with BS EN 124 and Class D400 in all adopted and adoptable areas, (minimum nominal width 450 mm, minimum area of waterway 900 cm² and minimum depth of frame 100 mm). The use of Class B125 (minimum nominal width 325 mm, minimum area of waterway 650 cm² and minimum depth of frame 100 mm) may be permissible in non contiguous car parks at the discretion of the Roads Authority.

(g) Connections

Connections should be constructed in accordance with clause 508 of the Specification. They must be formed with junction pipes unless the Local Roads Authority has specifically approved the use of saddles.

(h) Chambers

Chambers should be constructed in accordance with Clause 507 of the Specification. Manhole covers and frames shall be non rock and comply with BS EN 124 and be Class D400 (minimum clear opening 600 mm dia or equivalent, minimum depth of frame 100 mm) except in non contiguous car parks or verges where the use of Class B125 (minimum clear opening 600 mm dia or equivalent, minimum depth of frame 100 mm) will be permissible.

(i) Outfall Connection

The connection of road drainage systems to the public sewer network should be undertaken only on the authority and to the requirements of Scottish Water. Similarly, when connecting to an existing watercourse, approval should also be sought from the Local Authority Flood Risk Management team.

3.4.10 Landscape Treatment

Refer to Roads Authority landscaping departments for agreement on maintenance requirements and definition of standard planting in association with any SUDS system - refer to [Specification for Highway Works Series 3000 - Landscape and Ecology](#) [link](#).

(a) General Issues

Materials chosen should be appropriate in appearance and performance and should be used in a consistent manner according to the function of different areas. Local materials and styles should be used, avoiding over-elaborate detailing and pastiche. Inappropriate standard details should not be imported from an area with a different landscape character.

(b) Planting

Required Permission

Any planting carried out within the road or on land adjacent to the road will require to receive written permission from the Roads Department prior to the commencement of the planting. Landscape treatments should be designed for effective long-term maintenance and the highest standards of ground preparation are required to ensure successful establishment and the ongoing health of plants.

Appropriate Species Selection

Plant material comprises trees, shrubs, ground cover, climbers, bulbs and grass. Plant selection must take into account the following points as well as the desired design objectives:



- ◊ *suitability for the site;*
- ◊ *hardiness and tolerance to pollution and road salts;*
- ◊ *commercial availability;*
- ◊ *initial and eventual size above and below ground;*
- ◊ *shape;*
- ◊ *colour and seasonal variation;*
- ◊ *growth rate;*
- ◊ *maintenance requirements;*
- ◊ *other traits such as over-searching roots, weak branches, attractiveness to aphids.*

With all “native” or “naturalised” planting, advice on suitable species, mixes, densities and soil preparation can be sought from various sources such as local Landscape Professionals and Ecologists. Many areas of Scotland have appointed Area Ecologists. Ecological societies can also be a valuable source of information.

Siting Plants

Trees should be located to allow full branch spread as trees which are too close to the kerb may grow asymmetrically due to continuing contact with tall vehicles. This can be avoided by ensuring that all tree branches do not encroach within 450 mm of the kerblines up to a height of 5.3 metres. Tree planting proposals should also take full cognisance of the road lighting layout to ensure that no inappropriate shaded areas are created.

Protection of Services

Trees and shrubs should not be located where they are likely to cause damage to adjacent pavings, buildings, or services underground: refer to [NJUG Publications](#); where necessary protection should be provided. Care must also be taken in the siting of trees to make allowance for access to buildings by emergency vehicles and fire engine turntables.

Maintaining Visibility

Trees can be located on their own, in a group, or in lines which can be parallel to the carriageway or at an angle to the carriageway. They should not obscure visibility when planted or when mature. To ensure good visibility without having to rely on frequent maintenance, the growth potential of shrubs planted in verges should be under 600 mm in height.

Soft Verges

Soft verges should be grassed (see clause 618 in [Specification for Highway Works Series 3000 - Landscape and Ecology](#)) unless an alternative form of surfacing is authorised by the Local Roads Authority. There must be a permanent demarcation of the boundary between the verge and the adjoining private property (eg by concrete edge kerbing or boundary walls).

Topsoil

Topsoil is to comply with clause 618 and appendix 6/8 - see [Specification for Highway Works Series 3000 - Landscape and Ecology](#).

Grass Seed

Unless otherwise agreed by the Local Roads Authority, grass seed should comprise the mixture listed in Appendix 6/8 of **Specification for Highway Works Series 3000 - Landscape and Ecology**. The developer will be responsible for resowing, in the following season, any area where the seeding is not successful for carrying out all requirements of clause 618 of **Specification for Highway Works Series 3000 - Landscape and Ecology** until the road is adopted.

Hard Verges

The form of any hard landscaping should be agreed with the Local Roads Authority at an early stage of the design process. Where hard verges are provided on Traffic Distributor Roads, they should be surfaced with pedestrian deterrent paving.

Statutory Undertakers' Requirements

The restrictions which can be enforced on planting by Statutory Undertakers' services have to be identified at an early stage and the appropriate selection and modifications made as necessary: **NJUG Publications**.

Root Containment

Whenever possible trees should be planted in free draining, uncontained tree pits as this creates the best environment for establishment and the ongoing health of the tree. However, it is acknowledged that in certain locations it may be necessary to restrict root growth through containing the root zone. In such cases, it is vital that the container provide an adequate volume for root growth; 3 m³ is considered acceptable. It may be noted however, that root growth is rarely symmetrical and an irregular shape of container can still provide healthy growing conditions. Typical details for growing trees with or without containment and showing the implications for tree anchorage are shown in Figures 35 and 36.

Tree Protection

In urban locations, where new trees are likely to be vulnerable to vandalism or impact from vehicles, tree guards should be employed to provide a measure of protection.

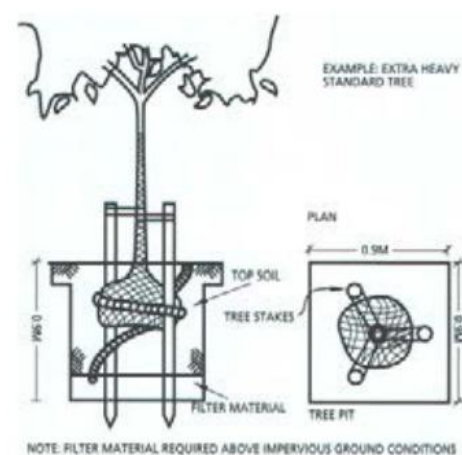


Figure 35 Tree Planting Detail Without Containment

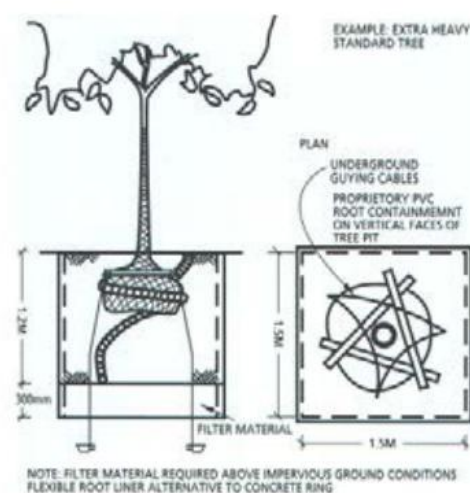


Figure 36 Tree Planting Detail With Containment

3.4.11 Lighting Design

(a) Compliance

Lighting shall generally be in accordance with the European and British Standards **BS EN 13201 Road Lighting** [↗](#) and **BS 5489 Code of Practice for the Design of Road Lighting in 2003** [↗](#).

BS 5489-1 2013 contains guidance and recommendations to support BS EN 13201 and to enable designers of road lighting schemes to comply with it.

(b) Connection to Existing Apparatus

Where the road lighting in a development is to be connected electrically to any existing Roads Authority lighting column or feeder pillar, the Local Roads Authority's representative will, on receipt of Construction Details and Visual Inspection Certificate DCC2 carry out the necessary connection or connections at the point of supply in accordance with the **Electricity at Work Regulations 1989** [↗](#), the cost to be borne by the developer. The Local Roads Authority representative will require a minimum of 5 working days notice (excluding weekends) from receipt of the Construction Details and Visual Inspection Certificate DCC2 to provide the connection facility. Alterations to existing services and equipment which the Local Roads Authority deems necessary to accommodate the development will be charged to the developer on a time and material basis. The Local Roads Authority's representative should be afforded the opportunity to witness the tests, and may disconnect the installation from the Roads Authority's supply network in the event of the test results proving unsatisfactory. Test results must be recorded on Electrical Inspection Test Certificate DCC3 and be submitted to the Local Roads Authority within 5 working days.

(c) Network Manager

Prior to any street lighting design, applications must be made to the Local Roads Authority who will advise on its requirements.

(d) Planning Consents

The developer is responsible for the procurement of listed building or other planning consents as necessary.



(e) Remedial Action

In the event of failure to meet the specified standards the developer shall effect the necessary remedial actions at his expense within four months or responsibility for operation and maintenance shall revert to him.

(f) Residential Areas

In residential areas columns should be sited with consideration to the house design and remote from the visual line of the main house windows, the preferred position being at the division of property where possible, with allowance for entrances and drives.



(g) Column Siting

Columns must not be sited at the toe of the footway, on service areas or SUDS areas.

(h) Spacing

The distance between any two lighting columns in any direction shall not be less than 15 metres.

(i) Spacing at bends

Where calculations or luminance templates require the spacing on bends to be reduced from the design spacing, the following minimum spacing shall apply:

◊ Mounting Height	8 metres
◊ Minimum Spacing	20 metres



(j) Electrical Design

Electrical Design

The electrical design shall in all respects comply with the requirements of the '17th Edition of the IEE Wiring Regulations (BS 7671)', Electricity at Work Regulations 1989 [⌋](#) and the Roads Liaison Group Well-Lit Highways [⌋](#).

Main Supply

Live services from the supply authority will only be taken into distribution pillars.

Distribution Pillars

Distribution pillars shall be sited in the side road away from major traffic routes and the junction itself, in positions where they are least likely to sustain impact or malicious damage whilst being readily accessible for maintenance purposes and to facilitate cable links to the adjacent lighting network.

Road Distribution Circuit

Road Distribution Circuits shall be 230 volt single phase primarily looped in or spurred from road lighting units. All other items of street furniture shall be spurred from a convenient road lighting unit; these spurs looping through two or more such items as appropriate. The maximum number of supply cables entering/leaving a road lighting unit shall be three. The maximum for other items of street furniture shall be two.

Earth Fault Loop Impedance

In the event of the supply earth fault loop impedance not being provided by the supply authority or obtainable by measurement the under note typical values shall be applied:

- ⦿ *TN-C-S systems* 0.35 ohms
- ⦿ *TN-S system* 0.8 ohms

For fixed equipment which can be touched by persons in contact with the general mass of the earth, including lighting columns and other illuminated street furniture, the earth fault loop impedance shall be such that disconnection under fault conditions occurs within 5.0 seconds. Earth electrodes should be installed at all salient points, ie at each feeder pillar and at the end of the circuits with three or more lighting units.

(k) Drawings

Schematic Circuit Layout

A schematic circuit layout for each feeder pillar shall be provided on all drawings giving:

- (i) *phase and number of circuit;*
- (ii) *size and type of protective device;*
- (iii) *size and type of cables;*
- (iv) *calculated values of line-earth fault loop impedances at all salient points.*

Column and Pillar Numbering

All column and distribution pillars shall be numbered to accord with schematic diagrams.

Protection

All columns and structural steelwork shall be hot dip galvanised. Further protective coatings, if required, shall meet the requirements of the Local Roads Authority.

Geometry and Compatibility

Drawings shall show such detail of contiguous lighting installations that the geometry can be fully assessed and the compatibility of the proposed system confirmed. Alterations to existing services and equipment which the Local Roads Authority deem necessary to accommodate will be charged to the Developer on a time and materials basis.

Roads and Footpath Adoption

Where relevant, roads and footpaths scheduled for adoption shall be clearly differentiated from those that are not.

As-installed Drawings

'As-installed' drawings at 1:500 must be provided prior to adoption. The drawings must also incorporate a legend and symbols as described in Appendix B. The contractor should certify that installation complies with BS 7671 before connecting to network.

3.5 Parking Considerations

3.5.1 The Application of Parking Provision

The consideration of parking provision at any development or redevelopment is an essential attribute that if undertaken correctly will enhance a project. Factors affecting parking provision such as public transport provision and walkable access to services and provisions are recognised in these parking standards.

This guidance reflects the key consideration within **Designing Streets** [🔗](#) (pages 40-43) to integrate parking and encourages a designer to use innovation that whilst making parking provision, reduces the obvious impacts of car or vehicle parks.



3.5.2 Environmental Considerations

Consideration must be given to 'parking' and its relationship to the built environment which it serves. The form and function of the parking can have a determining influence on the successfulness of the development design concept.

Underground, internal and undercroft parking is encouraged and should be considered in all developments to enhance the place making options.

The location of the development itself may have an impact on the way parking is treated. A location near to other attractors such as employment or commercial areas may lead to residential

areas being used as overflow car parks to the adjoining uses. Consideration may need to be given to some form of parking control during working hours to discourage inappropriate parking.

3.5.3 What is a Parking Space?

Car parking provision is usually expressed in terms of 'spaces' and includes car-ports and undercroft parking as well as parking courts but does not include garages under a certain internal dimension.

3.5.4 Parking Standards in Urban Areas

For main urban areas a reduction to the parking standard may be considered. Main urban areas are defined as those having frequent and extensive public transport and cycling and walking links, accessing education, healthcare, food shopping and employment.

3.5.5 Shared Use Provision

Often, especially in urban areas, parking provision can be shared with other uses. For example, many leisure activities in urban areas can rely on existing public parking as leisure peak times are often different to retail peak times.

Shared use of parking areas is highly desirable, provided this works without conflict and that car parking provision is within the standard that requires the most number of car spaces applicable. Conflict should not occur so long as the shared use developments operate at differing times of day or days of the week, or the development is considered ancillary to other activities (ie food and drink within a retail area). Shared use may result in a reduction of the number of parking spaces which a developer is required to provide. For example, a mixed use development of shops, requiring 100 spaces for daytime use and leisure requiring 120 spaces for evening use, can suffice with 120 spaces in total. Where applicable long term agreements should be confirmed as part of the application to support the required parking standards.

Proposals for shared use parking must be supported by a parking appraisal undertaken by the applicant, to a scope agreed with the Roads Authority.

3.5.6 Extensions and Change of Use

Prior to any extension or change of use, the developer must demonstrate that adequate parking provision will be provided.

3.5.7 Commercial Vehicles

Commercial vehicles are regarded as those vehicles delivering goods to or removing goods from premises. It is recognised that servicing requirements may be unique to a particular site. Commercial traffic varies with the type of enterprise within a given use class.

The onus is placed with the developer, who should analyse their development's own requirements in terms of the numbers and types of commercial vehicles visiting their premises and should

demonstrate to the Local Authority that any development proposal includes sufficient commercial vehicle provision to meet normal requirements such as provision for loading, unloading and turning. Such commercial provision should be clearly signed and marked to avoid being utilised as an overflow parking area for cars.

3.5.8 Coaches

Developments likely to generate coach traffic should provide appropriate off-street parking facilities for the stopping, setting down and picking up of passengers as well as appropriate turning facilities (avoiding the requirement for coaches to reverse in or out of a site where possible, taking into consideration pedestrian safety). The onus will be on the developer to demonstrate to the Local Authority the development has the appropriate level of provision.

3.5.9 Provision for Cycle Parking

Cycle Parking Standards should be applied by Local Authorities to all applications for new or extended development. They are expressed as minimum standards to reflect the sustainable nature of this mode of travel.

The provision of convenient secure parking and related facilities are fundamental to attracting modal shift to cycling, particularly from single occupancy motorised journeys made over shorter distances on a regular basis. It is acknowledged that cycle parking demand varies greatly between use classes and a straight ratio of car to cycle trips can not be used to define the Cycle Parking Standard. In addition to the provision of cycle parking, developers will be required to demonstrate that they have considered additional needs for cyclists, such as locker, changing and shower facilities.



Where it is not possible to provide cycle parking spaces on-site, developers will be expected to make a financial contribution towards public provision of such facilities.

For information for cycle parking please refer to the [Cycling by Design](#) or [LTN 2/08 Cycle Infrastructure Design](#).

3.5.10 Provision for Powered Two-Wheeler Parking

The use of Powered Two-Wheeled vehicles (PTW) for short regular journeys can create significant benefits, most notably in the form of reduced congestion and reduced land use for parking.

Parking standards for PTWs are represented as the minimum provision required, which reflects the advantages they have over the car and single occupancy vehicles in particular. As with cycle parking, these standards represent a basis for helping to provide sufficient PTW parking facilities.

In addition to the provision of secure parking, developers will be required to demonstrate that they have considered additional needs for PTW users, such as locker and changing facilities.

UK Government transport statistics show that the ratio between car and PTW ownership is 1:25. However, with regard to the congestion benefits that the PTW provides, a varied ratio parking standard linked to car parking spaces should be applied.


Car Spaces	PTW Spaces
For the first 0-100 spaces	1 space, plus 1 space per 20 car park spaces
Additional spaces over 100	1 per 30 car park spaces

For example a development that proposes a car park of 130 spaces should calculate their PTW requirement in the following way:

1 space provided regardless of car park size	= 1
1 space per 20 car parking spaces for first 100 spaces	= 5
1 space for the remaining 30 car parking spaces	= 1
Total	= 7

3.5.11 Provision for Disabled Parking

Disabled Persons Parking Places (Scotland) Act 2009

Under the Disability Discrimination Act 2005 as amended by the [Equalities Act 2010](#) , it is the responsibility of site occupiers to ensure that adequate provision is made for the needs of disabled people. Parking for disabled people will be required for their exclusive use at all sites.

The number of spaces required for disabled motorists varies between classes and the standard has been based on [TAL 6/02 Inclusive Mobility 2002](#) .

Car Park Used for:	Car Park Size	
	200 Bays or Less	Over 200 Bays
Employees and visitors to business premises	(Individual bays for each disabled employee plus) 2 bays or 5% of total capacity, whichever is greater	6 bays plus 2% of total capacity
Shopping, recreation and leisure	3 bays or 6% of total capacity, whichever is greater	4 bays plus 4% of total capacity
Educational Establishments (Advisory)	1 Bay or 5 % of total capacity, whichever is greater	

Note: Disabled parking provision to be included in the overall vehicle parking standard.

If it is known that there will be a disabled employee, then their space should be exclusive of the disabled parking standard required.

It should be noted that a larger number of spaces may be required by the LPA at facilities where a higher proportion of disabled users/visitors will be expected, for example medical, health and care facilities.

The provision at the above levels or any required by the LPA does not guarantee that the requirements of the [Equalities Act 2010](#) will be met, this is the responsibility of the building occupier or service provider.

3.5.12 Planning Obligations

There may be opportunities to accept a S75 developer contribution/obligation in lieu of the full parking standard in sustainable locations. For further guidance on developer contributions, refer to local authority.

3.6 Parking Design and Layout

Parking is a key element in any new development. As well as providing an appropriate level of car parking, it is important that new or extended developments incorporate good design for the layout, landscaping and lighting of parking. This should be user-friendly, and not interfere with the public road or access adjacent to the parking area.

Parking requirements for developments are provided in terms of the planning classification.



3.6.1 Pedestrians

The needs of pedestrians should be taken into account when designing the layout of parking for all modes. This includes both those who have parked and those accessing the development on foot.

Pedestrian access to the development should be considered and pedestrian desire lines identified. Pedestrian access should then be provided along these routes rather than simply relying on the vehicular access.

A tactile distinction should be made between pedestrian areas and vehicular areas, in order that people with visual impairment can distinguish between the two. The provision of raised areas, footway areas and tactile paving at all dropped kerbs should achieve this.

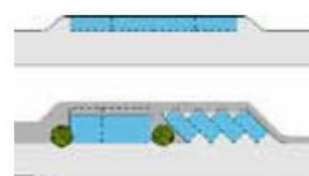
3.6.2 Vehicles

(a) Parking Bay Size

Preferred bay size for cars	5.5m x 2.9
(Parallel parking bay length)	6.0m
Desirable bay size	5.0m x 2.5m
Notes: Minimum bay size for vans	7.5m x 3.5m*
Minimum bay size for HGVs:	
Articulated	17.0m x 3.5m
Rigid	12.0 x 3.5m

* To allow for the trend of increasingly long vans (eg Mercedes-Benz Sprinter - up to 7,345mm; Fort Transit - up to 6,403mm)

Any smaller than the above minimum bay size and an occupant might be unable to get in or out of an average sized family car parked in the bay with cars parked adjacent and consequently bay sizes smaller than the minimum stated above will not be considered a usable parking space.



On-street parking Options

(b) Layout of Parking Areas

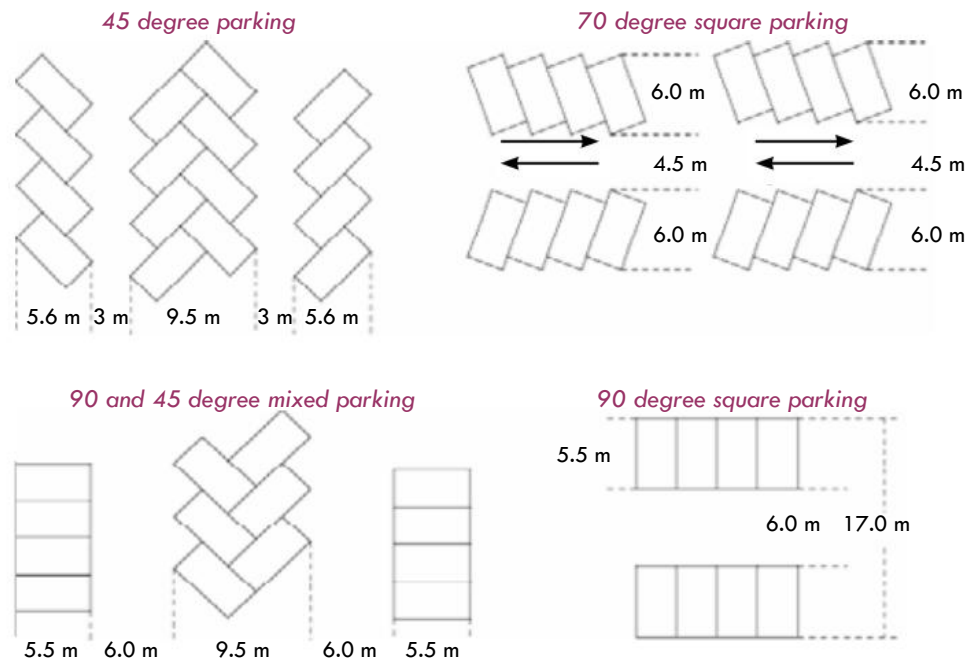
The location and overall design should encourage maximum use of the parking areas in order to minimise the risk of on-street parking problems. As well as taking into account design features such as security and landscaping, adequate bay sizes that are easy to enter and exit and clear directional markings such as exit signs, will increase the appeal of the parking area.

There are a variety of parking styles including:

Square Parking (or 90° Square Parking) Angled Parking

Parallel or 'End to End' Parking

Examples of parking arrangements are shown below:



Further guidance can be obtained from the Department for Transport. Although it should be noted that this document recommends large parking bays than DfT guidance, due to the increase in size of the modern car.

Advice regarding Commercial Vehicles can be sought via the Freight Transport Association.



Examples of parking arrangements (note: tree planting photo on right reducing bay size availability to be changed)

3.6.3 Disabled Parking Design

(a) Location of Disabled Parking Bays

Spaces for disabled people should be located adjacent to entrances, where possible, should be convenient to use and the dimension conform to the relevant regulations. At the very most disabled parking spaces should be located no more than 150 m from the site.

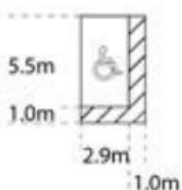
(b) Disabled Parking Bay Dimensions

Parking bays for disabled people should be designed so that drivers and passengers, either of whom may be disabled, can get in and out of the car easily and safely. Bays should be longer and wider than a standard bay. This ensures easy access from the side and the rear for those with wheelchairs, and protects disabled people from moving traffic when they cannot get in or out of their car on the footway side of a bay on the road.

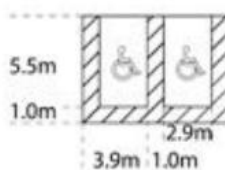
Off-street disabled parking bays should be at least 5.5 m long by 2.9 m wide with additional space as follows:

Disabled parking arrangements

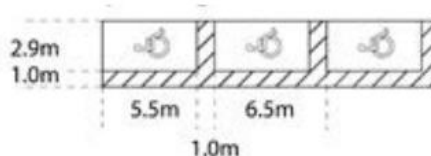
Example of bay



Square Parking



Parallel Parking



Blue Badge parking at a supermarket

Where bays are parallel to the access aisle and access is available from the side, an extra length of at least 1.0 m.

Where bays are marked perpendicularly to the access aisle, an additional width of at least 1.0m along each side. Where bays are adjacent, space can be saved by using the 1.0m 'side' area to serve the space either side.

When parallel to the access - 6.5 m by 2.9 m

When perpendicular to access - 5.5 m by 3.9 m

(c) Disabled Parking Design Consideration

Bays should be marked with lines and the International Symbol for Access with the safety zone/aisle between the bays marked with hatchings.

Dropped kerbs should be provided where necessary and pedestrian routes to and from car parks for people with disabilities should be free from steps, bollards and steep slopes. Further guidance can be sought from 'Guidance on the use of Tactile Paving Surfaces' DETR.

Further guidance can be obtained from the DfT's Traffic Advisory Leaflet 05/95 (although it should be noted that this information is somewhat out of date), the DfT's Inclusive Mobility document and from BS 8300:2009 Appendix C.

3.6.4 Residential Parking Design

When planning residential parking, consideration of the type and scale of the development should be taken into account. Safe and secure parking can be achieved where cars can be seen by owners and neighbours. Layouts must accommodate the safe passage of emergency, delivery and refuse collection vehicles.

(a) Shared Surface

Where Shared surfaces are deemed appropriate within the street structure, they can offer opportunities for parking to be integrated within the street.

Shared surface design should be appropriate for the location.



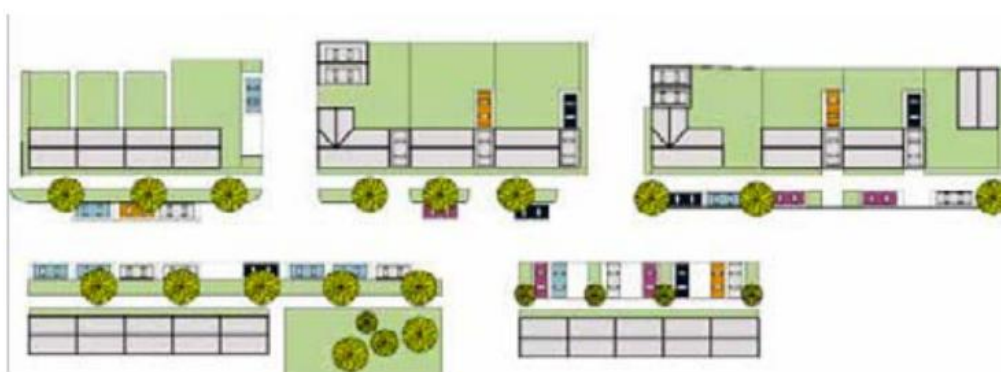
Shared surfaces can lead to indiscriminate parking, blocking of footway and the narrowing of the road which hampers access by service and emergency vehicles. Shared Surfaces should therefore only be used in appropriate circumstances, at very low densities.

(b) On-Street Parking Provision

By using careful and innovative design, streets can be made to incorporate a certain level of unallocated on-street parking in the form of parallel or angled parking bays or parking squares. However, consideration must be given to location, proximity to accesses, sight lines and manoeuvring requirements so that indiscriminate parking and the obstruction of footways and carriageways is avoided. It is also important that the requirements of emergency and other service vehicles are catered for together with the needs of the disabled.



*On-street parking options 90 degree!
Boulevard! between trees*



Bus routes within residential developments will require a minimum clear passage which must be available where on-street parking is proposed. Refer to section 3.1.3 and further street design advice is contained in the [Designing Streets](#).

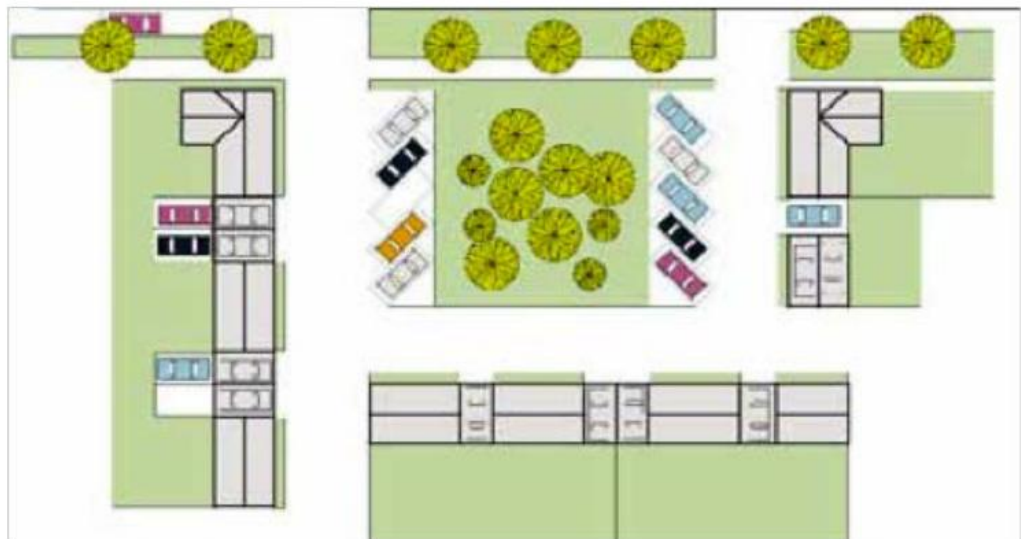
On-street parking spaces which are not allocated to particular dwellings may be considered for adoption by the Road Authority subject to appropriate design. Those which are part of

the allocated parking provision of individual dwellings will not be adopted and therefore the developer must make arrangements for their future management and maintenance.

(c) Parking Squares

These are pedestrian/vehicle shared surfaces, often consisting of a junction of routes. A parking square should be directly fronted by buildings.

Car parking can be provided in those areas which are not occupied by the carriageway or footway. Parking requirements of the frontage dwellings can be accommodated within the square, with the remaining requirement between or behind the dwellings. Clear demarcation between private and public parking is required.



Parking adjacent to landscaped square

Alternative layout includes 90 degree parking

(d) Parking Courts

Parking courts need to be designed carefully and be overlooked with direct access to/from the surrounding dwellings and have adequate lighting. Boundary fencing should be designed to allow observation from dwellings over the parking spaces.

They must be high-quality in design terms and have a sense of place and feel secure, to encourage ownership.

They should not be located in inaccessible areas at the extremity of the development.

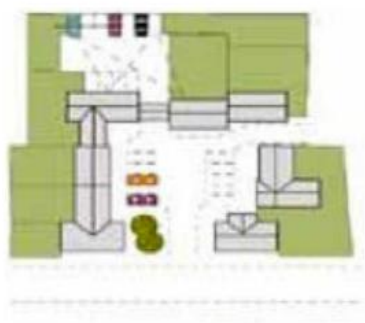
Rear parking courts should ideally serve only those properties adjoining the court.

Part 3

ROADS DEVELOPMENT GUIDE

Overlooked rear spaces

*Small courtyard
generously landscaped
using appropriate
planting and quality
materials*



*On plot parking and
small parking courts*

Small parking courts



*Access to properties from
rear parking court*



Overlooked rear parking court

(e) In-Curtilage

Where housing densities are lower, space for car parking can be, in conjunction with careful positioning of the house provided “on plot”, within the curtilage of the dwelling, such that car parking is less obvious, this can be in the form of a garage, car port, parking bay or private drive.

No surface water or loose material will be discharged onto the public road from within a curtilage.

Sufficient unimpeded access aisle space to vehicles giving due regard to disabled uses must be provided.

(f) Garage Provision and Size

It is recognised that despite being an important design feature of residential developments, garages are being used for other purposes, such as general and cycle storage. It is acknowledged that storage space is important, particularly as many properties do not have much storage space within the dwelling itself. It is also known that cars are getting bigger.



A garage can be counted towards a parking space allocation. However, any change of use will result in less availability of parking and increased pressure to on-street parking. For this reason:

- ◉ Minimum Garage size for Cars 7.0 m x 3.0 m (internal dimension)
- ◉ Associated minimum clear door access dimensions 2.1m wide x 1.98m height

Garages of the above dimension and over will be considered a parking space as they are large enough to accommodate the average sized family car and cycles, as well as some storage space. To encourage garage use, functionality is equally important therefore reasonable access and egress from a car within a garage is essential. Additionally, provision for electric vehicle charging facilities should be provided with a garage space.

(g) Mixed Use Streets

In certain areas residential development will form part of a wider mixed use development where other uses (retail/business) will dominate at ground floor level.

(h) Underground, Underdeck and Undercroft Parking

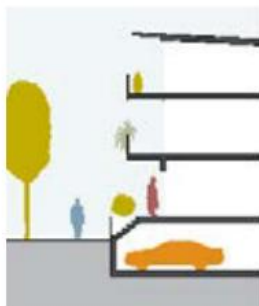
For developments of higher dwelling density, it is unlikely that sufficient space for car parking can be provided by in-curtilage and garage provision (without a detrimental effect on the quality of the development).



Underground, underdeck or undercroft parking should be provided wherever possible.



Underground parking with communal space above



Partial underground parking with raised floor



Single aspect ground floor uses with rear Underdeck access



Underground parking using ground slope



Locating car parking either under buildings, above or below ground level, can significantly improve the quality of a development. Planning Authorities will need to ensure that underground underdeck and undercrofts parking are safe, secure and retained for parking.

(i) Tandem Parking

Tandem Parking should be discouraged where possible especially in parking courts, as studies have shown that their use for parking is reduced, often used instead for bin storage, and that their provision encourages on-street parking.

(i) Set Backs

Construction of garages or gates adjacent to the road using a previous standard 1.5m setback have led to widespread abuse by residents who use this area plus the adjacent footway/ cycleway/verge to park vehicles perpendicular to the main carriageway. This creates an obstruction of the footway/cycleway and whilst this is an enforcement issue in existing situations, it is appropriate to amend the standard so that this does not occur as frequently in future.

In order to reduce occurrences in future, the following standard should be adopted. Where garages/gates (all gates to open inwards) are placed directly adjacent to the road the setback should be either:

- (1) *no more than 0.5 m to allow for the opening of the garage door and with the adjacent distance between edge of road and edge of carriageway being no more than 2 m. This gives a maximum distance between garage/gate and running carriageway of 2.5 m, thus discouraging inappropriate parking;*
- (2) *greater than 6 m from the edge of the road to allow for parking in front of the garage/ gates. In these circumstances there no need to restrict the width of the adjacent footway/ cycleway/verge as there is less likelihood of abuse.*

Good Practice Examples

Top left: Setback in excess of 1.5m, yet with parking restrictions to prevent obstruction.

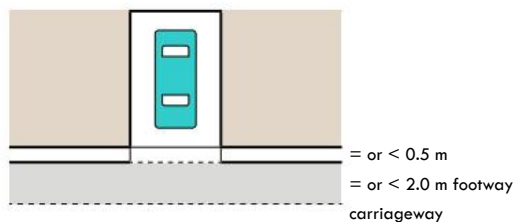
Top right: Parking space clear of footway, in line with vegetation.

Bottom left: Reduced setback but demarcated to show footway limit and allow room for garage door to open.

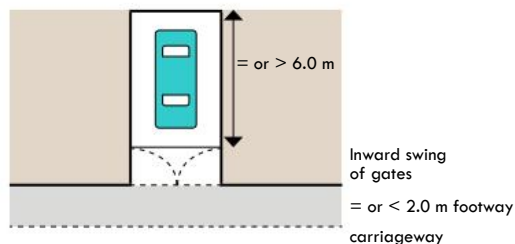
Bottom right: Setback in excess of 1.5m, yet parking can occur between dwelling and landscaping (trees), causing no obstruction to footway/carriageway



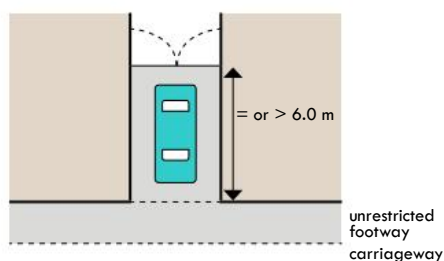
(1a) Up and over garage door



(1b) Gates



(2) Driveway



(k) Retirement/Warden Controlled Developments

Many residents are car owners and parking should be provided for each unit unless there is the evidence base to support a reduction in the standard. Additionally, parking provision should be made for visitors who support the residents of such developments, carers, health visitors, etc.

Consideration should be given to safe storage and charging point locations for mobility scooters when designing Retirement/Warden Controlled Developments.

3.6.5 Powered Two-Wheeler Parking Design

(For general advice on design for M/C, refer to [Guidelines for Motorcycling](#) )

In terms of convenience, flexibility and security PTW's have the same characteristics as cycles. Consequently the behaviour and requirements of the powered two wheeler rider often follow that of the cyclist.

Powered two wheeler parking should be clearly signposted from the road and signed in situ, indicating that it is reserved for powered two wheelers only. Sites should have anchor points, quality level surfacing, CCTV and/or natural surveillance, be located away from drain gratings and protected from the elements as well as having good lighting. For long stay parking, such as workplaces, lockers to allow storage of clothing and equipment and changing facilities should be provided. PTW parking can be vulnerable locations, particularly long stay parking. Ideally there should only be access for PTW's, not vehicles, which can be done by using a causeway or pinch point. The parking area should be in a wide open location, not in an isolated, secluded place.



Note: cobbles are not appropriate surface treatment for PTW parking

Motorcycle parking bays are generally not marked out for individual machines, allowing flexible and efficient use of limited space by machines of different sizes. Consideration should also be given to height clearance, with many bikes measuring upwards of 1.5 m not including the rider.

- ❖ Preferred bay size for a PTW 2.5 m x 1.5 m
- ❖ Absolute minimum bay size 2 m x 0.8 m
- ❖ With a minimum space of 1 m between each bike.

Provision should be made in which to secure PTWs. There are 2 basic types of anchor points to which motorcycles can be secured to reduce the risk of theft:

- ❖ **Ground Level** - An anchor point below the surface, with a loop allowing the user's own lock to be passed through. Anchor points require regular maintenance and can be dirty to use.

- 📍 **Raised** - A horizontal bar is provided at a height of approximately 400-600 mm and requires the user to use their own lock. The continuous rail allows for efficient use by machines of varying style and size, is well understood by users and is compatible with most types of shackling devices.

Further information can be sought from the [DfT's Traffic Advisory Leaflet 2/02](#).

3.6.6 Cycle Parking Design

Key considerations regards cycle parking is referred to in [Designing Streets](#) (page 40). Providing well-located, safe and secure cycle parking is a key factor in encouraging people to cycle as an alternative to using the private car. Further guidance can be found in [Cycling by Design](#) and [LTN 2/08 Cycle Infrastructure Design](#).

All cycle parking must be overlooked, sheltered from strong winds and be Well Lit.



Long stay cycle parking, for example for employees, should include secure, covered cycle storage situated close to the building but preferably out of sight to the general public (possibly to the rear of the building), to reduce the chance of theft or tampering. Facilities should be present such as showers, changing rooms and lockers.

Short-term cycle parking, for example, for shoppers or visitors should be secure and ideally covered and situated as close to the main entrance as possible. The location should be highly visible to people, thus reducing the chance of theft or tampering.



Normally Sheffield stands should be provided. Stands that grip only the front wheel do not provide adequate support or security. When placed 1 m apart and 0.5 m from the wall, Sheffield stands can accommodate two cycles. Where more than two stands are required, you may need to provide a 'toast rack' facility.

Where children are likely to attend (schools, leisure facilities etc) an extra horizontal bar at 650 mm above ground level or a reduced sized stand to support the smaller frame of a child's cycle should be considered.

More detailed information can be found in the Scottish Government's publication [Cycling by Design](#) . [Sustrans](#) , the UK's national cycling organisation can also provide detailed design information.

Care should be taken to ensure that the cycle parking (when in use) does not cause an obstruction to pedestrian flow.

3.7 Parking Standards for Use Classes

Class 1: Shops

Retail sale of goods, hairdresser, undertaker, travel and ticket agency, post office. Dry cleaner, laundrette, cold food consumption on premises. Display of goods for sale, hiring out of domestic goods or articles, reception of goods to be washed.

Type of Development	Vehicle Maximum (spaces per 100 m ² gross floor area, GFA)	Cycle Minimum	PTW Minimum	Disabled Minimum
Shops City Centre Other centres	2 spaces 3 spaces	1 space per 400 sqm for staff and 1 space per 400 sqm for customers	1 space + 1 per 20 car spaces (for first 100 car spaces), then 1 space per 30 car spaces (over 100 car spaces)	200 bays or less = 3 bays or 6% of total capacity, whichever is greater Over 200 bays = 4 bays plus 4% of total capacity
Food Superstore 0-500 m ² GFA 500-2,000 m ² GFA 2,000-8,000 m ² GFA >8,000 m ² GFA	5 spaces 6.5 spaces 7 spaces 6 spaces			

Use	Vehicle Maximum (spaces per 100 m ² gross floor area, GFA)	Cycle Minimum	PTW Minimum	Disabled Minimum
Shopping Centre				
0-500 m ² GFA	4 spaces			
500-2,000 m ² GFA	5 spaces			
2,000-8,000 m ² GFA	6 spaces			
>8,000 m ² GFA	5 spaces			
Retail Park				
2,000-8,000 m ² GFA	2 spaces			
>8,000 m ² GFA	2.2 spaces			
DIY Superstore				
2,000-8,000 m ² GFA	2 spaces			
>8,000 m ² GFA	2.2 spaces			

Informative Notes

Parking standards for large, stand-alone developments, such as large department stores and shopping centres will be considered on a case by case basis and should be agreed with the relevant Local Planning and Road Authorities.

In all cases adequate provision should be made for the parking and turning of service vehicles, serving the site, off the road.

A lower provision may be appropriate in town centre locations where there is good access to alternative forms of transport and existing car parking facilities.

Class 2: Financial, Professional and Other Services

Financial, professional or any other service expected in shopping areas, eg betting office, lawyers, accountants, estate agents, health centres, surgeries of dentists, doctors and vets (where the principal visitors are members of the public).

Type of Development	Vehicle Maximum (spaces per 100 m ² gross floor area, GFA)	Cycle Minimum	PTW Minimum	Disabled Minimum
A2	1 space per 20 sqm	1 space per 100 sqm for staff + 1 space per 200 sqm for customers	1 space + 1 per 20 car spaces (for first 100 car spaces), then 1 space per 30 car spaces (over 100 car spaces)	200 bays or less = 2 bays or 5% of total capacity, whichever is greater Over 200 bays = 6 bays plus 2% of total capacity

Informative Notes

A lower provision may be appropriate in town centre locations where there is good access to alternative forms of transport and existing car parking facilities. In all cases adequate provision shall be made for the parking and turning of service vehicles serving the site, off the highway.

Class 3: Food and Drink

Restaurant, café, snack bar (use for sale of food or drink on the premises).

Type of Development	Vehicle Maximum (spaces per 100 m ² gross floor area, GFA)	Cycle Minimum	PTW Minimum	Disabled Minimum
A3 (excluding Transport Cafés)	1 Space per 5 sqm	1 Space per 100 sqm for staff + 1 space per 1 sqm for customers	1 Space + 1 per 20 car spaces (for first 100 car spaces), then 1 space per 30 car spaces (over 100 car spaces)	200 bays or less = 3 bays or 6% of total capacity, whichever is greater Over 200 bays = 4 bays plus 4 % of total capacity
A3 (Transport Cafés)	1 lorry space per 2 sqm	1 space per 200 sqm for staff + 1 space per 200 sqm for customers		

Informative Notes

A lower provision of vehicle parking may be appropriate in town centre locations where there is good access to alternative forms of transport and existing car parking facilities.

In all cases adequate provision shall be made for the parking and turning of service vehicles serving the site, off the road.

Class 4: Business

Offices (other than that specified under Class 2), research and development of products or processes, light industry.

Type of Development	Vehicle Maximum (spaces per 100 m ² gross floor area, GFA)	Cycle Minimum	PTW Minimum	Disabled Minimum
B1	1 space per 30 sqm	1 space per 100 sqm for staff + 1 space per 200 sqm for visitors	1 space + 1 per 20 car spaces (for first 100 car spaces), then 1 space per 30 car spaces (over 100 car spaces)	200 bays or less = 2 bays or 5% of total capacity, whichever is greater Over 200 bays = 6 bays plus 2% of total capacity

Informative Notes

A lower provision of vehicle parking may be appropriate in town centre locations where there is good access to alternative forms of transport and existing car parking facilities.

In all cases adequate provision shall be made for the parking and turning of service vehicles serving the site, off the road. Consideration should also be given to the requirement for any overnight parking and facilities.

Class 5: General Industrial

General industrial (use for the carrying out of an industrial process other than one falling within the Class 4 (Business) definition).

Type of Development	Vehicle Maximum (spaces per 100 m ² gross floor area, GFA)	Cycle Minimum	PTW Minimum	Disabled Minimum
B2	1 space per 50 sqm	1 space per 250 sqm for staff + 1 space per 500 sqm for visitors	1 space + 1 per 20 car spaces (for first 100 car spaces), then 1 space per 30 car spaces (over 100 car spaces)	200 bays or less = 2 bays or 5% of total capacity, whichever is greater Over 200 bays = 6 bays plus 2% of total capacity

Informative Notes

A lower provision of vehicle parking may be appropriate in town centre locations where there is good access to alternative forms of transport and existing car parking facilities.

In all cases adequate provision shall be made for the parking and turning of service vehicles serving the site, off the road. Consideration should also be given to the requirement for any overnight parking and facilities.

If a site office is included in the development then a B1 parking standard should be applied for that area.

Class 6: Storage or Distribution

Storage or distribution.

Type of Development	Vehicle Maximum (spaces per 100 m ² gross floor area, GFA)	Cycle Minimum	PTW Minimum	Disabled Minimum
	1 space per 150 sqm	1 space per 500 sqm for staff + 1 space per 1,000 sqm for visitors	1 space + 1 per 20 car spaces (for first 100 car spaces), then 1 space per 30 car spaces (over 100 car spaces)	200 bays or less = 2 bays or 5% of total capacity, whichever is greater Over 200 bays = 6 bays plus 2% of total capacity
Lorry Parking				
Factories and Warehouses	1.1 spaces			
Warehousing (non-sales)	0.5 spaces			
Business Park	2 spaces			
Science Park	2 spaces			

Informative Notes

A lower provision of vehicle parking may be appropriate in town centre locations where there is good access to alternative forms of transport and existing car parking facilities.

In all cases adequate provision shall be made for the parking and turning of service vehicles serving the site, off the road. Consideration should also be given to the requirement for any overnight parking and facilities.

It is acknowledged that there is an increasing trend for B8 developments with a retail element where there is the option for customers to visit a counter at the premises and make purchases, for developments such as this, additional customer parking should be allocated, equivalent to the A1 standard for the floor space that has public access.

If a site office is included in the development then a B1 parking standard should be applied for that area.

Class 7: Hotels and Hostels

Hotel, boarding and guest house, hostel.

Type of Development	Vehicle Maximum (spaces per 100 m ² gross floor area, GFA)	Cycle Minimum	PTW Minimum	Disabled Minimum
Hotel and B&B	1 space per 2.5 bed spaces	1 space per 5 staff for staff + 1 space per 10 bedrooms	1 space + 1 per 20 car spaces (for first 100 car spaces), then 1 space per 30 car spaces (over 100 car spaces)	200 bays or less = 3 bays or 6% of total capacity, whichever is greater Over 200 bays = 4 bays plus 4% of total capacity
Hostel	1 space per 4 staff plus customer parking on individual merits	1 space + 1 per 20 car spaces (for first 100 car spaces), then 1 space per 30 car spaces over 100 car spaces)	1 space per 40 sqm	

Informative Notes

A lower provision may be appropriate in town centre locations where there is good access to alternative forms of transport and existing car park facilities. The modern day hotel is seldom used solely as a hotel and often offers multifunctional amenities such as conference facilities, restaurants and gyms. These multifunctional uses must be considered per individual class use and adequate parking allocated to encompass all uses when considering the potential for cross- visitation.

Class 8: Residential Institutions

Residential school, college, training centre, residential accommodation with care, hospital, nursing home.

Type of Development	Vehicle Maximum (spaces per 100 m ² gross floor area, GFA)	Cycle Minimum	PTW Minimum	Disabled Minimum
Residential Care Home	1 space per staff member + 1 visitor space per 3 beds	1 space per 5 staff	1 space + 1 per 20 car spaces (for 1st 100 car spaces), then 1 space per 30 car spaces (over 100 car spaces)	Dependant on actual development, on individual merit, although expected to be significantly higher than business or recreational development requirements
Hospital	1 space per 3 beds + 1 space per doctor/surgeon + 1 space per 3 other staff	1 space per 4 staff Visitors - to be considered on a case by case basis		1 bay or 5% of total capacity, whichever is greater
Treatment Centres (eg ISTC (Independent Sector Treatment Centre) with overnight facilities)	4 spaces per consulting room + 1 space per practitioner + 1 space per 3 other staff	1 space per 4 staff Visitors to be considered on a case by case basis		
Education Establishments - Primary/Secondary	1 space per staff member + provision for buses where required	1 space per 5 staff + 1 space per 3 students		
Residential Education Establishments - Further/Higher	1 space per staff member + 1 space per 10 students	1 space per 5 staff + 1 space per students		

Informative Notes

Parking Standards for retirement developments that are warden assisted yet provide independent living should fall under Class C3.

Hospital Parking: With regard to parking, it should be acknowledged that particular needs of hospitals arising from their 24 hour service (which impacts on accessibility for patients and visitors and on staff working patterns) should be taken into account and parking provision provided accordingly.

The impact of parking on the surrounding area should be considered and if necessary provide appropriate

traffic management measures (eg resident parking scheme) to prevent illicit parking on neighbouring streets by people travelling to the hospital site. Travel plans for staff, patients and visitors play an important role in traffic reduction and especially encourage modal shift for staff.

Class 9: Houses

House occupied by a single person, or a number living together as a family, or as a household of 5 persons or less. Limited use as a bed and breakfast or guest house.

Trip Origin

Dwellings are predominantly travel origins as opposed to destinations. Previously parking standards have attempted to reduce car use by restricting parking spaces at origin and destinations. It is now recognised that providing a reduced number of parking spaces at a travel origin does not discourage people from owning a car. Therefore parking standards for origins should be used as a minimum standard. For travel destinations the standard will continue to be a maximum.

Standard

Flats and Houses are to be treated the same, with parking standards decided by the number of bedrooms the dwelling has.

Type of Development	Appropriate Provision (spaces per 100 m ² gross floor area, GFA)	Cycle Minimum	PTW Minimum	Disabled Minimum
1 Bedroom	1 space per dwelling	1 secure covered space per dwelling. None if garage or secure area is provided within cartilage of dwelling.	N/A	N/A if parking is in cartilage of dwelling, otherwise as Visitor/ Unallocated
2-3 Bedroom	2 spaces per dwelling*			
4 Bedroom	3 spaces per dwelling			
Retirement Developments (eg warden assisted independent living accommodation)	1 space per dwelling	1 space per 8 units (visitors)	1 space + 1 per 20 car spaces (for 1st 100 car spaces), then 1 space per 30 car spaces (over 100 car spaces)	N/A if parking is in cartilage of dwelling, otherwise as Visitor/ Unallocated

Type of Development	Appropriate Provision (spaces per 100 m ² gross floor area, GFA)	Cycle Minimum	PTW Minimum	Disabled Minimum
Private Sheltered Housing and Housing Associations	0.2-0.5 spaces per dwelling + 0.3 spaces visitor parking per dwelling + 1 space per warden			
Amenity Housing	0.5 spaces per dwelling + 0.3 spaces visitor parking per dwelling			
Local Authority Sheltered Housing	0.25 spaces per dwelling + 1 space per warden			
Visitor/ Unallocated	0.25 spaces per dwelling (unallocated)	If no garage or secure area is provided within cartilage of dwelling then 1 covered and secure space per dwelling in a communal area for residents plus 1 space per 8 dwellings for visitors	1 space +1 per 20 car spaces (for 1st 100 car spaces), then 1 space per 30 car spaces (over 100 car spaces)	200 bays or less = 3 bays or 6% of total capacity, whichever is greater Over 200 bays = 4 bays plus 4% of total capacity

* Excluding garage if less than 7 m x 3 m internal dimension

Informative Notes

Standards excluded garages under 7 m x 3 m (internal dimension) as a parking space but can include undercroft parking and car ports providing they have no other use.

Visitor/unallocated vehicle parking can, subject to appropriate design, be located on or near the road frontage.

Unallocated cycle parking for residents to be secure and covered, located in easily accessible locations throughout the development.

Reductions of the standard may be considered if there is development within an urban area that has good links to sustainable transport.

Class 10: Non-Residential Institutions

Crèche, day nursery, day centre, provision, provision of education, museum, exhibition hall, public library, display of art, public worship, religious instruction, social activities of a religious body.

Type of Development	Vehicle Maximum (spaces per 100 m ² gross floor area, GFA)	Cycle Minimum	PTW Minimum	Disabled Minimum
Crèche, Child Care	1 space per full-time equivalent staff + drop off/pick-up facilities	1 space per 4 staff + 1 space per 10 child places	1 space + 1 per 20 car spaces (for first 100 car spaces), then 1 space per 30 car spaces (over 100 car spaces)	1 bay or 5% or total capacity, whichever is greater
Day Care Centre	1 space per full-time equivalent staff + drop off/pick-up facilities	1 space per 4 staff		1 bay or 5% or total capacity, whichever is greater
Community Centres	5.0- 20.0 m ² GFA			
Education - Primary/Secondary	1 space per 15 pupils	1 space per 5 staff + 1 space per 3 pupils	1 space + 1 per 20 car spaces (for first 100 car spaces) then 1 space per 30 car spaces (over 100 car spaces)	1 bay or 5% of total capacity, whichever is greater
Education - Further/Higher	1 space per 2 staff + 1 space per 15 students for student parking	1 space per 5 staff + 1 space per 3 students		
Art Galleries, Museums, Public/Exhibition Hall	1 space per 30 sqm ² public display space + 1 space per 2 staff	10 spaces + 1 space per 10 vehicle space		
Places of Worship	1 space per 10 seats	1 space per 4 staff + visitor parking (individual merits)		200 bays or less = 3 bays or 6% of total capacity whichever is greater Over 200 Bays = 4 bays plus 4% of total capacity
Libraries	3 spaces + 1 space per 3 staff			
Crematoria	1 space per seat			

Informative Notes

A lower provision may be appropriate for educational establishments in an urban location where there is good access to alternative forms of transport to allow sustainable travel.

The relationship between a school and the residential area is important and falls within the operational requirements of the school. Schools should represent the heart of the community and community facilities should be considered within the school site.

Special Schools parking/drop-off arrangements must be taken into consideration as generally extra staff are required and most pupils/students arrive by taxi or car. Coach parking and facilities must be considered for all D1 uses.

Class 11: Assembly and Leisure

Cinema, concert hall, bingo hall, casino, dance hall, discotheque, skating rink, swimming bath, gymnasium or for indoor sports or recreation not involving motorised vehicles or firearms.

Type of Development	Vehicle Maximum (spaces per 100 m ² gross floor area, GFA)	Cycle Minimum	PTW Minimum	Disabled Minimum
Cinema/Bingo Halls	1 space per 10 seats	10 spaces + 1 space per 10 vehicle space	1 space + 1 per 20 car spaces (for first 100 car spaces), then 1 space per 30 car spaces (over 100 car spaces)	200 bays or less = 3 bays or 6% or total capacity, whichever is greater Over 200 bays = 4 bays plus 4% of total capacity
Theatres/Concert Halls	1 space per 5 seats			
Team Sports (outdoor sports pitches)	20 Spaces	10 spaces plus		
Sports Centres <i>Swimming Pools</i>	10 spaces per 100 sqm ² of pool area	10 spaces + 1 space per 10 vehicle space		
<i>Snooker Halls/ Other Facilities</i>	1 space per table			
Golf Clubs	3 spaces per hole	Individual merit		
Other Sports Facilities	Individual merit	Individual merit		
Dance Halls/ Discotheques	10 spaces + 1 space per 3 staff + 3 spaces for performers			

Informative Notes

Coach parking and facilities must be considered for all uses.

Other: Sui Generis

Type of Development	Vehicle Maximum (spaces per 100 m ² gross floor area, GFA)	Cycle Minimum	PTW Minimum	Disabled Minimum
Garden Centres <i>(see informative notes)</i> 0-2,000 m ² GFA 2,000-5,000 m ² GFA >5,000 m ² GFA	1 space per full-time staff equivalent 5.5 5.0 4.0	1 space + 1 per 20 car spaces (for first 100 car spaces), then 1 space per 30 car spaces	200 bays or less = 3 bays or 6% of total capacity, whichever is greater. Over 200 bays = 4 bays plus 4% of total capacity 200 bays or less = 3 bays or 6% of total capacity whichever is greater Over 200 bays = 4 bays plus 4% of total capacity	
Student Flats	1 space per 7 students + 1 space per 3 staff + 1 space per wardem			

Type of Development	Vehicle Maximum (spaces per 100 m ² gross floor area, GFA)	Cycle Minimum	PTW Minimum	Disabled Minimum
Motor Trade				
Vehicle display area	2 spaces			
Spares department	4 spaces			
Servicing/ bodywork	4 per service bay			
Tyre and exhaust centre	2 per service bay			
Car wash	5 queuing spaces			
Scrapyards	2 spaces			
Staff	1 space per 2 staff			
Public Houses	10 spaces			

Informative Notes

Coach parking and facilities must be considered for all uses.

Multifunctional uses must be considered per individual class use and adequate parking allocated to encompass all uses, when assessing the parking requirements of a development, taking into account cross-visitation.

A lower provision of vehicle parking may be appropriate in urban locations where there is good access to alternative forms of transport and existing car parking facilities.

3.8 Structures Technical Approval

Structures Technical Approval Requirements

From clauses 2.8.2 and 2.8.3 of the COP:

“All structural design and assessment should be subject to a formal Technical Approval procedure such as those used by the Highways Agency [BD 2; Technical Approval of Highway Structures, 43] or Network Rail [GC/RT5J OJ Technical Approval Requirements for Changes to the Infrastructure, 44]”

The Local Authorities are the Technical Approval Authority (TAA) for all road structures and pedestrian footbridges that are owned by each Council (independent of maintenance responsibility).

Whilst the scope of **BD 02/12 (available June 2014)** [↗](#) and **HD 22/08** [↗](#) fully apply, Structures requiring technical approval are summarised below:

- All road retaining structures greater than 1.5 m in height require technical approval in accordance with **BD 02/12 (available June 2014)** [↗](#).
- All culverts and bridges greater than 2 m in span, or greater than 0.9 m in diameter for corrugated steel pipes require technical approval in accordance with **BD 02/12 (available June 2014)** [↗](#).
- Any geotechnical works (ie embankments) “which may pose a risk to the general public, the Overseeing Organisation and/or the Overseeing Organisations’s asset” require Technical Approval in accordance with **HD 22/08** [↗](#).

It is highly recommended that early involvement with the Local Authority Structures team is established for all schemes involving the above.



3.9 SUDS Schedule

The following Sustainable Urban Drainage System details (only forming a part of the road drainage system) are required to be submitted as part of the Road Construction Consent/Technical Approval to clearly convey the standards and responsibilities identified between Local Authorities/Scottish Water.

1. Site layout plan.
2. Type of SUDS - justification for SUDS selected.
3. Marked plan clearly showing responsibility for any particular part of the system - SW/LA/Another (if appropriate) along with construction details.
4. A maintenance schedule should be produced for each scheme, detailing what, when and how.
5. Agreed discharge rates to be incorporated into design details. Details of where discharging to, ie Sewer or watercourse should be clearly stated.
6. Planting details (where appropriate).

7. Whole life costs including decommissioning plan.
8. Where SUDS are within a private curtilage clear evidence of householders responsibilities to maintain. Scottish Water and LA to agree appropriate action should consequential overspill or polluting of associated SUDS takes place.
9. When sacrificial SUDS are to be used during construction, full detail including decommissioning plan to be provided.
10. Independent design certificate (similar to structures) to be provided for the overall drainage Design including SUDS.
11. Confirmation that all required parallel approvals have been obtained, ie SW/SEPA/SNH etc*
12. Consultant certification - written confirmation that consultant can design SUDS**
13. Identify appropriate Professional Indemnity for the above.
14. Adoption of road, including SUDS must coincide with Scottish Water vesting the associated sewer network.*
15. Depending on type of SUDS, eg membrane lined soakaways etc, the road will need to be entered into symology as of '*engineering difficulty*'.
16. SUDS Schedule Points to be included in RCC/Technical Approval.
17. Construction detail including design calculations - who installed/when installed (these details to form part of a maintenance schedule).
18. Maintenance schedule to include methodology for disposal of SUDS waste, eg silt from ponds, contaminates grass and plant cuttings (arisings).
19. CCTV survey of systems (where appropriate).
20. Health & Safety Plan/inclusion in CDM Safety file.
21. Contractor certification - written confirmation that contractor can deliver SUDS?***
22. Defects period - a minimum of 24 months will be required to ensure the SUDS system has been established. A reasonable portion of the road bond may be retained in accordance with Regulation 15.
23. Specification
Measures to be used to independently test the suds system performance before adoption is required this should include the following:

◉ sewer pipes shall be tested in accordance with **Sewers for Scotland Third Edition** ;

- ◉ road drainage pipes shall be air or water tested to **BS EN 1610**  and where velocities are less than 1 m/s a Mandrel Test may be required where appropriate;
- ◉ infiltration systems shall be tested in accordance with Appendix B of **SUDS Manual, CIRIA no C753**  to determine suitability. Thereafter a test load will be applied and timed to ensure the design infiltration rate is being achieved;
- ◉ ponds and basin will require the following tests:
 - ▢ fill pond to test overflow facility operates correctly;
 - ▢ control device tested against design head to verify agreed greenfield runoff rate being achieved (flow measurement device may be required);
 - ▢ fill pond to undertake drop test to ensure no leakage; and
 - ▢ fill pond to test required storage capacity has been provided.

This may be achieved by extending the testing period to allow for the pond and basin to be filled naturally by rainfall.

References made to a suite of SCOTS/Scottish Water drawings (click on image opposite) at this stage shows potential splits in maintenance responsibilities. This work in relation to Section 7 Agreement is ongoing.

Appendices

ROADS DEVELOPMENT GUIDE



Click map to see
regional
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Appendices

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Glossary

Adsorption

The adherence of gas, vapour or dissolved matter to the surface of solids.

Adopted road

*

Antecedent conditions

The wetness of a catchment prior to a particular rainfall event.

Attenuation

Reduction of peak flow and increase of duration of runoff during and following a storm event.

Base

The lowest bound layer of an asphalt pavement, formerly known as roadbase.

Basins

A ground depression acting as a flow control or water treatment structure that is usually dry and has a proper outfall, but is designed to detain stormwater temporarily.

Binder

The second layer of an asphalt pavement, formerly known as basecourse.

Biodegradation

The decomposition of organic matter by micro-organisms and other living things.

Bioretention areas

A landscaped ground depression that collects runoff so that it percolates through the soil below into an underdrain system, thus promoting pollutant removal.

California Bearing Ratio

An empirical measure of the stiffness and strengths of soils, used in road pavement design.

Capping layer

A layer of unbound aggregate of lower quality than sub-base that is used to improve the performance of the foundation soils before laying the sub-base and protect the sub-grade from damage by construction traffic.

Carriageway

The portion of the road which is used to carry vehicular traffic.

Catchment

The area which contributes surface water flow to a point in a drainage system. Can be split into sub-catchments.

Climate change

Climate change refers to any significant change in measures of climate (such as temperature, precipitation, or wind) lasting for an extended period (decades or longer).

Combined sewer

A sewer which is designed to carry both foul sewerage and surface water in the same pipe.

Combined Sewer Overflows

Overflow systems built into combined sewer networks which allow a certain amount of flow to discharge directly into a watercourse untreated, to ensure the sewer network does not become surcharged in storm conditions.

Control structures

A structure to control the flow rate or volume of water passing through or over it.

Controlled waters

Water defined and protected under the Water Resources Act 1991. Any relevant territorial waters that extend seaward for three miles from the baselines, any coastal waters which extend inland from those baselines to the limit of the highest tide or the freshwater limit of any river or watercourse, any enclosed dock which adjoins coastal waters, inland freshwaters, including rivers, watercourses, and ponds and lakes with discharges and ground waters (waters contained in underground strata). For the full definition refer to the Water Resources Act 1991.

Conveyance

The movement of water from one location to another.

Diffuse pollution

Pollution arising from land-use activities (urban and rural) that are dispersed across a catchment or sub-catchment, and do not arise as a process industrial effluent, municipal sewage effluent, deep mine or farm effluent discharge at a single point.

Dry swale

Shallow vegetated channel with filter in the base to convey surface runoff to the sewer network or infiltrate into the surrounding soils.

Embodied energy

The energy required to produce a service or product, eg during the manufacturing or processing stages. Can be related to CO₂ emissions.

Evapotranspiration

Process where moisture is lost from soil by evaporation of water and from transpiration by plants.

Exceedance

An event which has a result which exceeds a set target level, or in the case of drainage networks, a flow which exceeds the capacity of the sewers, causing surcharging and/or flooding.

Filter drains

A liner drain consisting of a trench filled with a permeable material, typically with a perforated pipe at the base to assist drainage. Can be used to convey water into a receiving drainage system or for infiltration.

Filter strips

A vegetated area of gently sloping ground designed to drain water evenly off impermeable areas and to filter out silt and other particulates.

Filtration

The removal of sediment or other particles from a liquid by passing it through a filter.

First flush

The initial runoff from an impermeable area or catchment subsequent to a rainfall event. As the runoff passes over the impermeable surface, it collects or dissolves pollutants and sediment, and this first portion of the runoff tends to be the most contaminated.

Footpath

*

Footway

Area at the side of carriageways for pedestrian movement.

Full bore

A pipe flowing at full capacity.

Geocellular

A plastic box structure situated below ground, used to attenuate runoff.

Geogrid

A plastic grid structure used to increase the strength and stability of soils and aggregates.

Geotextile

A permeable plastic fabric. It can be used to filter water and protect, reinforce, separate or drain soils.

Greenfield runoff

The rate of runoff which would occur from a site prior to any development, in its undisturbed state.

Groundwater recharge

The process of surface water passing downwards through the soils into the groundwater in the saturated zone.

Gulley

An opening in the road pavement to allow surface water to enter the drainage system, typically constructed from a prefabricated gully with metal grate cover.

Habitat

An environment where an organism or group of organisms live.

Hydrocarbons

Any chemical compound made up of hydrogen and carbon. A major pollutant formed by the engine as a by-product of combustion.

Hydrodynamic systems

Proprietary systems designed to remove floated debris, sediments and other associated pollutants from surface water, using fluid dynamics to separate the solids from liquids.

Impermeable membrane

An artificial plastic fabric which is impermeable to prevent infiltration.

Infiltration

The passage of surface water into the ground, or groundwater into a sewer.

Infiltration basins

A dry basin which is designed to promote infiltration of surface water into the ground.

Infiltration coefficient

This is a measure of the soil's permeability and determines the rate at which infiltration occurs.

Infiltration testing

Carried out during site investigation works to determine the permeability and the infiltration coefficient of the soil.

Infiltration blanket/trenches

A trench, typically filled with a permeable material, which is designed to promote infiltration of the surface water into the ground.

Local roads

Roads under the control of local roads authorities, such as general access roads, distributor roads and rural roads.

Metals

Pollutants which can be found on the road surface, such as lead, chromium, copper, nickel and zinc.

Microbial

Action of a bacterium causing disease or fermentation.

Moisture content

The amount of water present in the soil, usually given as a percentage.

Nutrients

Substances providing nourishment for living organisms, eg nitrogen & phosphorus.

Oil separators

Prefabricated proprietary system used to remove any spilled oils or hydrocarbons from surface runoff.

Peak flow

The maximum volume of water flowing in a watercourse or sewer over a certain period of time following a rainfall event.

Permeable concrete block paving

A surface which drains through voids between concrete blocks.

Ponds

A permanently wet depression designed to retain stormwater above the permanent pool and permit settlement of suspended solids and biological removal of pollutants.

Precipitation

The falling to earth of any form of water (rain, snow, hail, sleet or mist)

Rainfall intensity

The amount of rainfall occurring during a set unit of time, typically mm per hour.

Regional control

Surface water management for individual or multiple sites, normally in a balancing pond or wetland.

Residual risk

The risk still present after mitigation procedures have been implemented.

Retention time

The length of time that runoff is stored or detained to allow for settlement, or possibly biological action, to occur.

Return period

The frequency of an event occurring, eg a 100 year storm refers to the storm which occurs on average once every hundred years, or in other words its annual probability of exceedance is 1%.

Road Construction Consent

The process of gaining consent to construct roads, over which there is a public right of passage, to an agreed standard set by the local roads authority.

Road

*

Runoff

Water flow over the ground surface into the drainage system. This occurs when the ground is impermeable, saturated or the rainfall is particularly intense.

Sand filters

Above or below ground structures comprising single or multiple chambers with a sand bed as a filter medium providing treatment of runoff.

Scottish Water

Statutory corporation in Scotland that provides water and sewerage services.

Sedimentation

The process by which particles in suspension in a liquid settle to form a sediment.

Sediments

Particulate material that can be transported by water flow.

Sewer

A conduit taking surface water and foul sewage from roads, footways, buildings and hardstandings from two or more curtilages' and having a proper outfall, adopted by a water authority.

Silt traps

Often referred to as catchpits, they are chambers constructed within a piped system located at regular intervals not exceeding 100 m, at changes in direction and gradient and often prior to discharge of a piped system to a SUDS component. Provision is made for collection of silt by a sump which provides a permanent wet well.

Site control

Surface water management in a local area or site, eg picking up building roofs, car parks and other impermeable areas.

Source control

The control of surface water runoff at or close to the source.

Sub-base

A layer of unbound material laid onto the subgrade that provides a stable foundation for a pavement surface.

Sub catchments

A division of a catchment, to allow runoff to be managed as near to source as possible.

Subgrade

The material onto which the road pavement is constructed, usually natural in-situ, but may include capping layer.

Surcharge

Flow conditions where the hydraulic gradient is above the pipe soffit.

Surface course

The top layer of the road pavement which is in contact with the vehicular traffic.

Sustainable Urban Drainage Systems

A sequence of management practices and control techniques designed to drain surface water in a more sustainable way than some previous practices.

Swale

A shallow vegetated channel designed to convey and retain surface water runoff, and which can also allow for infiltration. The vegetation filters suspended solids.

Treatment volume

The proportion of the total runoff from impermeable areas which is required to be retained and treated to remove pollutants.

Trunk roads

Managed by Transport Scotland, a major road, usually connecting cities or large settlements, which is the recommended route for long-distance and freight traffic. Quite often dual carriageways or motorways.

Verge

Grassed margin bordering the carriageway and footways, but still located within the adoptable road extent.

Void space

The open spaces between gravel media which can be used as storage in permeable pavements and other treatment facilities.

Vortex separators

A proprietary SUDS system used for removal of suspended solids using hydrodynamic forces (see Hydrodynamic systems).

Waste Water Treatment Works

A facility to treat and make less contaminated domestic and/or industrial effluent.

Watercourse

Any natural or manmade channel which water flows through.

Wetlands

A flooded area in which the water is shallow enough for the growth of bottom rooted plants.

Acronyms

CAR	<i>Controlled Activities Regulations</i>
CBR	<i>California Bearing Ratio</i>
CDM	<i>Construction Design & Management</i>
CIRIA	<i>Construction Industry Research Information Association</i>
CSO	<i>Combined Sewer Overflow</i>
DMRB	<i>Design Manual for Roads and Bridges</i>
NIEA	<i>Northern Ireland Environment Agency</i>
NIHE	<i>Northern Ireland Housing Executive</i>
NIW	<i>Northern Ireland Water Ltd</i>
PAN76	<i>Planning Advice Note 76</i>
PEPG	<i>Planning and Environmental Policy Group</i>
RAMP	<i>Roads Asset Management Plan</i>
RCC	<i>Road Construction Consent</i>
RoSPA	<i>The Royal Society for the Prevention of Accidents</i>
SEPA	<i>Scottish Environment Protection Agency</i>
SFRA	<i>Strategic Flood Risk Assessment</i>
SNIFFER	<i>Scotland & Northern Ireland Forum For Environmental Research</i>
SPP	<i>Scottish Planning Policy</i>
SUDS	<i>Sustainable Urban Drainage Systems</i>
SWMP	<i>Surface Water Management Plan</i>
TRRL	<i>Transport and Road Research Laboratory</i>

UID	<i>Unsatisfactory Intermittent Discharge</i>
WEWS Act	<i>Water Environment and Water Services (Scotland) Act 2003</i>
WLC	<i>Whole Life Costing</i>
WWTW	<i>Waste Water Treatment Works</i>

Application Forms

Click on the form titles below to access editable PDF versions for your own use.

Quality Audit Summary Report Template



CC1 - Construction Consent Application



CC2 - Docquets of Service



CC3 - Notice of Service



CC6 - Adoption Certificate



CC8 - Carriageway Design Certificate



CC9 - Construction Consent Checklist



DCC1 - Design Certificate for Road Lighting



DCC2 - Construction Details and Visual Inspection Certificate



DCC3 - Electrical Inspection and Test Certificate



Local Authority Variations

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* NB no variations intimated at this stage

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NORTH AYRSHIRE COUNCIL

22nd January 2025

Planning Committee

Locality	Kilwinning
Reference	23/00061/PPM
Application Registered	13th February 2023
Decision Due	13th June 2023
Ward	Kilwinning

Recommendation	Refused
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Location	Site to South of Nethermains Community Centre Nethermains Road Kilwinning
Applicant	CCG Homes
Proposal	Erection of 115 dwellinghouses to include the formation of associated site access, roads, footpaths, landscaping, drainage and ancillary works

1. Description

Planning permission is sought for the erection of 115 dwellinghouses to include the formation of associated site access, roads, footpaths, landscaping, drainage, and ancillary works at Site to South of Nethermains Community Centre, Nethermains Road, Kilwinning.

The determination of this application was delayed from June 2023 to January 2025 due to the ongoing consideration of flood risk issues on the site and further information sought by Planning Services from the applicant.

The proposed housing would consist of detached, semi-detached, and terraced houses with a total of thirteen designs, known as 'house types.' Nine of the proposed house types would have 2-storeys and the four remaining house types would have 2.5 storeys. Four of the house types would feature integral garages. All house types would have gabled roofs and would be finished with grey roof tiles. The external walls would consist of a combination of off-white render and grey facing brick. Windows and gable/rear doors would be finished with white UPVC with black UPVC to the front doors. Rainwater goods would be black, and soffits and fascias would be grey UPVC.

The application site relates to vacant former industrial land of approx. 4.27ha to the south of Nethermains Community Centre. The site is bounded by Nethermains Road to the west, River Garnock to the east, and Almswall Park to the northeast. There is business/industrial land to the south of the site and on the opposite side of Nethermains Road to the west. Footpaths forming part of the National Cycle Network (NCN) Routes 7 and 73 run along the eastern and south boundaries of the site, respectively.

The proposed layout of the site would feature 2 no. vehicular accesses from Nethermains Road to the west. Path connections would be provided from both Nethermains Road and from the NCN routes to the east and south. A SuDS detention basin for the treatment and storage of surface water would be located to the eastern edge of the site adjacent to the NCN Route 7. The houses along the western edge of the site would primarily front onto Nethermains Road, with some facing "gable end" onto the main road. The houses along the southern road frontage would have vehicular access directly from Nethermains Road, while the houses along the northern frontage would be accessible via an internal road within the site. Most of the proposed housing would include in-curtilage parking, except for a terraced row of houses at the southeast corner of the site (Block 63 on plan) which would be served by a dedicated parking court. There would be an additional 28 no. visitor parking spaces provided throughout the site. An area of public open space would be provided around and adjacent to the proposed SuDS basin and a scheme of landscaping and planting is proposed throughout the site.

There is dense vegetation along the existing site boundaries. The vegetation along the western boundary would be removed to facilitate the site frontage onto Nethermains Road. There is also dense vegetation within the site, primarily to the north part of the site, which would also be cleared to facilitate the development.

Boundary treatments for the housing would consist of a 1.8m high timber fence to the rear gardens and between the individual plots. The front garden areas would be left open.

There is a disused railway embankment located to the east between the site and the River Garnock. This embankment does not form part of a formal flood prevention scheme and is outwith the control of the applicant and owned by Council.

In terms of the current Adopted Local Development Plan (LDP), the application site is allocated as an effective housing site (ref. NA1099) in Schedule 2b (Schedule of Indicative Capacity of Housing Sites anticipated to be active between 2019-2024). It is also located within the General Urban Area within the settlement boundary of Kilwinning. Part of the site falls within the defined Development High Risk Area by The Coal Authority. Part of the site is also shown to be at risk of flooding based on the SEPA Future Flood Maps. The relevant policies of the LDP to the proposed development are listed below:

- The Towns and Villages Objective of Strategic Policy 1: Spatial Strategy
- Strategic Policy 2 (Placemaking)
- Policy 1: New Houses and Maintaining an Effective Housing Land Supply
- Policy 16: Protection of our Designated Sites
- Policy 18: Forestry, Woodland, Trees and Hedgerows
- Policy 22: Water Environment Quality
- Policy 23: Flood Risk Management

National Planning Framework 4 is also relevant to the consideration of the application since this is part of the development plan.

Also relevant to the application is the National Flood Resilience Strategy published December 2024 that sets out the Scottish Government's strategy to reach a flood resilient Scotland through to 2045 and beyond.

The applicant has been in discussions with Planning Services about the residential development of the site since 2018 (ref. 18/00078/PREAPP). A Proposal of Application Notice (PoAN) was received by Planning Services on 14th February 2018. However, no subsequent application was submitted. A PoAN for the current application was received by Planning Services on 31st May 2022 (ref. 22/00418/PREAPM).

The following supporting information was submitted with the application:

- Air Quality Air Assessment
- Design and Access Statement
- Drainage Report
- Flood Risk Assessment
- Mining Report
- Network Heating Assessment
- Non-residential Mining Report
- Pre-application Consultation Report
- Preliminary Ecological Report (Habitat Survey)
- Site Investigations Report
- Transport Statement

2. Consultations and Representations

Neighbour notification was conducted for this application in accordance with statutory procedures. The application was advertised in a local newspaper, the Irvine Herald. A total of one objection comment was received in response to the application. The points raised are summarised below:

1. Concerns raised about the loss of biodiversity within the site.

Response: See consultation comments from NAC Biodiversity Officer below. The applicant was asked to resubmit a Habitat Survey considering the comments received by the Biodiversity Officer. In response, the applicant proposed to retain some of the trees along the site boundaries.

2. The proposed development does not align with the NPF4 policies relating to biodiversity.

Response: The relevant NPF4 policies are considered in the Analysis section below.

3. The submitted 'Existing Tree Removal Layout' drawing incorrectly refers to a large area of semi-mature woodland within the site as "scrub" which would be removed.

Response: See consultation comments from NAC Biodiversity Officer below. The applicant was asked to resubmit a Habitat Survey considering the comments received by the

Biodiversity Officer. In response, the applicant proposed to retain some of the trees along the site boundaries. No further Habitat Survey was received.

Consultations:

SEPA - SEPA has issued 4 no. responses during the processing of the application as further information relating to flood risk has been provided by the applicant. A holding objection was first issued on 9th March 2023. At that time SEPA requested that a revised FRA be submitted including assessment of the flood risk areas for the 0.5% AEP +CC flood event (as per NPF4), with the disused railway embankments removed, and coastal flood risk considered. A revised FRA was submitted in October 2023. SEPA issued a further response on 29th November 2023. The holding objection was maintained, and it was requested that updated layout plans be submitted which show avoidance of the flood risk area. Further supporting information was submitted by the applicant in February 2024 and May 2024. SEPA maintained the holding objection in further responses in March 2024 and May 2024. To enable SEPA to remove the objection they require further information to be submitted and the submission of an amended site layout that avoids the flood risk area as determined by the October 2023 FRA.

SEPA's views on the proposed development are as summarised:

- The disused railway embankments between the site and the River Garnock do not form part of a formal flood prevention scheme, do not have a verified design standard, and are not maintained on an ongoing basis. These should be removed from the flood modelling for the site.
- The FRA should include assessment of the flood risk areas for the 0.5% AEP +CC flood event (as per NPF4).
- None of the exception categories set out in NPF4 Policy 22 part a) are applicable in this case. All development must therefore avoid the flood risk area.
- A reduced housing layout avoiding the flood risk area could be accommodated within the southern section of the site.

Response: the application is considered in accordance with the relevant NPF4 policies in the analysis section below. It is not considered that the exemption under Policy 22 a) (iv) applies in this case. In line with SEPA's comments, the applicant was given the opportunity to submit a revised site layout to address the flood risk concerns. A slightly revised layout and alternative flood prevention scheme was discussed (see below in Analysis). However, no further layout has been formally submitted to date.

NAC Flooding - NAC Flooding agrees with SEPA's views and objects to the proposed development because it may increase the number of people and property at flood risk. NAC Flooding may be able to remove this objection should the proposed layout of the site be amended to avoid positioning dwellings and associated infrastructure in the flood risk area.

Response: As noted above, the applicant was given the opportunity to consider and submit an amended layout. A slightly revised layout and alternative flood prevention scheme was informally discussed (see below in Analysis). However, no further layout has been formally submitted to date.

Scottish Water - no objection to this planning application. However, the applicant should be aware that this does not confirm that the proposed development can currently be serviced.

Further comments received about water capacity, wastewater capacity, and surface water. Scottish Water records indicate that there is live infrastructure in the proximity of your development area that may impact on existing Scottish Water assets. The applicant must identify any potential conflicts with Scottish Water assets and contact the Scottish Water Asset Impact Team for an appraisal of the proposals.

Response: noted. An informative instructing the applicant to contact Scottish Water Asset Impact Team could be added to any consent granted.

NAC Active Travel and Transport (Roads) - the applicant needs to provide further information before an adequate assessment can be carried out. Amended drawings required incorporating the further details relating to road dimensions, driveway dimensions, tracking drawing. Additional visitor parking required. Information regarding access to SuDS basin and continuous service strips required.

Response: noted. The consultation response was passed to the applicant. However, no further information or drawings were received during the processing of the application.

The Coal Authority - the content and conclusions of the site investigations report (First Edition, October 2022) are sufficient for the purposes of the planning system in demonstrating (based on the professional opinion of Mason Evans Partnership Limited) that the application site is safe and stable for the proposed development. No objection to the proposed development. A recommended informative note to any consent granted is recommended.

Response: noted. An informative note could be added to any consent granted.

NAC Educational Services - the site sits within the catchment area of the following schools:

- Blacklands Primary
- St Winning's Primary
- Kilwinning Academy
- St Matthew's Academy

Having reviewed the roll projections and the total number of homes within the catchment for each school, there are no current educational accommodation issues identified as arising from this proposal.

Response: noted.

NAC Biodiversity Officer - Concerns about the accuracy of the existing tree removal plan and the subsequent quality of the proposed biodiversity actions to be taken by the developer.

The issue with the tree removal plan is the developer's definition of scrub. The tree removal plan states that the site, and the off-site block of trees to be felled are scrub with a few mature trees circled in red. The accepted definition of scrub, as defined by the National Vegetation Classification (NVC), is "climax vegetation dominated by locally native shrubs, usually less than 5m tall". The provided description of the site did not seem correct. On inspection of the site, it was observed that:

- o Most of the vegetation marked in red as scrub on the tree removal plan, is in fact semi-natural young alder (*alnus glutinosa*) woodland predominantly greater than 5m in height.
- o The offsite area marked in blue as scrub on the tree removal plan is in fact mature woodland.

In biodiversity terms the current plan represents an overall net loss of approx. 38,000m² of existing habitat, including the loss of 12,900m² of woodland. In terms of net biodiversity loss this represents a 100% loss of existing habitat, and the creation of a new, mainly different, habitat that represents only 13% of the original habitat area.

Conclusions

- o It is not considered that the developer's identification of scrub on site is correct. In this case acceptance of this designation would mask the loss of approx. 12,900m² of woodland.
- o The net loss of approx. 12,900m² of woodland is not in keeping with NACs biodiversity and climate change aspirations.
- o The biodiversity creation scheme proposed by the developer is inadequate and inappropriate in the context of the biodiversity loss on site.
- o The developer should carry out an appropriate biodiversity survey of the site and submit a proposal based on the findings to deliver a development and mitigation plan that considers the existing biodiversity of the site and minimises biodiversity loss.

Response: The applicant was asked to resubmit a Habitat Survey considering the comments received by the Biodiversity Officer. In response, the applicant proposed to retain some of the trees along the site boundaries. No further Habitat Survey was received.

NAC Environmental Health - In terms of the contaminated land issues for the site, there are significant concerns about the information that has been submitted by the applicant. The submitted reports do not provide sufficient information as to whether the site would be suitable for use in the context of the water environment and human health following redevelopment.

Response: noted. The applicant has been made aware of Environmental Health's concerns about the contaminated land issues on the site. Additional information has been provided by the applicant over the course of the application. However, a satisfactory resolution to the contaminated land issues has not been achieved. Environmental Health have concerns about the information that has been submitted by the applicant. The submitted reports do not provide sufficient information as to whether the site would be suitable for use in the context of the water environment and human health following redevelopment. No further information has been submitted to Planning with regards to addressing these concerns.

3. Analysis

When making any determination under the Planning Acts, it is the statutory duty of the planning authority to make the determination in accordance with the development plan, unless material considerations indicate otherwise. Together, the Council's Adopted Local Development Plan (LDP) and National Planning Framework 4 (NPF4) form the development plan. The relevant policies are considered below.

NPF4 Policy 1 (Tackling the climate and nature crises) and NPF4 Policy 2 (Climate mitigation and adaptation)

Key to the assessment of this application are Policy 1 and Policy 2 of NPF4. Policy 1 states that when considering all development proposals significant weight will be given to the global climate and nature crises. The following requirements are set out for Policy 2:

- a) Development proposals will be sited and designed to minimise lifecycle greenhouse gas emissions as far as possible.
- b) Development proposals will be sited and designed to adapt to current and future risks from climate change.
- c) Development proposals to retrofit measures to existing developments that reduce emissions or support adaptation to climate change will be supported.

As noted earlier, part of the site is shown to be at risk of flooding based on the SEPA Future Flood Maps. The Scottish Government's National Flood Resilience Strategy (published December 2024) states that there are currently 284,000 properties across Scotland exposed to flooding, and by 2080 this number is expected to increase by 110,000 through climate change. Therefore, both the current and future risks from flooding require to be considered for the proposed residential development. An assessment of the relevant flooding policies is provided below. The site has a former industrial use. However, much of the site, particularly the northern section, has been naturalised with dense woodland vegetation. This is evident both within and along the edges of the site. The contribution of this naturalisation therefore requires to be considered as part of the biodiversity of the site. These issues are considered in terms of the relevant biodiversity policies below.

LDP Strategic Policy 1: Spatial Strategy (Towns and Villages Objective)

The Towns and Villages Objective of Strategic Policy 1 (Spatial Strategy) states that within the General Urban Area, proposals for residential development will accord with the development plan in principle, and applications will be assessed against the policies of the LDP. Furthermore, the Council will support, in principle, development proposals within North Ayrshire's towns and villages that provide the right new homes in the right places. In this case, the application site is located within the General Urban Area of Kilwinning, and it is an allocated housing site.

LDP Policy 1: New Homes and Maintaining an Effective Housing Land Supply and NPF4 Policy 16: Quality Homes

Policy 1 (New Homes and Maintaining an Effective Housing Land Supply) states that, in principle, the Council will support and promote residential development of the 51 effective housing supply sites shown in Schedules 2a and 2b of the LDP. The site at Nethermains Industrial Estate is identified as one of the housing sites in Schedule 2b (ref. NA1099). However, Policy 1 also states that the Council will only support new housing proposals where they would help achieve its vision by aligning with the principles of the spatial strategy and being compliant with other aspects of the plan particularly by way of impact on committed infrastructure and the environment. As noted earlier, the site is at risk of flooding (as identified by SEPA's flood risk maps). The flood risk issues for the site will be considered in further detail below. The biodiversity of the site also requires to be considered.

NPF4 Policy 16 seeks to encourage, promote and facilitate the delivery of more high quality, affordable and sustainable homes, in the right locations. Policy 16 states that development proposals for new homes on land allocated for housing in LDPs will be supported. Development proposals that include 50 or more homes should be accompanied by a Statement of Community Benefit. Development proposals for new homes that improve affordability and choice by being adaptable to changing and diverse needs, and which address identified gaps in provision, will be supported. No specific Statement of Community Benefit was submitted in this case. However, a Design and Access Statement, as required by statute, was submitted outlining the design principles and policy implications of the proposed development. The detail of the proposed development and the points raised in the Design and Access Statement will be considered in the consideration of Strategic Policy 2 (Placemaking) below.

LDP Strategic Policy 2: Placemaking and NPF4 Policy 14: Design, quality and place

The stated purpose of Strategic Policy 2 on Placemaking is to ensure "all development contributes to making quality places." The policy also seeks to "safeguard, and where possible enhances environmental quality through the avoidance of adverse environmental or amenity impacts."

The proposed development would provide a variety of house types (13 in total) including detached, semi-detached, and terraced houses. All the houses would have either 2 or 2.5 storeys with gabled roof designs and consistent material finishes throughout the development. There are a range of building types in the surrounding area, including the category C listed Nethermains Community Centre building to the north of the site, the sheltered accommodation buildings at Robert W Service Court to the north-west, and the industrial buildings to the west of the site on Longford Avenue. Beyond, there are residential houses to the north of the site on Nethermains Road and to the west on Stobbs Terrace, Pollock Crescent, and Blacklands Crescent. There are a range of house types and designs in the surrounding area. The proposed development draws upon a variety of the existing building designs and features with the proposed houses having gabled roof designs and neutral material finishes.

The development would primarily consist of two road loops with most of the proposed housing facing onto the internal road layout, which would provide an attractive enclosed streetscape for residents and visitors with path connections, landscaping, and public open spaces provided throughout the development. Some of the houses along the western boundary of the site would front onto the B778, which would assist in creating a more attractive and welcoming streetscape on the approach to the site. It would also assist in improving the approach to Kilwinning from the A78 trunk road, located to the south of the town.

The proposed layout and boundary treatments would provide each house with a rear garden area and enclosures to ensure that there would be no adverse privacy or overlooking between residents. Each house would either be provided with in-curtilage parking or a dedicated parking courtyard. There would be an additional 28 no. visitor parking spaces provided throughout the development.

The submitted Design and Access Statement outlines the resource efficiency and sustainability elements of the proposed development. A variety of measures would be incorporated into the development to improve energy efficiency and to promote longer term

sustainability, with a 60-year design lifespan. These measures include the use of high-performance building elements and renewable technologies along with the use of sustainable building products, including local sourcing where possible to enhance the ecological profile of the development.

While the resource efficiency and sustainability measures as noted above are acknowledged, it is also noted that part of the applicant's strategy to address the flooding and contaminated land issues of the site is to raise the level of the site by approx. 2m. However, this would result in the loss of woodland and the established biodiversity of the site. It would also require a significant amount of material to be transported to the site, the source of which is not currently known. Therefore, any environmental benefit derived from sustainable building methods and materials or low carbon energy systems would be undermined by the loss of biodiversity and environmental impacts of land raising.

It is considered that the site would be well connected for a variety of transport modes. There would be path connections formed throughout the site with access from Nethermain Road to the east and to the NCN Route 7 to the east and NCN Route 73 to the south. The site would also be within walking distance of public transport connections with the nearest bus stop at Pollock Crescent to the west. Kilwinning Railway Station would be an approx. 20-minute walk or 8-minute cycle from the site. The site would also be connected for private vehicular travel via Nethermain Road to the west.

Therefore, given the above, it is considered that the proposed development would partially meet the relevant requirements of Strategic Policy 2 (Placemaking). However, given the proposed strategy to raise the level of the site by approx. 2 metres, it is not considered that the proposed development would be "resource efficient." Further consideration is given to the flood risk and biodiversity issues of the site and the proposed development below.

LDP Policies 16 (Protection of our Designated Site) and 18 (Forestry, Woodland, Trees and Hedgerows) and NPF4 Policies 3 (Biodiversity), 4 (Natural places), 6 (Forestry, woodland and trees), and 9 (Brownfield, vacant and derelict land and empty buildings)

In terms of Policies 16 and 18 of the LDP, the site is not subject to any environmental designations of local or national importance. However, the relevant NPF4 policies (noted above) place a greater importance on the conservation, restoration, and enhancement of biodiversity and natural features. Policy 3 (Biodiversity) states that development proposals will contribute to the enhancement of biodiversity and should integrate nature-based solutions where possible. Development proposals for major development will only be supported where it can be demonstrated that the proposal will conserve, restore and enhance biodiversity, including nature networks so they are in demonstrably better state than without intervention.

In this case, it is noted that the site represents brownfield land that has been previously occupied by industrial uses but is now vacant. NPF4 Policy 9 (Brownfield, vacant and derelict land and empty buildings) recognises the contribution of brownfield land to nature recovery and the opportunities of brownfield land for use as productive greenspace where appropriate. It goes on to state that development proposals that will result in the sustainable reuse of brownfield land including vacant and derelict land and buildings, whether permanent or temporary will be supported. In determining whether the reuse is sustainable, the biodiversity value of brownfield land which has naturalised should be taken into account.

A Preliminary Ecological Appraisal (PEA) prepared by Wild Surveys Ltd dated 3rd October 2022 was submitted alongside the application.

As noted earlier, the Council's Biodiversity Officer has expressed concerns about the accuracy of the existing tree removal plan and the subsequent quality of the proposed biodiversity action to be taken by the developer. It is not considered that the developer's identification of scrub on site is correct. In this case acceptance of this designation would mask the loss of approx. 12,900m² of woodland. The net loss of approx. 12,900m² of woodland is not in keeping with the Council's biodiversity and climate change aspirations. The biodiversity creation scheme proposed by the developer is inadequate and inappropriate in the context of the biodiversity loss on site. The Biodiversity Officer recommended that the applicant should therefore carry out an appropriate biodiversity survey of the site and submit a proposal based on the findings to deliver a development and mitigation plan that considers the existing biodiversity of the site and minimises biodiversity loss.

Considering the above, the applicant/agent was duly asked to undertake a further biodiversity survey of the site and for greater consideration to be given to the retention of existing habitat and creation of new habitat. In response, discussions about greater retention of trees along the western boundary of the site took place between the case officer and the agent. However, no amended tree removal plan was formally submitted, and no further biodiversity survey has been submitted. Therefore, the points as noted above have not been satisfactory addressed.

As noted earlier, part of the applicant's strategy to address the flooding and contaminated land issues of the site is to raise the level of the site by approx. 2m. This would effectively remove most of the existing biodiversity of the site and is considered contrary to the biodiversity policies of NPF4.

LDP Policies 22 (Water Environment Quality) and 23 (Flood Risk Management) and NPF4 Policy 22 (Flood risk and water management)

Policy 22 of the LDP states that development will be required to ensure no unacceptable adverse impact on the water environment. Related to this issue is Policy 23, which deals with flood risk management. It states that generally development should avoid locations of flood risk and should not lead to significant increase in flood risk elsewhere.

The policy intent of NPF4 Policy 22 (Flood risk and water management), is to strengthen resilience to flood risk by promoting avoidance as a first principle and reducing the vulnerability of existing and future development to flooding.

Policy 22 lists exemptions where proposed development would be supported in a flood risk area. The most relevant exemption in this case is as follows:

a) *Development proposals at risk of flooding or in a flood risk area will only be supported if they are for: iv. Redevelopment of previously used sites in built up areas where the LDP has identified a need to bring these into positive use and where proposals demonstrate that long-term safety and resilience can be secured in accordance with relevant SEPA advice.*

It is recognised that the site has been previously used. The site is also located within the General Urban Area within the settlement boundary of Kilwinning as identified in the LDP and is allocated for housing in Schedule 2b of the LDP. However, it is not considered that the allocation of the site within the LDP equates to the LDP identifying a "need" to bring the site into "positive use" as per NPF4 Policy 22 a) without addressing site constraints. The LDP predates NPF4 and the context for identifying a "need" to redevelop previously used sites in built up areas to being into "positive use" did not exist at the time of the LDP being prepared and adopted. No similar exemption existing within the Scottish Planning Policy (SPP) which predated NPF4.

There have been several major residential developments that have been approved and implemented in recent years in Kilwinning. Planning permission was granted for 76 dwellinghouses at the former West Byrehill Industrial Estate in 2020 (ref. 20/00106/PPM), with the development completed during 2023. In addition, a development of 198 dwellinghouses was granted planning permission in 2019 at Wood Farm to the north of Kilwinning (ref. 19/00443/PPM) and is now nearing completion. 426 further dwellinghouses were granted permission at the former West Byrehill Industrial Estate in 2022 (ref. 22/00137/MSCM), the first phase of which is now underway. Most recently, planning permission was granted in November 2023 for 85 dwellinghouses at Mosscolloch Farm to the north-east of Kilwinning (ref. 23/00420/PPM).

As such, it is not considered that there is necessarily an essential "need" for new housing in Kilwinning and specifically at this site due to flood risk concerns. The "positive use" referred to in NPF4 Policy 22 a) is not limited to housing development and a less vulnerable use could potentially be more suited to the site given the identified flood risk and policy requirement to "conserve, restore and enhance" biodiversity.

A Flood Risk Assessment (FRA) prepared by Kaya Consulting dated January 2023 was submitted alongside the application. SEPA was consulted on the application and initially issued a holding objection to the application requiring that the FRA be amended to remove the effects of the former railway embankment along the east edge of the site and to include the most up to date climate change allowance.

A revised FRA prepared by Kaya Consulting dated October 2023 was submitted in response to SEPA's initial comments. In response, SEPA maintained the holding objection. NAC Flooding also agreed with SEPA's views and objected to the proposed development because it may increase the number of people and property at flood risk.

Further flooding information was submitted by the applicant in February 2024. In response, SEPA maintained their holding objection. The applicant claims that the former railway embankment to the east of the site is a substantial feature and would be expected to prevent flood water entering the site. It is also claimed that the ground levels in the proposed development would be raised about the 200-year+ climate change flood level, so that post-development the former railway embankment would not provide any protection to the site (i.e., the site itself would be above flood level and not at risk). Finally, it is claimed that flood modelling has shown that raising the site does not impact on flood risk elsewhere.

However, SEPA has been consistent in its approach that the flood modelling needs to be run without the former railway embankment in place because it provides informal flood protection that cannot be secured in the future, and it is unclear how well the embankments would perform at the present time. Furthermore, while raising ground levels above the 1 in

200 + CC flood level could, in principle, be an acceptable way of managing flood risk, compensatory flood storage would also need to be provided and all other residual flood risk would need to be understood and addressed.

In SEPA's most recent response dated May 2024, they maintain a holding objection to the application. To enable SEPA to remove the objection they require further information to be submitted and the submission of an amended site layout that avoids the flood risk area as determined by the October 2023 FRA. The applicant was asked to consider a reduced layout avoiding the areas of flood risk as per SEPA's response. A slightly revised layout and alternative flood prevention scheme was discussed (see below). However, no further layout has been formally submitted to date. As such, for reasons of flood risk, it is not considered that the application can be supported.

As noted above, the policy intent of NPF4 Policy 22 is "To strengthen resilience to flood risk by promoting avoidance as a first principle and reducing the vulnerability of existing and future development to flooding." Similarly, it is acknowledged in the Scottish Government's National Flood Resilience Strategy (published December 2024) that "we must consider how else we can make our places more flood resilient, and accept that we may not be able to do the same things in the same places indefinitely. Reducing the impacts of flooding in future will be as much about the design of our places as it is about the design of our flood actions."

In this case, it is not considered that the "first principle" of promoting avoidance of areas of flood risk has been adopted by the applicant. As such, the proposed development could increase the vulnerability of people and property at flood risk both within the site and elsewhere.

The applicant provided a slightly revised layout for the consideration of Planning Services and the Council's Flooding Team in October 2024. The revised layout showed a reduction in the number of proposed houses from 115 to 113 and featured an alternative flood prevention scheme. This layout would seek to alter the predicted 1 in 200 year + climate change flood extents within the site via a scheme of land raising and compensatory flood storage. This scheme would seek to partly displace the flood risk development constraints from the centre to the margins of the site. However, the concerns of NAC Flooding remained, and it was not considered that this revised layout could be supported. For the avoidance of doubt, the application remains at 115 houses.

Therefore, given the above observations, in recognition of the ongoing holding objection from SEPA and taking account the objection from NAC Flooding, it is considered that the proposed development does not accord with the relevant flooding policies of the development plan and cannot be supported due to the flood risk on the site.

In summary, the application has now been under consideration by Planning Services for 23 months since it was validated in February 2023. Over the course of the application process, there have been repeated requests for additional information, relating to amended layout, biodiversity, and flooding. While some additional information has been provided, issues in respect of flooding, biodiversity, contaminated land, and transport have not been satisfactorily resolved either by submission of further information or submission of revised layout. A slightly revised layout was discussed but this did not address the flooding concerns. Planning Services is happy to consider a revised development layout avoiding the areas of flood risk in the future.

In conclusion, it is not in the long term public interest to enable the development of land in such a manner as to increase the risk of flooding. In this case, the proposed development site is at risk of flooding, as identified by SEPA's flood mapping. Following investigation by the applicant's agent, extensive discussions with SEPA and the Council's flooding officer, it is understood that the degree of risk that has been identified cannot be mitigated without increasing the risk of flooding elsewhere, potentially including the existing housing estate at Dirrans, to the east of the River Garnock. National planning policy is based on the principle of avoidance of vulnerable categories of development in areas of identified flood risk, such as functional flood plains. In conclusion, the merits of the development, in terms of housing delivery, would not outweigh nor address the degree of flood risk that exists in this instance. As such, planning permission should be refused.

4. Full Recommendation

Refused

Reason for Refusal

Reason

1. The proposed development would be contrary to the aims of NPF4 in terms of Policy 2 (Climate mitigation and adaption) and Policy 22 (Flood risk and water management). It would also be contrary to LDP Policy 23 (Flood Risk Management). The proposed development has not been adequately sited and designed to adapt to current and future flood risk. It does not avoid the area of identified flood risk and may increase the number of people and property at risk of flooding.

Reason

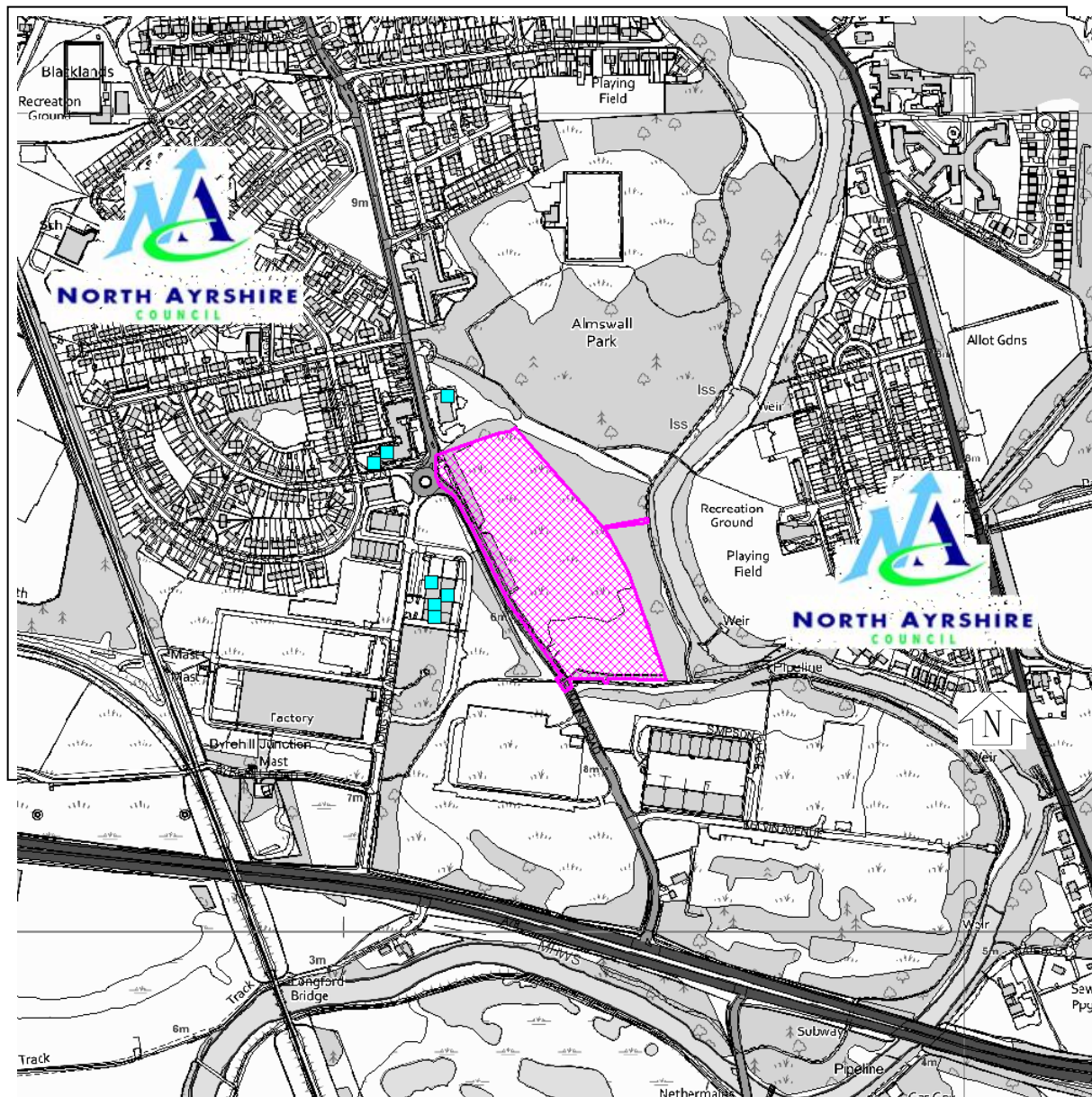
2. The proposed development would be contrary to the aims of NPF4 in terms of Policy 3 (Biodiversity), Policy 4 (Natural places), Policy 6 (Forestry, woodland and trees), and 9 (Brownfield, vacant and derelict land and empty buildings). It would also be contrary to LDP Policies 16 (Protection of our Designated Site) and 18 (Forestry, Woodland, Trees and Hedgerows). The biodiversity of the site has not been adequately considered and the proposed development would result in an unacceptable loss of existing habitat.

Allan Finlayson
Chief Planning Officer

For further information please contact Mr Joe Thompson Planning Officer on 01294 324313.

Appendix 1 – Location Plan

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NORTH AYRSHIRE COUNCIL

22nd January 2025

Planning Committee

Locality	Irvine
Reference	24/00888/PP
Application Registered	29th November 2024
Decision Due	29th January 2025
Ward	Irvine East

Recommendation	Approved subject to Conditions
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Location	1 - 5 Crompton Way North Newmoor Irvine North Ayrshire KA11 4HU
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Applicant	Manse Irvine LLP
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Proposal	Removal of condition 7 of planning permission 22/00094/PPM and the amendment of access arrangements for the development
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1. Description

A Section 42 application has been submitted in relation to a condition attached to a planning permission for a major housing development at Crompton Way, North Newmoor, Irvine. The site has been allocated for residential development purposes since the adoption of the Council's first Local Development Plan in May 2014 with planning permission granted for 60 houses on 24th August 2022 (ref. 22/00094/PPM).

The site has been marketed for over 2 years. The owners now seek the deletion of a planning condition which related to low and zero carbon energy systems. Following the prohibition of Direct Emissions Heating (DEH) systems in new domestic buildings which came into law on 1st April 2024, the Scottish Government has advised planning authorities that there is no longer any requirement for planning conditions to address this issue. (Circular 4/1998 advises that planning conditions should not be used or duplicated where there is a more appropriate or direct form of regulatory control under other statutes). In this instance, the regulation of the low or zero carbon heating systems for the

new housing would be governed by the building warrant process rather than under the planning permission.

A further issue that has arisen during the marketing exercise relates to the requirement, within the approved site layout, for the developer to construct a new service access road for Amer Sports to the east of the site. There is already an industrial access road leading from Crompton Way into the Amer Sports site. It is reported by the applicant's agent that the cost of constructing a new industrial access road (when there is already one in place) has deterred prospective purchasers who have otherwise expressed positive interest in developing the approved 60 houses.

As such, it is proposed in this application to modify the layout to retain the existing service access for Amer Sports along the northern boundary of the site as an alternative to forming a new service access. A new access into the housing is proposed from Crompton Way as an alternative to the reconstruction of the existing service access leading to Amer Sports, and for some changes to the layout itself. The housing mix and total number of houses would remain at 60. A similar mix of terraced, semi-detached and detached housing with gardens, parking, open space and SuDs detention basin would be developed.

An application under Section 42 of the Act, if granted, creates a new planning permission without altering the conditions on the previously granted permission. The planning authority must consider "only the question of the conditions to which planning permission should be granted." The substitution of a layout for a development of the same character and description is a competent action with a Section 42 application.

2. Consultations and Representations

Neighbour notification was undertaken in accordance with statutory requirements, and the application was advertised in local newspaper. Two letter of objections were received, with the points raised summarised below:

1. This is a large development in a small already crowded area with no amenities or facilities. The access paths across from this potential build which provide access into Irvine are unlit and narrow and dangerous for the current conditions never mind another estate. That end of Crompton Way is regularly blocked with parked lorries reducing visibility access further which will only become more hazardous with an increase in vehicles, as someone with kids in the area more developments are ruining their chances of being able to have freedom outside of their home.

Response: As noted above, planning permission was granted for the development of 60 houses on the land in 2022 and remains extant. The current application seeks to remove a condition of the 2022 permission and to modify the access arrangements. Whilst noting the above points, it is not within the scope of the current application to address the matters raised. The footpaths being referred to (on the west side of Crompton Way) are not within the application site and are understood to be adopted public footpaths with lighting. If additional maintenance is required (such as cutting back vegetation) this can be referred to the appropriate Council service for investigation and remedial action. When land was first released for housing at North Newmoor in 2014 under LDP1, it was intended to be a mixed residential and industrial area, retaining existing employment whilst allowing for

new housing on the vacant or derelict land. This has been achieved. Any parts of a public road that are blocked by vehicles can be reported to the Police, if/when it occurs, for investigation/action under their powers.

2. Moving the access road for HGV deliveries to the nearby factory will cause HGV's to be travelling through a residential area. This is dangerous for residents and will cause reduction in air quality, increase in noise etc. The access to the factory should be kept away from the residential development as in the previous planning request.

Response: As noted above, the service road already exists and is in use. Its retention would help to enable the consented housing development to proceed, otherwise the vacant land will remain disused and harm the amenity of North Newmoor. It is not considered that the safety of the existing residents would be adversely affected given that the service road already exists and has been taken account of in the design/layout of the Persimmon housing estate to the north. There is a 2m high palisade fence alongside the road as well as 2.5m high timber fencing on the boundaries of the Persimmon housing which directly adjoin the road.

Consultation

NAC Active Travel and Transport - no comments.

3. Analysis

Section 42 of the Town and Country Planning (Scotland) Act 1997 is a mechanism which allows for the submission of a planning application for the development of land without complying with condition(s) subject to which a previous permission was granted. As noted above, Section 42 of the Act stipulates that in this type of application the "planning authority shall consider only the question of the conditions subject to which permission should be granted." The main determining issue in this case is whether the proposed deletion of condition 7 would accord with the relevant LDP policies for the site and in respect of the suitability of the amended access arrangements.

Circular 4/1998 sets out the tests for planning conditions, as follows:

- Need for a Condition
- Relevance to Planning
- Relevance to the Development to be Permitted
- Ability to Enforce
- Precision
- Reasonableness

Condition 7 of the 2022 planning permission states the following:

That prior to the commencement of the development hereby approved, the developer shall provide full details of the low and zero carbon generating technologies to be used in the development for the written approval of North Ayrshire Council as Planning Authority. For the avoidance of doubt, at least 10% of the current carbon emission reduction targets set by Scottish Building Standards shall be met through the use of low or zero carbon generating technologies. Thereafter, the development shall progress in accordance with such details as may be approved.

Reason: In recognition of the climate emergency.

As noted above, the use of planning conditions must be in accordance with the tests set out in Circular 4/1998. In light of the changes to the building standards which came into law on 1st April 2024, the above condition is no longer necessary, nor relevant to planning. In effect, the amended building standards prohibit the use of gas boilers (or other forms of direct emissions heating system) as the primary source of heating and domestic hot water for new domestic buildings. As there is no building warrant in place, the developer would be required to comply with the new building standards, the aim of which is to ensure that all new houses built in Scotland have climate friendly heating systems which do not produce any greenhouse gas emissions at the point of use. The new building standards go considerably beyond the carbon reduction measures achievable under the above planning condition. The new standards are regulated by the Council's Building Standards service. Given the above factors, the proposed deletion of condition 7 is therefore acceptable.

With regards to the proposed changes to the access arrangements for the development, including the retention of the existing industrial access serving the yard at Amer Sports, it is considered that the only significant difference would be that the new housing to the north (being developed by Persimmon Homes and nearing completion) would be separated from the application site by a service road. It is not considered that the service road would be intrusive to either housing development, given that it already exists and can be appropriately fenced off from the housing within each development (as is already the case with the Persimmon development). Within the site itself, there would be no material difference in the layout nor the housing itself. The proposed new access onto Crompton Way would serve only the new housing and would be designed to the appropriate residential standard.

The delivery of major housing sites identified in the adopted LDP remains a key priority for the Council, particularly in relation to its strategic policies of stimulating population growth and economic development as part of the regeneration of North Ayrshire. Development viability remains a key issue given the significant impact of inflation on construction projects in recent years. The proposal to modify the layout in order to reduce construction costs is therefore acceptable, particularly given that the existing access serving Amer Sports meets the required standards for an industrial access road. As previously, road construction consent (RCC) would be required for the new development. An application for RCC will require to be submitted once a developer is secured and considered by the relevant service of the Council in due course. This process will enable all technical and construction standards for the road design and street lighting to be considered at the appropriate time.

With regard to National Planning Framework 4, it has been determined that the Section 42 application does not raise any significant strategic planning issues which conflict with the foregoing assessment.

It is therefore recommended that planning permission is approved, subject to the conditions set out below. If granted, the renewed planning permission would be brought into alignment with the updated building standards with a layout that is both viable and deliverable.

4. Full Recommendation

Approved subject to Conditions

Condition

1. That prior to the commencement of the development hereby approved, the developer shall provide full details of the proposed finishing materials for the written approval of North Ayrshire Council as Planning Authority. Thereafter, the development shall progress in accordance with such details as may be approved.

Reason

In order to ensure that the finishing materials are of high quality in the interest of the visual amenity of the area.

Condition

2. That prior to the commencement of the development hereby approved, the developer shall provide full details of the proposed boundary treatments for the written approval of North Ayrshire Council as Planning Authority. For the avoidance of doubt, all houses with vehicular parking to the rear shall be provided with a direct means of access from their allocated parking space to their rear door. Thereafter, the development shall progress in accordance with such details as may be approved.

Reason

In order to ensure that the design and appearance of the boundary treatments is acceptable in the interest of the visual amenity, safety and security.

Condition

3. That no development shall take place until there has been submitted to and approved by North Ayrshire Council as Planning Authority a scheme of landscaping, which shall include details of species, planting densities, soil treatment and aftercare. The scheme shall include indications of all existing trees on the land to be retained together with measures for their protection in the course of the development.

Reason

In order to ensure that the site is appropriately landscaped in the interest of amenity.

Condition

4. That all planting, seeding or turfing comprised in the approved details of landscaping shall be carried out in the first planting season and seeding seasons following the occupation of the buildings or the completion of the development, whichever is the sooner. Any trees or plants which, within a period of five years from the completion of the development die, are removed, become seriously damaged or diseased shall be replaced in the next planting season with others of a similar size and species, unless North Ayrshire Council as Planning Authority gives written consent to any variation.

Reason

In order to ensure that the landscaping scheme is undertaken in the interest of amenity.

Condition

5. That prior to the commencement of the development hereby approved, full details of the surface water drainage system, including the discharge rate, basin capacity, other

temporary storage capacity, water quality treatment measures and post development flood flow paths shall be submitted for the agreement of North Ayrshire Council as Planning Authority. Confirmation shall be submitted in writing to North Ayrshire Council as Planning Authority and certified by a suitably qualified person that a surface water drainage system to manage and treat runoff at the site has been designed in accordance with the principles and practices contained in 'The SuDS Manual' (CIRIA report C753, published November 2015). Thereafter, the details as may be approved shall be implemented prior to the completion of the development to the satisfaction of North Ayrshire Council as Planning Authority.

Reason

To secure a sustainable drainage system for the management of surface water.

Condition

6. That prior to the commencement of the development hereby approved, the developer shall provide full details of the proposed acoustic barrier to be erected between the development and the Amer Sports warehouse for the written approval of North Ayrshire Council as Planning Authority. Thereafter, the barrier shall be erected in accordance with such details as may be approved prior to the first occupation of the development and permanently retained unless otherwise agreed in writing by North Ayrshire Council as Planning Authority.

Reason

In order to ensure that the dwellinghouses hereby approved are not affected by noise from the neighbouring warehouse in the interest of amenity.

Condition

7. The internal noise level from road traffic during daytime hours (0700-2300 hours) in any habitable room within any residential property to which this consent relates must not exceed LAeq 16-hour 35dB. In addition, the internal noise level from road traffic during night hours (2300-0700 hours) in any habitable room within any residential property to which this consent relates must not exceed LAeq 8-hour 30dB. If these levels cannot be achieved with an open window strategy, then alternative means of ventilation will require to be provided.

Reason

In order to ensure that the dwellinghouses hereby approved are not affected by road noise in the interest of amenity.

Condition

8. That prior to the commencement of the development, the applicants shall finalise the ground investigation report submitted in support of the application by JPB Reference Number VG190-18/SAG/MAK Draft Issue and dated December 2021 and submit a Remediation Strategy. All documentation shall be verified by a suitably qualified Environmental Consultant and submitted to the satisfaction of North Ayrshire Council as Planning Authority. On completion of the proposed works written verification, detailing what was done by way of any remediation, shall also be submitted.

Reason

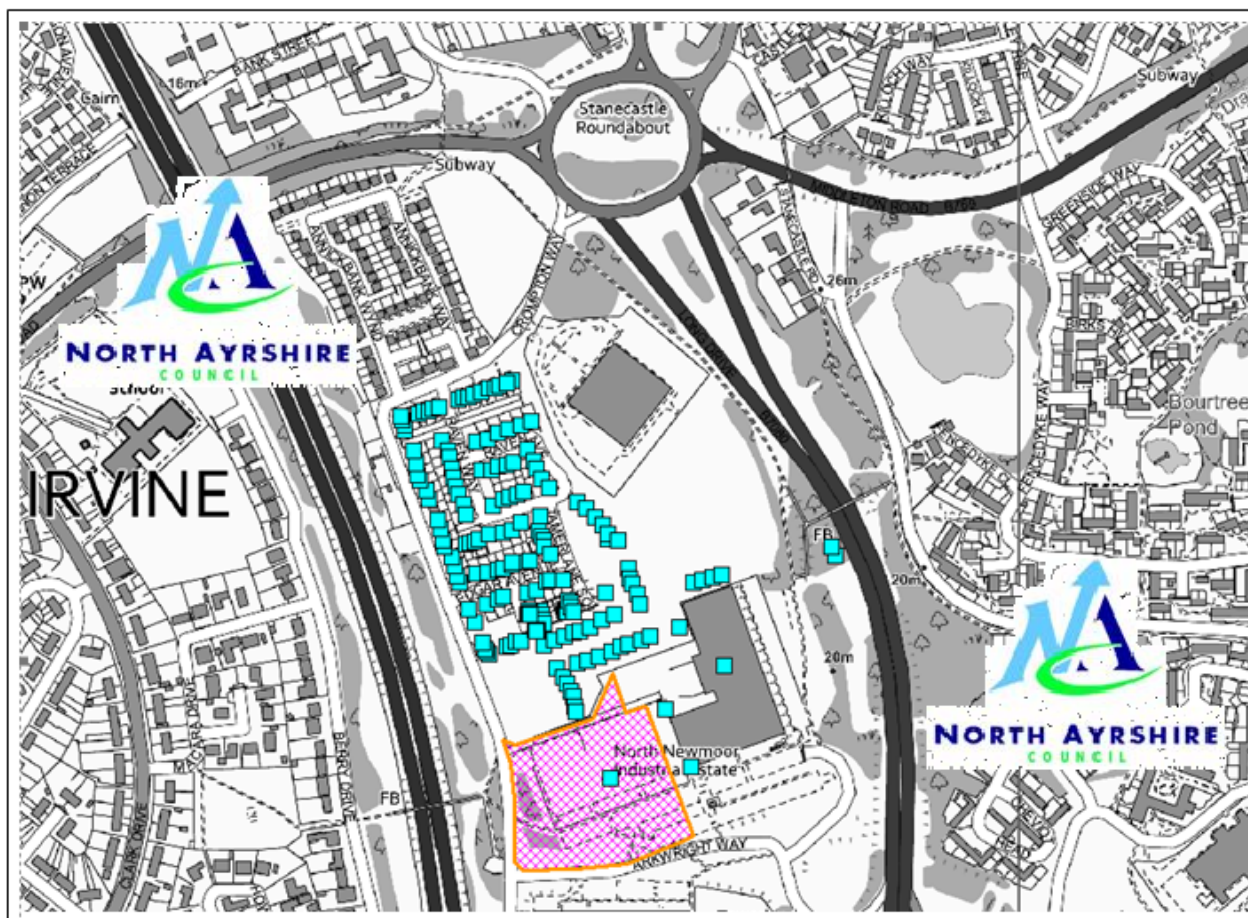
In order to ensure that the site is remediated for residential use in the interest of health and safety.

Allan Finlayson
Chief Planning Officer

For further information please contact Mr A Hume Planning Officer on 01294 324318.

Appendix 1 – Location Plan

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NORTH AYRSHIRE COUNCIL
22nd January 2025**Planning Committee**

Locality	Three Towns
Reference	24/00505/PP
Application Registered	27th June 2024
Decision Due	27th August 2024
Ward	Saltcoats And Stevenston

Recommendation	Approved subject to Conditions
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Location	McDonalds Restaurants Ltd 4 Hawkhill Retail Park Kilwinning Road Stevenston North Ayrshire KA20 3DE
Applicant	WES No.1 Ltd C/o Waypoint Asset Management Ltd
Proposal	Change of use of Unit 4 from a restaurant and drive-thru (Class 3/Sui Generis) to shops, financial professional and other services (Class 1A) and erection of drive-thru restaurant (Class 3/Sui Generis) with associated access, servicing car parking and other associated works

1. Description

This can be ascertained by reference to the attached plans and photographs.

Permission is sought for the change of use of an existing drive-thru restaurant to a shop (Use Class 1A) and erection of a new drive-thru building within the Hawkhill Retail Park.

Unit 4 is the easternmost unit within the Hawkhill Retail Park. Planning permission was granted in 2002 (ref: 02/00578/PP) for a change of use of this unit from retail to drive-thru restaurant. The unit is currently occupied by McDonald's. It is some 358sqm in area and utilises the easternmost end of the Retail Park car park as its drive-thru lane.

The rest of the Retail Park comprises a B&Q (Unit 1) and a B&M (Units 2 and 3) and a supermarket to the south. The applicant has indicated that should Unit 4 return to retail use, it would likely be used by B&M to expand their existing operation. Following

discussions with Officers, in order to discontinue the existing drive-thru, details of proposed shopfront modifications to remove the service hatches has been provided, as has details of removal of signage and other existing drive-thru infrastructure. The applicant has advised that the existing drive-thru lane also provides service access to an existing electricity sub-station. It is proposed to provide bollards to allow service access only.

It is proposed to build the new drive-thru in the south-western corner of the Retail Park car park. The building would be two-storeys with a ground floor footprint of some 260sqm. The ground floor would comprise dining area, toilets and kitchen. The first floor would have a larger kitchen, stores and staff facilities. There would be an enclosed storage area some 60sqm in area at the eastern end and an outdoor seating area some 38sqm in area at the western end.

The building would have a flat roof and be some 7.8m in height. The plant for the kitchen and stores would be located on the roof surrounded by a screen some 0.8m in height.

The elevations would be finished in a mixture of dark grey horizontal cladding and timber effect vertical cladding with white canopies above the first-floor windows. The northern elevation would have the main entrance door and full height windows at ground floor, the western elevation would have doors on ground floor with windows for the staff room and office above, the southern elevation would have service hatches and windows for the kitchens, and the eastern elevation would have a door giving access to the storage area, which would be enclosed by a grey panel fence some 3m in height.

17 car parking spaces, including 2 accessible bays would be formed to the east of the building. There would also be cycle parking provision. The drive-thru lane would be to the south, with access taken from the east, and vehicles exiting on the western side of the building. Two waiting bays would be provided. The area to the south of the lane would be landscaped.

Following discussions with Officers, the proposal also includes active travel links. It is proposed to create a zebra crossing on the Retail Park service road, new zebra crossings in front of Unit 4, an active travel link would be provided to the western boundary of the site and a pedestrian link to the south, namely a set of steps, would be created.

In support of the application, the applicant has also submitted documents including a Planning Statement, Transportation Assessment, Air Quality Assessment, Noise Impact Assessment, Odour Report and the opinion of a King's Counsel in respect of Policy 27(d) of NPF4. The Planning Statement advises that Unit 4 is likely to be taken on by B&M as an expansion of their existing operation. It also sets out the sequential test undertaken in respect of Unit 4.

Hawkhill Retail Park is identified as a Commercial Centre in the Council's adopted Local Development Plan (LDP). This includes the Morrison's supermarket to the south, which sits at a lower level to the site. The LDP states that continuation of the site as retail bulky goods comparison will be safeguarded. However, only Unit 1 (B&Q) is restricted to DIY, furniture, electrical and gardening goods. Unit 1 was built under permission dated September 1995 (ref: 95/00698/PP). Units 2 and 3 were built under permission dated June 1996 (ref: 96/00785/PP). This permission was amended several times in subsequent years culminating in permission dated December 2012 (ref: 12/00550/PP) which allows a combination of food/drink/confectionary, clothing and footwear, toiletries, pet products and

toys as well as DIY, furniture, electrical and gardening goods. As stated, Unit 4 has permission to be a drive-thru restaurant.

To the immediate east is Open Space with an informal path running from the Pennyburn Roundabout to the north. To the north and west of the Retail Park are houses within Stevenston.

The application requires to be assessed against Strategic Policy 1: Towns and Villages Objective, Strategic Policy 2: Placemaking, Policy 3 Town Centres and Retail, and Policy 27: Sustainable Transport and Active Travel of the LDP. The application also requires to be assessed against Policy 13, Policy 14, Policy 27 and Policy 28 of the against the adopted National Planning Framework 4 (NPF4).

The Stevenston Local Place Plan was prepared by Stevenston Community Council and registered with North Ayrshire Council in August 2024. It is a material consideration for this application.

Relevant Planning History

95/00698/PP
96/00785/PP
02/00578/PP
12/00550/PP

Relevant Development Plan Policies

The LDP can be viewed at the link below.

[LDP November 2019](#)

NPF4 can be viewed at the link below

[National Planning Framework 4](#)

2. Consultations and Representations

The application was subject to statutory notification and advertised in the local press. There has been 1 objection and 1 neutral comment. 19 letters of support were also received.

The neutral comment can be summarised as follows:

1. The vegetation to the east of the existing drive-thru is infested with rats. The rubbish bins for the existing drive-thru are also inadequate and attract gulls.

Response: Concerns about vermin should be reported to NAC Environmental Health who can investigate under their powers. They were consulted on the new proposal and the response is set out below.

The objection was made on behalf of B&Q and can be summarised as follows:

1. The application is considered to be contrary to policy relating to retail. The change of use of the existing drive-thru to a retail unit is considered to be contrary to policies of the development plan which require a sequential test to be undertaken for new retail proposals. The methodology submitted fails to address those policy requirements.

Response: It is considered that the primary policy relating to retail in the development plan is Policy 28 of NPF4. This states that the town centre first principle means that new retail development will be supported in commercial centres if they are allocated as sites suitable for retail in the LDP. The site is a commercial centre as identified in the LDP and the specifics are considered further below.

2. Policy 27 of NPF4 specifically states that drive-thru developments will only be supported where they are specifically supported in the LDP. Drive-thru in this location is not specifically supported in the LDP. This is not a relocation of the existing use but the replacement with a new drive-thru that will likely have an increase in trade.

Response: An assessment of the proposal against Policy 27 of NPF4 and all other relevant policies of the development plan is set out below.

3. The new drive-thru would only provide 17 parking spaces when 25 are required. This will also mean a net loss of 76 spaces for the Retail Park. It is considered that the Council's guidance requires 98 parking spaces. This would have a knock-on impact on the viability of the Retail Park given the loss of spaces. During construction there would be a reduction of 85 spaces.

Response: North Ayrshire Active Travel and Transportation (Roads) was consulted, and their comments are set out below. They confirm that the Council's guidance is just that. They also confirm they are seeking to adopt the National Roads Development Guidelines. Those Guidelines determine there would be an overprovision of approx. 100 spaces within the whole Retail Park.

4. It is not clear if the required visibility splays for the access into the Retail Park can be met. A swept path analysis should be provided to demonstrate the vehicle movements achievable in the drive-thru lane. A delivery and waste management plan should be required which demonstrates the parking area would be kept free for service vehicles.

Response: NAC Active Travel and Transportation and Transport Scotland have both been consulted and neither has any concerns regarding the access within the retail park or the impact on the wider road networks. The submitted Transport Assessment has a swept path analysis which shows a 7.5t van can turn and use the drive-thru lane. Delivery and waste management would be matter for the operator of the development. However, details showing that it can be done from a 26t fixed cab lorry from within the site has been provided.

5. It is not considered there would be safe movement for pedestrians and cyclists between the new unit and the wider Retail Park.

Response: NAC Active Travel and Transportation has been consulted and their comments are below. They have no concerns regarding movement within the retail park. Active travel links are proposed for the wider area and are considered below.

6. Potential noise and odour nuisance from the proposed trading for 24 hours a day. The current drive-thru operates from 5am to 1am daily. Odour should also not impact on B&Q as well as adjacent residences.

Response: A Late Hours Catering License would be required to operate after 11pm, and this would be a matter for the Licensing Authority. It is noted the current drive-thru has such a license. NAC Environmental Health has powers to act against statutory nuisance.

7. Litter could increase in the area. It is considered that a litter management plan is required if planning permission is granted.

Response: The proposal includes a storage yard which would include bin storage. The applicant has also provided a Transport Assessment which includes details of access for servicing including waste removal. Notwithstanding, should litter be dropped by the customers the Council has a range of powers. Again, it is noted the applicant has control over this part of the Retail Park and car park and would be responsible for any amenity impacts from litter in the area.

8. If permission is granted a Construction Management Plan should be required to demonstrate that sufficient customer car parking will be retained with safe access/circulation protected.

Response: As stated above, the entire Retail Park is in the ownership of the applicant. Safe access/circulation would be a matter for the applicant in terms of the safety of any users of the site. Notwithstanding, a Dust Management Plan is required by NAC Environmental Health (see below) and a wider Construction Management Plan with details of who is responsible during construction could be required as part of any permission. Any issues with the day-to-day operation of the retail park would be a matter for the applicant.

The letters of support were received in bulk and are of similar format. The support comments are on the grounds of improvement to the retail park and upgrading of the drive-thru facilities.

Response: Noted.

The following consultations were carried out:

Scottish Water - Currently sufficient capacity for in terms of water and wastewater connections. Advice is given to the applicant in terms of connections.

Response: Noted

NAC Environmental Health - No objections. The rated noise level from operation must not exceed 5dB the curtilage of a noise sensitive properties. At nighttime (11pm to 7am) the noise from plant and extract machinery should not exceed the Noise Rating Curve NR 25, as defined BS 8223:2014m, when measured in a habitable room of a noise sensitive property with windows open for ventilation. A Dust Management Plan should be submitted for the construction phase.

Response: Noted. The nearest noise sensitive properties are some 40m to the south-west on the other side of the access road. Those properties face north-west/south-east and

there is mature landscaping on the eastern side. Should noise from the plant cause disturbance, Environmental Health has powers to take action against any statutory nuisance. Should the drive-thru wish to operate after 11pm, a Late Hours Catering License would be required, and this would be a matter for the Licensing Authority. A Dust Management Plan for the construction phase could be added as a condition to any permission.

Transport Scotland - No objections

NAC Active Travel and Transportation - Initially objected on grounds of parking. The parking objections were based on the Council's current guidelines. However, following clarification with the applicant the parking objections were removed. This is because the proposal meets the National Roads Development Guide. It is intended for the Council to adopt the National Guide, although this has not been formally done yet. The National Roads Development Guide requires 139 parking spaces for the retail park and 24 parking spaces for the restaurant. Active Travel and Transportation note there are only 17 spaces proposed within the application site. They consider another 7 spaces should be provided within the application boundary although they noted that there would be 257 spaces in the entire retail park.

In terms of active travel connections, they consider that a 3m wide shared Active Travel Route should be provided from the east of the site to the existing route at the Pennyburn Roundabout. A route should also be provided to the south where there is currently a desire line. NAC Active Travel and Transportation also consider that details of the removal of the existing drive-thru lane should be provided.

Response: In terms of parking the comments relating to the National Roads Development Guide and the Council's current guidelines are noted. Given the status of the National Roads Development Guide and the intention to adopt, it is considered that this has more weight in respect of the planning application. It is also noted that both documents are guides only and do not form part of the development plan.

NAC Active Travel and Transportation's concerns regarding a shortfall of 7 parking spaces, according to their guidance, within the application site are noted. However, it is also noted that the retail park itself, according to their guidance, has an overprovision of approx. 100 parking spaces. It appears likely that any lack of parking within the site would be more than catered for by the rest of the retail park. It is again noted that the whole of the retail park is within the ownership of the applicant.

Following discussions with the applicant, active travel provision has been included. There would be cycle parking within the application site, which could be required by condition. There would also be a new zebra crossing over the existing access road to the retail park on land within the applicant's control. A set of steps would also be provided to the south, over the existing desire line, on land in the applicant's control. The steps would give access to an existing pavement within the Morrison's site to the south. It is noted that people using the retail park also park in Morrison's and walk between the two areas. It is finally proposed to create new zebra crossings within the retail park car park, in front of the existing unit. This would give access to an active travel path link to the eastern boundary.

NAC Active Travel and Transportation's wish for a link all the way to the Pennyburn Roundabout is also noted. However, the land beyond the eastern boundary is not in the applicant's control. It is considered to be both unreasonable and outwith the scope of planning to require such a link. However, the proposed link to the eastern boundary would allow for a future connection to be made.

The existing drive-thru lane would be retained as vehicular access to a substation to the east of the existing unit. It would be restricted to authorised vehicles only by way of bollards and all existing drive-thru infrastructure would be removed. This is considered further below.

Publicity:- Ardrossan & Saltcoats Herald

Reason for advertisement:- Regulation 20 (1) Advert

Published on:- 10.07.2024

Site Notices:- No Site Notice

3. Analysis

All planning applications are required by the Planning Acts to be determined with regard to the provisions of the development plan, so far as material to the application, and to any other material considerations. It is considered that the main considerations for this application are therefore the Scottish Government's National Planning Framework 4 (NPF4) adopted February 2023, and the North Ayrshire Council Local Development Plan (LDP) adopted November 2019.

Policy 27: City, Town, Local and Commercial Centres of NPF4 states in part (d) that drive-thru development will only be supported where they are specifically supported in the LDP.

The Retail Park is identified as a Commercial Centre, but no specific support is given to drive-thru development. There are no specific areas of support for drive-thru development in the LDP. The LDP was adopted in 2019 with NPF4 adopted in 2023.

The applicant's opinion with regard **Policy 27(d)**, essentially that there being no specific drive-thru designations does not mean that the development cannot be supported, is noted. The applicant points to the Scottish Government's advice that **Policy 27(d)** should not be read as a moratorium on such development but that the facts and circumstances of each case should be considered. They also point to this approach in an appeal decision for a drive-thru in Dundee (which was refused as contrary to the development plan).

It is agreed that each application must be determined on its merits. An application being contrary to a development plan policy may still be supported if it is considered that material considerations outweigh the policy conflict. This is considered more fully below. It is also noted the existing drive-thru would be removed and the applicant has provided details of works to the existing drive-thru lane and service windows which would render the existing drive-thru inoperable. These works could be required by condition should permission be granted. However, **Policy 27(d)** makes no distinction between new and

replacement drive-thru restaurants. It is therefore considered that the proposed drive-thru is contrary to **Policy 27(d) of NPF4**.

Policy 28: Retail of NPF4 states that development proposals for retail will be consistent with the town centre first principle. The policy specifically states that this means new retail proposal will be supported if they are allocated as sites suitable for new retail development in the LDP. Development proposals which meet that test will be supported where the proposed development is of an appropriate scale for the location, will have an acceptable impact on the character and amenity of the area and is located to best channel footfall, to benefit the place as a whole.

Strategic Policy 1: Towns and Villages Objective of the LDP states that a town centre first principle will be adopted. Support will also be given to proposals which generate new employment opportunities by identifying a range of flexible areas including for commercial development.

Policy 3: Town Centres and Retail of the LDP states that support will be given in principle to development in the Council's network of centres, where it is of a scale appropriate to that centre. The policy sets out the order of preference for retail development and a methodology for assessment.

As stated above the application site is identified as a Commercial Centre in the LDP. The LDP goes on to state that this is a site to be safeguarded for bulky goods. It is proposed to turn the existing drive-thru (Unit 4) into a retail unit. The use of Unit 4 for retail could therefore accord with **Policy 28 of NPF4** in principle if the unit was restricted to bulk comparison goods or tied to an existing use.

The applicant has advised that Unit 4 is likely to be occupied by the operator of Units 2 and 3 (B&M). The planning permission for Units 2 and 3 allows a combination of food/drink/confectionary, clothing and footwear, toiletries, pet products and toys as well as DIY, furniture, electrical and gardening goods. It is therefore considered appropriate that the use of Unit 4 be tied to the use of Units 2 and 3. This could be done by condition, if permission is granted. A future occupier would be entitled to apply to vary the condition or seek further permission for an alternative retail operation and that could be considered on its merits at the appropriate time.

Subject to a condition, it is considered this part of the proposal accords with the principle of **Policy 28 of NPF4** and **Strategic Policy 1 of the LDP**. The impact of the proposal in terms of scale, character and amenity and channelling footfall, is considered further below.

In terms of Policy 3 of the LDP, this has a very specific assessment methodology requiring a sequential test. A sequential test has been carried out by the applicant. The objection relating to the test only considering Stevenston is noted. However, **Policy 28 of NPF4** is more straightforward - Commercial Centres are acceptable for retail development if allocated as such in the LDP. As stated, the proposal is within an allocated Commercial Centre. It is considered the requirements of **Policy 3 of the LDP** are outweighed by the test requirements of **Policy 28 of NPF4**. Notwithstanding, it is also considered the proposal accords with **Policy 3 of the LDP** as retail development in an identified Commercial Centre.

Strategic Policy 2: Placemaking of the LDP states that all development proposals must meet the relevant qualities of successful places as outlined in the policy. This is essentially reiterated in **Policy 14: Design, Quality and Place of NPF4**.

Policy 27: Sustainable Transport and Active Travel of the LDP states that support will be given to development that contributes to factors including reducing inequality by improving the accessibility and connectivity of the employment opportunities and local amenities.

Policy 13: Sustainable Transport of NPF4 states that development will be supported where it can be demonstrated that the transport requirements generated have been considered in line with the sustainable travel hierarchy and sustainable investment hierarchy by making use of existing infrastructure. Where appropriate they should provide direct, easy, segregated and safe links to local facilities for active travel; will be accessible by public transport ideally supporting the use of existing services; and supply safe, secure and convenient cycle parking. Development proposals for significant travel generating uses will not be supported in locations which would increase reliance on the private car.

The proposed new drive-thru building would be modern and commercial in appearance, as may be expected. Its height and scale would be appropriate in the context of the adjacent buildings, and it would be sited to provide a welcome to this entrance to the retail park. The works to remove the existing drive-thru would be in keeping with the existing buildings and car park.

The new building would be sited over 40m from the nearest residential buildings and some 50m from the commercial units to the north. The nearest existing building would be the petrol filling station, part of the supermarket, some 30 to the south-east. Given this, it is not considered there would be any daylight or sunlight or overlooking impacts arising from the proposal.

NAC Environmental Health has been consulted and gives advice on the operation of the proposed drive-thru. Environmental Health has powers to take action against statutory noise or odour nuisance. A License would be required to operate after 11pm, which would be within the control of the Council, as Licensing Authority. Given all of the above and that an existing drive-thru would be replaced, it is not considered the proposal would give rise to any significant other amenity impacts. A Dust Management Plan, part of a Construction Management Plan, could be required by condition to seek to minimise amenity impacts during the construction phase.

The site is within an existing retail park with the existing connections to the road network. The parking provision for the drive-thru is seven spaces fewer than the National Guidelines. However, there is an overprovision of parking within the Retail Park as a whole and active travel opportunities would be improved as set out below. NAC Active Travel and Transportation and Transport Scotland have been consulted and have no concerns about impact on the road network.

A range of active travel improvements have been proposed to provide options other than car travel. A new zebra crossing would be formed on the access road linking to the pavement leading to the residential area of Stevenston, as would new zebra crossings within the Retail Park. An active travel path link would be formed to the eastern boundary of the land within the control of the applicant to allow a future link to the informal path

network to the east. Cycle parking spaces would be provided within the new drive-thru. All these matters could be required by condition to be carried out prior to the operation of the new use.

There is currently a desire line where users of the Retail Park cross a grass embankment to get between the upper level and the supermarket. It is proposed to install a set of steps on this desire line to make a formal connection between the two areas. This would link into the paths within the supermarket site and the wider area. This includes the bus stops on Kilwinning Road on the southern side of the retail park. There would be step-free access via the existing pavement on the western and southern sides of the application site. Again, a requirement to create the link could be required by condition should permission be granted.

The proposal is within a commercial centre which already has a high level of car dependence. The proposal would improve active travel links both within the commercial centre and to the wider area improving accessibility for both the amenities and employment opportunities the centre provides. As such the proposal is considered to accord with the qualities of a successful place, as set out in **Strategic Policy 2 of the LDP** and **Policy 14 of NPF4** and the accessibility of the proposal is considered to accord with **Policy 27 of the LDP** and **Policy 13 of NPF4**. In terms of scale, character and amenity and channelling footfall, the proposal also accords with **Policy 28 of NPF4**.

The Stevenston Local Place Plan is silent in respect of this type of development and only mentions Hawkhill Retail Park in the context of it being a location for most of Stevenston's jobs. In terms of the town centre, it considers that there is a lack of retail infrastructure but considers that this would likely need wholesale redevelopment. It identifies a vacant site on the south side of Fullerton Street as suitable for a community green space or car park, a vacant public house as potentially suitable for housing and a vacant shop unit as potentially suitable for community facilities (this unit has been granted permission to operate as a children's soft play facility).

The Local Place Plan is therefore noted. It is not considered the proposal conflicts with the aims of the Local Place Plan.

The proposal is considered to be contrary to the development plan in that it does not accord with Policy 27(d) of NPF. However, the proposal is considered to accord with all other relevant parts of the development plan. The improvements which the proposal would bring in terms of active travel are considered to have significant weight and it is also noted that the proposed drive-thru would be a replacement. The removal of the existing drive-thru could be controlled by condition and significant weight is also given to this and the provision of retail within a suitable site. The use of Unit 4 as retail, tied to the existing retail uses, would be a return to a previous use of the site and the potential employment generation from an expanded retail offering is also noted.

The above material considerations are considered to outweigh the conflict with the single part of the development plan, and it is therefore recommended that planning permission be granted subject to conditions.

4. Full Recommendation

Approved subject to Conditions

Reasons for Decision

Condition

1. That prior to the commencement of the development, a Construction Management Plan including a Dust Management Plan shall be submitted to the Council, as Planning Authority, for approval. The development will thereafter only be carried out in accordance with any CMP as may be approved.

Reason

To ensure appropriate management of the construction process and to meet the requirements of NAC Environmental Health.

Condition

2. That prior to the commencement of the development, details of cycle parking for the restaurant shall be submitted to the Council, as Planning Authority, for approval. Any cycle parking as may be approved shall be installed prior to the first operation of the permitted drive-thru restaurant.

Reason

To ensure appropriate cycle parking for the restaurant in the interests of facilitating active travel.

Condition

3. That prior to the commencement of the development, details of the steps to the south of the permitted drive-thru restaurant shall be submitted to the Council, as Planning Authority, for approval. The steps, in accordance with any details as may be approved, shall be installed prior to the first operation of the permitted drive-thru restaurant.

Reason

To ensure an appropriate pedestrian link to the south in the interests of improved connectivity.

Condition

4. That prior the first operation of the permitted drive-thru restaurant, the active travel links, namely the zebra crossings, covered cycle parking for retail and the active travel link to the eastern boundary, as shown on approved drawing 13661_AEW_2244_0004 Rev G shall be carried out to the satisfaction of the Council, as Planning Authority.

Reason

To ensure appropriate active travel facilities within the retail park and provide links for future improvements to the wider area in the interests of improved connectivity.

Condition

5. That prior to the first operation of the permitted drive-thru restaurant, the use of Unit 4 as a drive-thru restaurant shall cease and the works comprising removal of drive-thru signage, installation of lockable bollards and removal of service windows, as shown on approved drawings 13661_AEW_2244_0002 Rev F and 13661_AEW_2244_0004 Rev G shall be carried out to the satisfaction of the Council, as Planning Authority.

Reason

To ensure the cessation of the existing drive-thru in recognition of the special justification for the development.

Condition

6. That Unit 4 shall be operated for retail purposes only in conjunction with the use of Units 2 and 3.

Reason

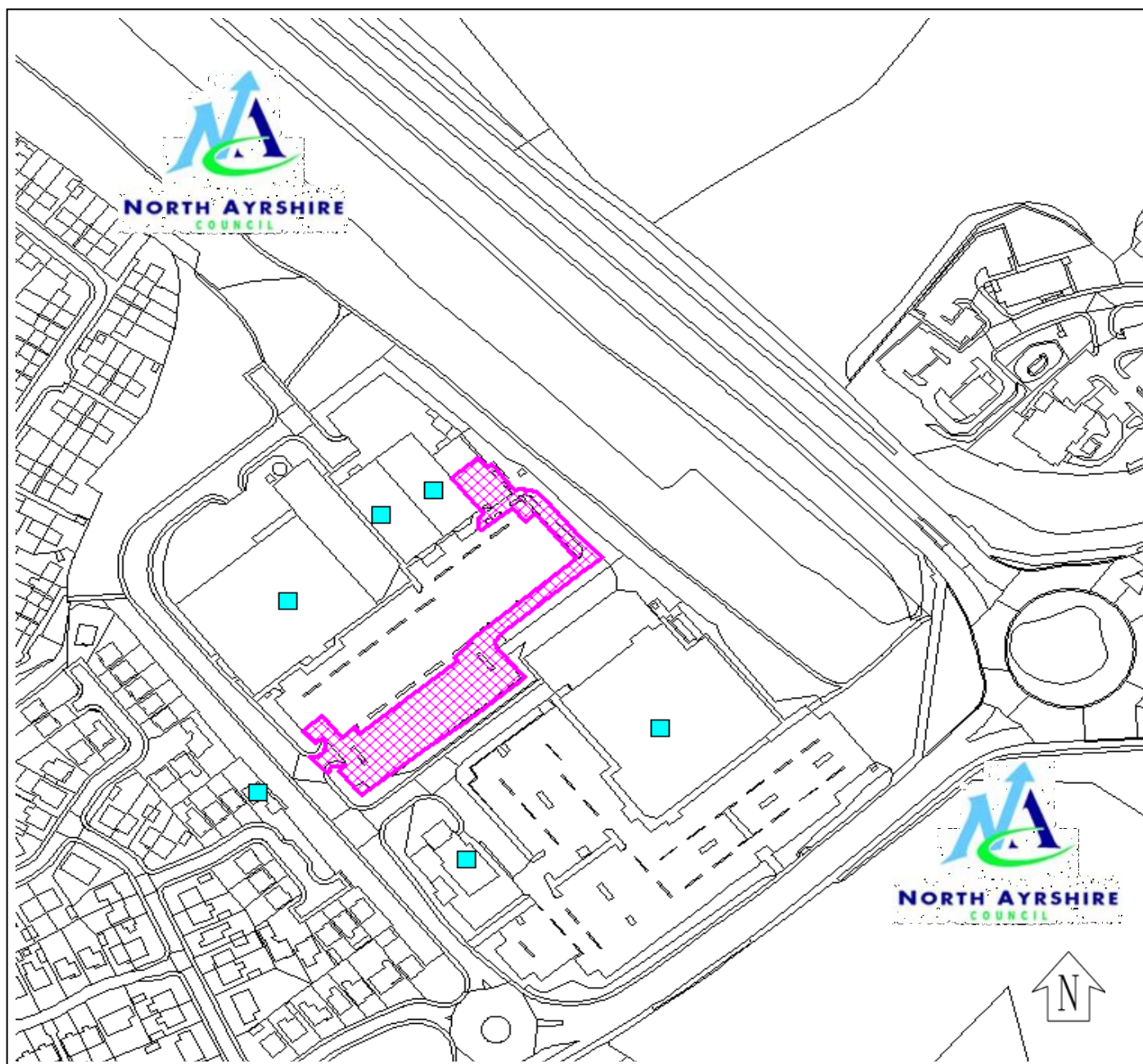
To restrict the retail use of Unit 4 to reflect the permitted use of Units 2 and 3 and in recognition of the specific designation of the retail park as a commercial centre in the development plan.

Allan Finlayson
Chief Planning Officer

For further information please contact Mr Iain Davies on 01294 324320.

Appendix 1 – Location Plan

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NORTH AYRSHIRE COUNCIL

22 January 2025

Planning Committee

Title:	Largs Local Place Plan
Purpose:	To advise Members on the preparation and submission of a Local Place Plan by Largs Community Council.
Recommendation:	<p>It is recommended that the Planning Committee:</p> <ol style="list-style-type: none"> 1) agrees to the registration of the Local Place Plan for Largs submitted by Largs Community Council, and 2) notes the requirement to take account of the plan in the preparation of North Ayrshire's third Local Development Plan (LDP3).

1. Executive Summary

- 1.1 The Planning (Scotland) Act 2019 introduced a new right for communities to produce Local Place Plans (LPPs): community-led plans setting out proposals for the development and use of land and buildings. The aim of LPPs is to enhance engagement in development planning by empowering communities to play a proactive role in defining the future of their places. Planning authorities must take account of registered Local Place Plans when preparing a Local Development Plan.
- 1.2 Largs Community Council submitted a Local Place Plan to the Council on 16 December 2024. Largs Community Council meets the definition of a 'community body' and it is adjudged to have met the requirements concerning the form and content of a Local Place Plan; the steps to be taken before submission; and provided the information required by the legislation and regulations. Accordingly, North Ayrshire Council as planning authority should accept the Local Place Plan as valid and proceed to register the plan.

2. Background

- 2.1 Local Place Plans are part of the Scottish Government's wider work on planning reform which includes steps to reduce conflict, improve community engagement and build public trust in planning matters. Local Place Plans offer the opportunity for a community-led, collaborative approach to creating great local places. It is important that local people can engage meaningfully and have a positive influence in the future planning of development in their areas. The aim of LPPs is to significantly enhance engagement in development planning, empowering communities to play a proactive role in defining the future of their places. The legislative requirements for the

preparation, submission and registration of Local Place Plans are set out in the Town and Country Planning (Scotland) Act 1997, as amended by the Planning (Scotland) Act 2019, and the Town and Country Planning (Local Place Plan) (Scotland) Regulations 2021.

- 2.2 The Act and Regulations set out the minimum requirements for the preparation, form and content and submission of Local Place Plans. LPPs may be prepared by a 'Community Body' defined as a community-controlled body within the definition given in section 19 of the Community Empowerment (Scotland) Act 2015 or a community council established in accordance with Part 4 of the Local Government (Scotland) Act 1973. LPPs must set out and map proposals as to the development or use of land and have regard to certain documents. Prior to submission the community body preparing the Local Place Plan must prepare an 'information notice' for local councillors and neighbouring community councils and, finally, should set out the level and nature of community support for the plan.
- 2.3 Largs Community Council approached the Planning Service in June 2024 intimating their intention to prepare a Local Place Plan for the area. Support was provided by the Planning Service throughout the preparation of the plan, including through the procurement of graphic design services to prepare the plan document. Largs Community Council submitted their Local Place Plan to the Council on 16 December 2024.

Largs Local Place Plan Proposals

- 2.4 A copy of the submitted Local Place Plan for Largs submitted by the Community Council is provided at Appendix 1. It is not the role of the planning authority at this stage to assess the proposals contained within the LPP for their planning merit or deliverability, however, the Plan's proposals for the development and use of land are summarised at Appendix 2. The details of the summary have been confirmed with Largs Community Council to avoid any misunderstanding. Overall, 14 proposals are included within the plan, principally relating to four main themes: tourism; parking; open space and community space. The proposals range from ambitious, large-scale tourist attractions to smaller-scale enhancements to key paths and local parks.

Registration

- 2.5 When a planning authority receives a Local Place Plan it should acknowledge receipt of the plan and check it whether it is valid. A valid LPP is one which a) has been prepared by a Community Body; b) is a proposal as to the development and use of land; and c) fulfils the legal requirements set out in the 1997 Act and the 2021 Regulations. If these three conditions are met, then the planning authority must accept the Local Place Plan as valid and proceed to register it.
- 2.6 The Planning Service proposes to take a 'light touch' approach to the interpretation of the legislative requirements and has liaised with Largs Community Council to ensure the submitted LPP meets the requirements of a valid Local Place Plan. It is adjudged that the Local Place Plan for Largs submitted by Largs Community Council is a valid LPP and should be registered.
- 2.7 Every planning authority must keep a register of Local Place Plans and make publicly available a map that shows the land to which the Local Place Plans in their register of

Local Place Plans relate. When a valid Local Place Plan is submitted by a community body, it must be included in the register and the community body that submitted the plan informed that it has been registered. The register and map must be available for inspection by the public free of charge at all reasonable hours at an office of the planning authority and on a website maintained for that purpose. North Ayrshire's Register of Local Place Plans is available to view at: [Local Place Plans](#)

Other Local Place Plans

- 2.8 In accordance with the legislation, an 'invitation to prepare a Local Place Plan' was published in May 2023 and sent directly to community councils and to community groups via locality planning partnerships. Community bodies intending to prepare a Local Place Plan were invited to submit a 'notice of intention to prepare a Local Place Plan' by completing an online form.
- 2.9 To date, the Planning Committee has agreed to the registration of Local Place Plans for West Kilbride, Seamill and Portencross submitted by West Kilbride Community Council in October 2023 and for Stevenston, submitted by Stevenston Community Council in June 2024. The Largs Local Place Plan is one of two being presented to the January meeting, while Planning Services and the Regeneration team are supporting community bodies in the Garnock Valley to jointly prepare a Local Place Plan. Two other community bodies have also indicated an interest or are in the process of preparing a Local Place Plan: Fairlie Community Council and Skelmorlie Environment Trust.
- 2.10 The Planning Service will continue to support community bodies seeking to progress a Local Place Plan on an individual basis, as required or requested. In line with the amended timetable for the preparation of LDP3 set out in the latest Development Plan Scheme, the deadline for submission of Local Place Plans has been further extended from November 2024 to March 2025. The original deadline was set at 30 June 2024. The intention is to allow community bodies the time they require to complete and submit a valid Local Place Plan so that it may be taken into account in the preparation of North Ayrshire's third local development plan.

3. Proposals

- 3.1 It is recommended that the Planning Committee agrees to the registration of a Local Place Plan for Largs submitted by Largs Community Council and notes the requirement to take account of the plan in the preparation of North Ayrshire's third Local Development Plan (LDP3).

4. Implications/Socio-economic Duty

Financial

- 4.1 Support for the preparation of the Largs Local Place Plan has come from the Local Development Plan budget.

Human Resources

- 4.2 None.

Legal

- 4.3 The legislative requirements for the preparation, submission and registration of Local Place Plans are set out in the Town and Country Planning (Scotland) Act 1997 as amended by the Planning (Scotland) Act 2019 and the Town and Country Planning (Local Place Plan) (Scotland) Regulations 2021.

Equality/Socio-economic

- 4.4 The Council is required to take account of registered Local Place Plans in the preparation of North Ayrshire's third Local Development Plan (LDP3) which will be subject of an equalities impact assessment and assessment on the impact of the plan on children.

Environmental and Sustainability

- 4.5 The Council is required to take account of registered Local Place Plans in the preparation of North Ayrshire's third Local Development Plan (LDP3) which will be subject of a Strategic Environmental Assessment and Habitat Regulations Appraisal.

Key Priorities

- 4.6 Communities and Local Democracy are one of four interlinked and interdependent priorities set out in the Council Plan (2023-28). The preparation of Local Place Plans by community bodies are a means of enabling local communities to be active in the preparation of North Ayrshire's next Local Development Plan and placemaking approaches.

Community Wealth Building

- 4.7 None.

5. Consultation

- 5.1 While there is no legal requirement for a Community Body to engage with the wider community in the preparation of a Local Place Plan, it is however required to include a statement setting out its view of the level and nature of support for the Local Place Plan and the basis on which it has reached that view, including a description of any consultation in respect of the proposed plan.
- 5.2 Pages 6 and 7 of the submitted Largs Local Place Plan describe the approach taken by the Largs Community Council, including to engagement with the wider community and specific community groups within the town. The Community Council's view on the support for each of the proposals is set out within the Local Place Plan.

DAVID W. HAMMOND
Executive Director (Communities and Housing)

For further information please contact **Alistair Gemmell, Strategic Planning Manager**, on **01294 324021**.

Background Papers

Largs Community Council

Local Place Plan 2024



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This place plan has been produced by the Largs Community Council, having been informed by the Largs Community and Community groups.



Figure 2. Largs Community Council Boundary area

It should be noted that the enablement and delivery of the aims and aspirations can only be achieved in partnership with other organisations.

Executive Summary

This place plan has been produced by the Largs Community Council, having been informed by the Largs Community and Community groups.

In setting out to create a Place Plan, the key underlying questions that need to be answered, whether by individuals, or groups, were:

- What is good about Largs and should be protected by the Local Development Plan?
- How does Largs need to change to make it a better place to live, work and visit?
- What do you or your group wish to achieve?

Purpose

This place plan aims to set out independently, the key aims and aspirations of the community, people and groups in the Largs area and how they wish their town to be developed and improved in years to come. Ultimately, working with North Ayrshire Council, a Place Plan requires to help inform the future Local Development Plan 3 for North Ayrshire, and specifically, for the North Coast area, and Largs. It needs to ensure that aspirations and goals can, directly and indirectly:

Be supported by North Ayrshire Council in policies, plans and strategies, and at each stage, this plan indicates when, how and where support will be required, and critically, from whom.

Be realistically deliverable by working in partnership with public and private bodies and Community organisations for example, Largs Community Council, Barrfields user Group, Cairnies Quay Group

Whilst the Plan is primarily defined by individuals and groups representing the community of Largs, it should be noted that the enablement and delivery of the aims and aspirations can only be achieved in partnership with other organisations.

Organisations or groups, including Community bodies that can support delivering Local place Plan

- National Government (UK and Scottish governments)
- Local government (North Ayrshire Council)
- Large businesses. Nuclear Restoration Services, EDF, Peel Ports, XLCC, Bakkafroast, Calmac
- Small businesses. Any number of small businesses in the geography
- Largs Community Development Trust



Approach

The Largs Community Council agreed the best approach to the creation of the plan was to setup a sub-group of the Largs Community Council to consider who, how, why, when and what of the Place Plan and then undertake activities to create it, keeping the Largs Community Council updated periodically.

The sub-group itself was formed of members of the Largs Community Council, however at the inception, all members agreed that the approach was fully inclusive and as such, there were no barriers to participation.

The only exception to this which was identified was the participation of Elected Members. Each member was contacted to ask for their support, and it was through this process that the sub-group determined that the involvement from Elected members would be as part of the consultation but not the creation of a plan.

An initial meeting was held at, and courtesy of, Vikingar and KA Leisure, who have been highly supportive of the undertaking by providing meeting and public consultation space. The meeting agreed this approach as outlined below, as well as identified an initial list of possible ideas and items for inclusion to the plan. A high level discussion on how to engage with the wider Largs Community was held.

Actions were agreed with the sub-group to then carry forward.

The Largs Place Plan subgroup undertook the following activities to engage with the community and seek input to the plan:

- Social Media, various Largs Community Council social media channels were used to promote the creation of the place plan
- A video was created to describe in more detail what a Place Plan was an invite participation in the Place Plan
- The local press kindly published articles outlining the Place Plan and how members of the community could participate
- A specific event was publicised and held at Vikingar in conjunction with the Largs Community Council
- Additional promotion was undertaken through a stand at the Largs Viking Festival

This activity helped the subgroup create the draft plan for a final consultation event. There was in general a low level of interest and participation however those who did participate were interested and provided constructive input.

Who needs to be involved?

The Largs Community Council worked using our local knowledge, as well as with support from North Ayrshire Council to identify as many known Community Groups who may have an interest in inputting or the output of a Local Place Plan.

Sport

- Largs Thistle Community Group
- Largs Colts

Music and Drama

- Barrfields User Group under which sits Largs Theatre, Largs Operatic
- Largs Players
- Largs Music Club

Hobbies and Interest

- Boys Brigade
- Girls Brigade
- Scouts
- Aubrey Park Model Boat Club

Health and Wellbeing

- The Cameron Centre
- Dementia Friendly Largs & District
- Largs Green Futures
- Douglas Park Project
- Clyde Coast & Cumbrae men shed
- Opportunities in Retirement

Tourist and Environment

- Largs Events
- Largs and District museum
- Viking Festival Group
- Cairnies Quay group

Local Interest and Support

- Largs Resilience Team
- Largs Community Development Trust
- Largs Community Larder
- North Coast Community Cookhouse
- St Mary's Primary Parent Council
- Largs Academy Parent Council
- Largs Primary Parent council
- Largs Community Council





What is a local place plan?

The following definition of a Place Plan is provided by North Ayrshire Council “Local Place Plans: Handbook for communities in North Ayrshire “ and is used as the basis for the creation of the Largs Local place Plan.

- 1.1 A local place plan is a community-led plan setting out proposals for the development and use of land. A local place plan must fulfil the following criteria. It must:
 - be prepared by a ‘community body’.
 - be a proposal as to the development or use of land
 - fulfil the legal requirements set out in the 1997 Act and the 2021 Regulations concerning the form and content of the plan; how it is prepared, and the information provided when submitted to the planning authority.
- 1.2 In a broader sense, local place plans are a tool for local communities to take the initiative in thinking about how to make their ‘place’ better, including by tackling a particular issue or issues that impact on a community. They provide an opportunity to express a community’s aspirations and priorities; identify ideas and projects and be a catalyst for action that makes positive changes happen

How we created an inclusive Place Plan and agreed the approach

The initial sub-group meeting discussed and agreed an approach to make sure we undertook a logical and structured approach to the work and ensuring that interested parties were engaged in the right way, and at the right time. The approach agreed can be summarised as below:

1. Discuss and input ideas from the experiences and known views of the people of Largs from the current CC inception in 2021
2. Create a working draft plan for internal review and update
3. Informally engage community groups to understand any wants and needs which would be relevant to LPP and incorporate
4. Engage wider public to gauge feelings and likely support on key topics using surveys, personal engagement and use of social media
5. Finalise formal Draft Plan for consultation with all relevant community groups
6. Hold consultation event (using Largs Community Council meeting or single issue meeting if required), as well as distribute plan through various media to ensure coverage and accessibility
7. Review consultation output and update plan to prepare a Final Draft for submission to North Ayrshire Council
8. Finals and submit Plan to North Ayrshire Council.

For Tourism, Largs has much to offer, and within the town there are various groups working on improvements to the offering, whether simply in publicity, signage, or new facilities.



The Largs Community Council worked using our local knowledge, as well as with support from North Ayrshire Council to identify as many known Community Groups who may have an interest in inputting or the output of a Local Place Plan.

Vision for Largs

This section of the Plan contains a summary of all the ideas, plans, hopes and aspirations of the community of Largs, as identified through the outlined approach.

At the outset, it must be made clear that within the town of Largs, there is much positivity about Largs, what it has to offer and how it is perceived by those who live, work and visit here.

Largs is viewed by most as the 'Jewel in the Crown' of North Ayrshire and west central Scotland. A recent survey of local businesses provided results which are consistent with the views gathered by members of the Largs Community Council from the general public.

This plan therefore has a sound baseline to start from, and as such, should be viewed as a series of enhancements that can or could be delivered over the period of the next Local Development Plan, or beyond. There is a general feeling that the town must strive forward to keep Largs at the top of the list for people to visit, and to come and live, and that things cannot just stand still, but be proactive at continual improvement and development.

The Largs Community Council has categorised for the purposes of easier understanding and to provide a view of the key priorities of the community, as well as more detail of each where possible. The following categorisations have been chosen on the basis of their direct relevance to Largs.

These are:

- Tourism
- Parking
- Open Space
- Community Space

For Tourism, Largs has much to offer, and within the town there are various groups working on improvements to the offering, whether simply in publicity, signage, or new facilities. It is acknowledged that whilst Largs does offer much to visitors, there are many untapped resources locally that could add to the bustling local economy.

Whilst having 'Parking' as a Category in its own right may appear unusual, the strength of feeling from those who work, live and visit Largs in this matter is palpable and often dominates discussions on how Largs can be improved. The issue of parking is generational, however through engagement locally, it is recognised that there is significant scope to deal with this problem in a positive way, and that previous inertia should not be a reason not to pursue the matter.



Largs is a rural town, in so far as it is surrounded by farmland and open moorland to the east, north and south, and the Clyde estuary to the west. The setting of Largs against the backdrop of the Renfrewshire Heights means that ensuring the surrounding land is developed in a way that enhances Largs is important, hence inclusion in this Plan. It is acknowledged upfront that the Local Development Plan will have limited scope to support stated aims from the community due to the nature of Planning Law, however it has been included for completeness and to also allow further engagement with a formal baseline of these concerns.

Largs has a suite of Community Spaces available, albeit disparate in how these are provided, and there is scope to build on the offering available to the community, as well as help smooth the path for groups wishing to make improvements to the offering. Compared to other towns across North Ayrshire, there is a feeling in community groups that Largs is 'short changed' in terms of provision, and there are some key ideas that have been raised around developing the community space in the town.

Tourism

Toilets

Issue

Toilet facilities in Largs have been under threat of closure for some time. There is unanimous opposition to this from residents, visitors, community council and elected members. The facilities at Aubrey, Mackerston, Broomfields and the Pencil are in need of upgrade and may require new buildings.

Comment

The Largs Seafront Car Park fund was used to pay for the upgrade of the public toilets at Gallowgate. North Ayrshire Council is seeking to close the other toilets, however there is no obvious community group in a position to take these over. Notwithstanding this, using the seafront car park funds wisely could provide funding for upgrades.

Requirement and Solution

- That future Local Development Plan would be supportive of upgrades of existing toilet facilities, and should 'demolish and replace' be required, the Local Development Plan itself should not put any obstacles to permission being granted on or near the existing sites and a larger footprint if required.
- The toilet near the Pencil may be required to be moved to nearer the Championship Slipway to be more useful to those during sailing events.

Community Support is HIGH

- Historically residents and visitors alike are supportive of public toilets and are on the whole clear that facilities should be improved and not downgraded.



North Ayrshire Council is seeking to close the other toilets, however there is no obvious community group in a position to take these over. Notwithstanding this, using the seafront car park funds wisely could provide funding for upgrades.



Brisbane Observatory

Issue

Largs, and the Brisbane Glen, was the home of Brisbane House, build by the late Sir Thomas Makdougall Brisbane, famed astronomer, and after whom the city of Brisbane, Australia, is named.

A project has been launched to save the internationally significant astronomical observatory for future generations. The Project is entering Phase 2, which will leave the building in a stable and secure condition before any further work is considered.

The remains of the Observatory he built near Brisbane Mains are historically significant however are not protected against development which could detract from the current site and any future development in the area.

Comment

The Trust's aim is to save the Observatory 'for generations yet unborn' (Brisbane's own words). It's objectives are:

1. To preserve the Observatory and provide controlled access to it
2. To involve the local community and especially young people in this element of their history
3. To encourage the study of astronomy and science in Scotland and with international partners.
4. To showcase Scottish skills, ancient and modern
5. To encourage cultural and educational links between Largs and Brisbane

Requirement and Solution

- That the area surrounding the Brisbane Observatory be protected from development which will detract from the character and history of the area, in particular any building or wholesale tree plantation.
- That the Local Development Plan 3 supports future plans to develop the site into a more formal tourist attraction, which may require a visitor centre or parking area in the vicinity.
- The Local Development Plan would be supportive of any future plans to rebuild the Observatory, either in part or in full.

Community Support

The story of the Brisbane Glen and the Observatory is not widely known or understood locally, however when discussed, people are always supportive of the idea to develop this further for visitors.

The Brisbane Observatory trust has been working to secure funding to develop the area and has recently cleared much of the vegetation and secured the area from animals with stockfencing and have future aspirations for the site.

The remains of the Observatory he built near Brisbane Mains are historically significant however are not protected against development which will detract from the current site and any future development in the area.

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The Trust's aim is to save the Observatory
'for generations yet unborn'



A provisional computer reconstruction of the original building, from an initial survey (John Simpson)

Core Path improvements

Issue

Parts of the Core Path network in and around Largs would benefit from substantial upgrades.
NC10/11/12/65/15/45A

Comment

The current pathways has significant issues for safety and useability and the requirements would ensure future upgrades would be possible.

Requirement and Solution

Specifically (but not exclusively), NC12 from Brisbane Bridge to Brisbane Mains Road end would benefit from carriageway widening and/or a pavement. The road is on a long curve and it is dangerous for Pedestrians to move from the Cemetery to the start of NC11, a dedicated pavement would improve this.

On NC65, the path around The Pencil is very narrow and would benefit from widening and/or realignment to ensure pedestrians and wheeled users (For example, wheelchairs or Tri-Shaws) can be better accommodated.

The Local Development Plan 3 should ensure that where any changes which are more than just upgrades are required (such a road or pavement widening, or new bridges across the Gogo Water), these would be in accordance.

Community Support

Users of these paths are highly supportive of anything that can be done to make the routes safer and more accessible. In particular, users of the North Coast and Cumbraes (NC) and NC12 to Brisbane Glen find the route from the Cemetery very dangerous.



The current pathways has significant issues for safety and useability and the requirements would ensure future upgrades would be possible.



Dry Ski slope, Cable Car Station and Parking

Issue

Various Community members and representatives over the years have indicated aspirations that Largs could benefit from an attraction which would be a 'draw' to the town, and maximise the location on the Clyde Coast.

A cable car from a location within Largs Town to a view point behind the Haylie Brae would offer a fairly unique attraction (unique for the Central Belt of Scotland at the very least) and could offer incentive for more people to visit and spend more time in Largs, as well as also having the potential to transport people into Largs from a parking area. This could massively reduce traffic into Largs as well as help alleviate parking issues.

Comment

It's noted that the likelihood of such a venture ever gaining traction may be limited, however that in itself should not mean the idea is excluded from the Place Plan. There is support for such an idea, even if no funding and as such, this idea has been included for consideration.

When this plan was close to going to press, Scotland's first 'Alpine roller coaster' was opened at Midlothian Sports Centre, Hillend, showing that such ideas are realistic and can provide a wider benefit to those living and visiting. Councillor Leader Parry is quoted as stating "We want to turn the centre into a national tourist attraction, with visitor numbers for the Alpine Coaster alone expected to exceed 150,000 a year," she said.

"We want it to bring local employment opportunities and direct income to the local economy while profits can be used to help pay for vital council services."

Please visit the [Midlothian View website](#) for more information.

Requirement and Solution

A feasibility study is required to evaluate what would be possible to fulfil this aspiration.

Without such a study it is difficult to specify precise requirements, other than to state an aspiration that would NOT be prevented purely from a planning perspective. Indeed, many projects are borne from ideas like this, however funding can be difficult to secure if planning consent is unlikely. If the Local Development Plan 3 was framed such that this idea was referenced and could accord with wide aims for Tourism and Parking, this would have the potential to attract investment that might not otherwise be considered.

Community Support

There is support from the Largs Community Council. Local residents when the subject is broaches are amused but then concede that such a scheme would be fantastic for the area. At least one local elected member is on record as supporting such a scheme, therefore it is our conclusion that there is sufficient community support to warrant inclusion and further consideration.

A cable car from a location within Largs Town to a view point behind the Haylie Brae would offer a fairly unique attraction (unique for the Central Belt of Scotland at the very least).

“

We want it to bring local employment opportunities and direct income to the local economy while profits can be used to help pay for vital council services.



Figure 3. Space at Douglas Park for landing area for future ski slope or alpine roller coaster.

Rail and Coach tourism

Issue

Despite its status as one of the top tourist destinations in Scotland, Largs is rarely, if ever, featured as a destination for UK railtours, or for coach tour operators. As a result, Largs is missing out on vital tourist trade, which could support many different aspects of the local economy, from shops, cafes, restaurants to hotels and guest houses.

Comment

There are many ways to increase desirability of Largs to rail and coach operators and Largs Community Council is pursuing options which do not require infrastructure or planning changes. That said, there are physical changes that could be made in future to support these aims and these would require to be in accordance with future Local Development Plan.

Requirement and Solution

That the Local Development Plan 3 be supportive of any rail infrastructure improvements or changes that would support an increase in rail traffic into Largs. Whilst it is not possible to be specific, these could include

- reinstatement or lengthening of platforms in Largs stations,
- reinstatement of removed sidings in the Largs area,
- reinstatement of rail access to the turntable site
- Installation of train servicing facilities at Hunterston (former coal loading facilities adjacent to the main running lines)
- upgrades to the running lines between Hunterston and Stevenston
- Whilst parking is covered elsewhere, a key, basic, need is relating to facilities for visiting coaches, specifically that the Local Development Plan 3
- Make provision for creation of coach parking in the Largs area to allow the accommodation of no fewer than 10 coaches at any one time.
- The most likely area which could be used seasonally could be near the Largs marina in areas which could also be used for Parking, whether Park and Ride or event parking.

Community Support

Whilst there is little specific community demand for this, when the idea is broached with the public or elected members, there is little opposition to the idea. Whilst we have had limited engagement thus far with coach operators, anecdotally we know that operators struggle with embarkation and disembarkation withing Largs and finding suitable areas to park. The parking within Vikingar has Coach Parking however this is for use of coaches bringing visitors and cannot be regarded as being sufficient to meet the requirement.



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There are many ways to increase desirability of Largs to rail and coach operators and Largs Community Council is pursuing options which do not require infrastructure or planning changes.

It is very clear that the community supports a scheme to provide a scheme to allow Park and Ride or Walk.



Figure 4. Open space at foot of May Street which could be used for parking provision

Parking

Parking and Park and Ride

Issue

The concept of a Park and Ride scheme is oft discussed in the Largs Community and few disagree of the need for such a scheme. The main stumbling block is around where this should be sited. North Ayrshire prepared in 2021 a Feasibility Study on the idea, with various options considered in a level of detail. Ultimately, councillors were unable to agree on a preferred option and any further work was shelved.

Notwithstanding the question, all of the options were viable, albeit with downsides. A proposal for Park and Ride (or walk) in Cathcart Road would not avoid queues on the Haylie Brae. A Park and Ride near Bowencraigs would mean any bus provision would still be affected by queuing into Largs. The proposal at the foot of May Street appears to have the most merit, albeit as a Park and Walk scheme.

Were other plans for Largs to come to fruition, for example widening the Core Path at Bowencraigs, then a Park and Ride at that location could become viable, especially if an operator of a 'Petit Train', as operated across Europe, were to be involved and could finally navigate the Core Path back to the Town Centre.

With this in mind, and notwithstanding some of the blockers referenced above, it is very clear that the community supports a scheme to provide a scheme to allow Park and Ride or Walk.

Comment

Specific ideas and suggestions for location for new or additional parking are as below:

Requirement and Solution

Any future Local Development Plan is required to ensure provision for future Parking and Park and Ride and Walk schemes. This may be at one or more locations referenced below:

- This Place Plan proposes specifically that land around the foot of May Street, and at south of the marina access road at Bowencraigs should be zoned as such that it would not prevent any future park and Ride development from being pursued. Note, NOT the Playing Fields but land to the SOUTH of the marina access road)
- Explore possibility of new parking on Bath Street, opposite St Johns Church.
- The concept of a replacement building at the former M&Co site incorporating a car park on the roof space and/or a multi storey car park should be considered.
- Given recent and successful Promenade seawall improvement works where the Promenade at Aubrey has been widened, there is scope to widen the Prom around the Largs Ferry slip (opposite Barnardos) and provide dedicated car parking for users of the Cumbræ Ferry.
- Update to parking time restrictions town centre, including areas up to 90minutes, as well as retaining some existing 60mins or no restrictions.
- Explore possibility of additional parking in front of Vikingar!, potentially reduce putting greens to 9 holes and use the other half for car parking.
- Temporary parking facilities adjacent to A78 at the north of Largs
- Land adjacent to Vanduara. This land has history of being used for seasonal tourism in the shape of the 'Big Wheel' attraction. More recently during promenade improvement worked, this space was used as parking for construction works. A small but useful car park could be created which allows easy access to the Promenade, Vikingar! and Aubrey Park.

The concept of a Park and Ride scheme is oft discussed in the Largs Community and few disagree of the need for such a scheme. The main stumbling block is around where this should be sited.

Community Support

There is widespread support for improvements to parking provision in Largs, which has grown since the introduction of Decriminalised Parking Enforcements within North Ayrshire, which is deterring illegal parking, however did not put in place provision for additional parking due to displacement.

During Peak seasons, parking for visitors has very difficult, with limited spillover options available, other than street parking in the streets behind the Prom. During the Viking Festival 2024 this caused many issues with narrow streets becoming blocked, however there was no alternative to try alleviate the overspill.



Figure 5. Land opposite St Johns Church, Bath Street could be used for parking provision.



Figure 6. Land adjacent to the Cumbrae Slip in Largs could be used to create dedicated parking for ferry users, reducing pressure on the sea front car park and encouraging more foot travel to Cumbrae.

There is widespread support for improvements to parking provision in Largs, which has grown since the introduction of Decriminalised Parking Enforcements within North Ayrshire.

“

Specific ideas and suggestions for location for new or additional parking are as below.



Figure 7. Low level multi storey car park at Johnstone, Renfrewshire as an example of an option for Largs.



Figure 8. Aerial view of the foot of May Street. The area with the circular imprint could be zoned for parking.

Increasingly land surrounding Largs is being used to plant commercial forestry, and used to provide corporations 'carbon credits'.



Remove the ambience, scenic and recreational attractiveness of the area and the benefits from tourism will reduce and parking requirements diminish.

Countryside

Issue

Increasingly land surrounding Largs is being used to plant commercial forestry, and used to provide corporations 'carbon credits'. Whilst ultimately the intent is to contribution to becoming a Net Zero country, such developments are currently unchecked, and not determined through planning policy, nor considered holistically.

Commentary

A contributor to the plan stated the following "most of the open spaces (Editor, this was in the context of 'Countryside open spaces) also feed into tourism and parking requirements. Remove the ambience, scenic and recreational attractiveness of the area and the benefits from tourism will reduce and parking requirements diminish.

North Ayrshire Council have advised that the creation and management of new woodland generally falls outside of the planning system, and it is accepted that this is the case, however the requirements remains to ensure formal recording if this aspiration and a baseline for any future engagement at the right time. Without recording a concern formally, it will prove more difficult to effectively lobby to deliver the requirements.

Requirements

The Local Development Plan 3 should where possible provide protections from detrimental development at the following locations

- Waterhead Moor
- Unplanted areas of Halkshill & Blairpark
- The Greeto and Gogo Valleys near the Meeting of the Waters,
- Douglas Park hillside,
- Area around Outerwards Hill Fort and Upper Noddsdale.
- Brisbane observatory (see separate item)
- The 'Red road' from Largs to Skelmorlie.



Open Space

Issue

With potential expansion of Hunterston PARC, there will be a likely increase in demand for land for housing. The current Local Development Plan (2) has allocations for housing in the area of The Rise and Noddsdale Water and there has been no representation to reverse this allocation.

There has been however concern raised on protecting existing Open Spaces which are used for community purposes and that these should remain protected in Local Development Plan 3. A recent example being cited, whilst not exactly analogous, would be the Mansefield in Beith where what has been regarded as a community Open Space

Requirement

That areas of open space defined in Local Development Plan 2 should remain designated as such unless specifically called out within this plan for stated purposes.

Areas of concern that should not be considered for anything other than Open Space are:

- Bowencraigs Playing Fields. This has been subject to a Community Asset Transfer for Largs Colts and should not be open to developers to potentially offer cash incentives to sell for housing.
- The Pencil. it is understood that the land surrounding The Pencil may be privately owned. Any move to change the designation of the land for housing should not be supported.
- Barrfields (stadium) and Vikingar, this area is used very successfully for community use of all sorts and whilst this plan references potential expansion of use, it is clear that the community would be completely opposed to any suggestion of housing on this site.
- Open space, including woodland, at Sport Scotland site Inverclyde Centre.

Community Space

Aubrey Park

Issue

The equipment and general offering for children at this beautiful space is outdated and requires modernisation.

The toilet facilities at Aubrey Boating Pond are basic and the Female toilets are non-functional.

Comment

Whilst no funding has been identified for replacements, the LCDT has recently refreshed and painted much of the equipment. Longer term, replacement is required. Replacement equipment at Aubrey will require to be more modern, and will likely be larger and may require a larger footprint.

Despite proposed cuts to toilets in Largs, there is widespread support for retention and upgrade, especially at Aubrey where the facilities are 'male only'.

There has been much commentary around the fact there are no facilities to buy food or drink at Aubrey and that having the opportunity to purchase a warm meal or coffee would be welcome. It has been noted that whilst a license may be granted, there is no formal site for a mobile catering units due to lack of planning permissions and zoning, and no designated space i.e there are parking restrictions and yellow lines.

Requirement and Solution

- Any future Local Development Plan should support the installation of larger playpark, provided it remains on the existing site, albeit with a potentially larger footprint.
- Any future Local Development Plan will support upgraded toilet facilities at Aubrey Park.
- Kiosk and food vending opportunities should be specifically allowed in the Local Development Plan 3. This likely would be that part of the green space would be permitted to site 3 mobile catering units, subject to licensing.

Community Support

- Whilst there is no group specifically seeking to upgrade play facilities, the Largs Community Council is supportive of new facilities, and has been seeking to work with North Ayrshire Council to identify funding options and possible locations for playpark upgrades.
- Historically residents and visitors alike are supportive of public toilets are on the whole clear that facilities should be improved and not downgraded.



“

Whilst no funding has been identified for replacements, the LCDT has recently refreshed and painted much of the equipment.

Equipment at Aubrey Park renovated by Largs Development Trust.

Community Hub

Issue

Largs Town has no dedicated Community Hub space and this is the cause of frustration in the community as the alternatives are disparate and often not fit for purpose or have limited availability.

Comment

Unlike the majority of major towns in North Ayrshire, Largs has not dedicated Community Hub and has to 'make do' with various disparate properties, few of which were ever purpose built for Community use. These facilities are valued and well used however it is clear from engagement that there is scope to add to the provision to cater better for the needs of the community and support inclusion.

Requirement and Solution

That the Local Development Plan 3 would be supportive of future Community Hub Developments with specific consideration given to:

- Possible redevelopment of existing but redundant church buildings, in particular St. Johns Church or St. Columbas. Local Development Plan 3 would not prevent such works being undertaken (such as renovation) , should plans for this progress.
- Possible development of Vikingar! to create more Community Space. This may include extension to existing building northwards into the Coach Parking Bay, but also may include additional buildings on part of the open space at the front of the building.

Community Support

Engagement with Community Groups shows that whilst there is various provision of halls and rooms, there is a lack of a real community hub with dedicated facilities, whether meeting rooms, AV equipment, Changing Spaces or disabled access.



Figure 9. Aerial view, Vikingar Leisure Centre, arial view.



Figure 10. Space at side of Vikingar building which offers potential for expansion.

Engagement with Community Groups shows that whilst there is various provision of halls and rooms, there is a lack of a real community hub with dedicated facilities.

“

Unlike the majority of major towns in North Ayrshire, Largs has not dedicated Community Hub and has to ‘make do’ with various disparate properties.



Figure 11. Map view of St. Johns Church, Bath Street.

The intention is to create a community space to allow a community growing area, bringing local residents of all ages together in a common endeavour.

Holehouse Road proposal

Issue

The Largs Community Development Trust, along with the Largs Green futures group intend developing the derelict wasteground behind Holehouse Road, Royal Avenue, Lindsey Crescent. (see image).

Currently, the area is effectively derelict, with minimal maintenance from North Ayrshire Council. It has been used in the past for illegal activities, such as fly tipping and bonfires of illegal waste.

The intention is to create a community space to allow a community growing area, bringing local residents of all ages together in a common endeavour, increasing social cohesion as well as improving the local environment. It is hoped that by creating this space, it will reduce the instances of anti-social behaviour in the area.

The vision is for an area which is fully accessible, with an orchard, seating, BBQ facilities, as well as raised beds for growing.

Requirement and Solution

The requirement is that the Local development Plan would include provision for this space to remain 'Open Space' whilst permitting a small scale community development as described.

Community Support

The Green Futures Group has engaged with residents in the surrounding area and received overwhelmingly positive support for the project.



Holehouse Road site.

Douglas Park courts

Issue

The old Tennis Courts at Douglas Park are subject to potential Community Asset Transfer to the Largs Tennis club and Largs Green Futures. Both groups may have requirements to create new facilities on this site.

Comment

Whilst at this stage there are no firm plans preparing to be lodged, it is expected that if the Community Asset Transfer/s are approved, then in the future there may be a requirement to create facilities such as toilets or changing areas, or storage buildings.

Requirement and Solution

The requirement is that the Local Development Plan 3 would not prevent small scale development at this site provided it is to fulfil the aspirations of the users of the old Tennis Courts, as per the Community Asset Transfer process underway.

Community Support

Each of the groups proposing the Community Asset Transfer have support from the local community and this has been demonstrated through public engagement events which led to North Ayrshire Council agreeing at Council to allow the proposal from the Largs tennis Club and Largs Green Future to proceed.

“

In the future there may be a requirement to create facilities such as toilets or changing areas, or storage buildings.



Figure 12. Dilapidated Douglas Park Tennis Courts awaiting Community Asset Transfer.

Cairnies Quay

Issue

The quay area around Cairnies Quay fell into disused and disrepair over the last two decades. A group has been setup to reverse the decline of this quay area, with the aim of encouraging more visitors to Largs by boat, whether yacht or motorboat. The aims include restoration of the slip to allow safer tying up for small vessels (dinghy's etc), offering mooring facilities, dinghy storage park upgrade. Longer term there is aspiration to include basic facilities for those who wish to stay overnight, which may include changing and locker facilities. Whilst there are no specific plans at this stage, this could incorporate the existing Shelter structure, toilets, or demolition and replacement of both. A café facility could be developed to maximise the location of the site, which is in an area of Largs Prom with little food and drinks facilities.

Requirement and Solution

The Local Development Plan 3 should be cognisant of future aspirations to bring Cairnies Quay into more regular use. Whilst the area is designated open Space currently, should plans come forward to develop facilities in this area, the plan should acknowledge this and ensure that well thought out, beneficial developments specific to Cairnies Quay would accord with the development principles.



Figure 13. Aerial view of Cairnies Quay and adjacent Prom and toilet facilities.



Figure 14. Cairnies Quay and surrounding area.

Support of balanced trading estate in Largs

Issue

Within North Ayrshire Planning policy, there is no mechanism to restrict use of retail establishment. Specifically, there is much feedback from residents and businesses alike that there is a significant increase in Barber, Charity and Nail or Beauty Shops to the point that it appears to be disproportionate to the size of Largs.

Comment

A recent business survey provided valuable insight to local trading conditions and there was repeated feedback and commentary around an increase in shops such as barbers, nail salons and vape shops. Whilst none suggested these are not required, the point was made that there seems to be a disproportionate number of these and no way to limit the prevalence of the same type of shops.

Requirement and Solution

That the Local Development Plan 3 considers how 'over provision' of a type of establishment can be defined within planning and provide a legitimate means to refuse a use or change of use where there already exists sufficient of that type already.

Wet Weather Attractions

Issue

As part of Community engagement, there is widespread acknowledgement of the lack of facilities for people, young and old. Whilst there is a great offering from KA Leisure and the Inverclyde Centre, there is a lack of breadth of activities, such as:

- Indoor play area incorporating various activities directed towards younger children.
- Indoor ten-pin bowling area.
- Small scale cinema with regular weekly Saturday viewings.
- Teenage cafe or drop in centre.

Requirement and Solution

The Local Development Plan 3 should be mindful that the community wishes to see more facilities for residents and visitors, old and young, and that the plan should be supportive of any proposals which meet this requirement.



A recent business survey provided valuable insight to local trading conditions and there was repeated feedback and commentary around an increase in shops such as barbers, nail salons and vape shops.

Water Sports

Issue

Outside of Largs Marina, there are limited formalised facilities for watersports. Whilst there is the Royal National Lifeboat Institution slipway, otherwise any watersports are undertaken using 'best endeavours' basis.

There is a wish by one of the main watersports organisations in the area (Largs Sailing Club) to develop the Club further into a "watersports hub", in addition to the obvious dinghy and keelboat sailing, they also have training in many aspects of watersports (over 100 young people and adults trained in 2024), and already offer many water sports activities such as canoeing, kayaking, sailing, or rowing, either directly by the club, or through group members such as the Firth of Clyde Coastal Rowing Club, and Castle Craigs Canoe Club (sea kayaking).

The facilities at the Largs Marina are becoming dated and there is an active intent to develop these further, particularly following the closure of the Cumbrae Watersports Centre in 2019, which has left a significant gap in Scottish watersports. There have been active and constructive discussions with sportscotland, Inverclyde Sports Centre, and Royal Yachting Association Scotland since 2019, on the synergy of accommodation and gym facilities at Inverclyde, and how LSC could fill the gap left by Cumbrae's closure. There is an outline proposal for some clubhouse upgrades (the building is now 25 years old), and improved facilities for changing, training, race control etc.

Requirement and Solution

The Local Development Plan should support any development at the Largs Marina to support ambitions to develop and update additional water sports facilities.

Furthermore, the Local Development Plan should be supportive of any future initiatives to improve access to the water from public areas. This would include, but not be limited to:

- Provision for canoe launching and safe area.
- Cold water swimming
- Safe swimming areas
- Safe scuba diving areas.
- Changing Facilities at Pencil



Figure 15. Aerial view of Largs marina during a sailing event.

Playpark upgrades now go beyond simply installing new swings and a climbing frame.

Playparks

Issue

Across Largs, there has been a lack of any real investment in play areas, and as such, the playparks compared to other areas of North Ayrshire, or Glasgow or Inverclyde are exceptionally poor. Whilst North Ayrshire Council point to budget cuts, local people agree that the playparks are in need of upgrading.

Requirement and Solution

Playpark upgrades now go beyond simply installing new swings and a climbing frame. They can include significant play structures, which as that near Glasgow Green, and take up significant space. The requirement therefore is that Local Development Plan 3 should allow significant playpark upgrades in Largs on existing locations, and

Community Support

Local feedback from residents and young people is that the facilities are basic and need to be better.



Figure 16. Dilapidated playpark at Mackerston.

Barrfields Stadium upgrades

Issue

The Barrfields Stadium is well utilised but requires much improvement to the buildings and facilities. The stadium fabric is in poor condition and whilst floodlighting is planned, much is needed in the long term to improve the area.

Requirement and Solution

Should improvements to the Barrfields Stadium be presented through Planning, the Local Development Plan should be supportive of such developments. This may be in the form of replacement canopies, or new stands, changing facilities or buildings to support both training and fixtures. Developments that support community events and gatherings should be possible through the Local Development Plan and Planning policy.

Compatibility of Largs Place Plan with Local Development Plan 2 and National Planning Framework 4 and Local Priorities

North Coast Local Priorities

Within the North Ayrshire Locality Partnership are defined Key Priorities for focus.

These are:

- Improving access to financial services
- Increasing social inclusion
- Improving mental wellbeing
- Supporting skills and work opportunities

It is considered that this Place Plan supports all of the above priorities, whether directly or indirectly. For example, the aspiration to develop additional Community Hub space would support an increase in social inclusion and mental well being. Developing new facilities at the Largs Marina, or maintaining Open Spaces will support continued positive mental wellbeing. Indirectly, by supporting tourism and parking, this will help develop the Tourism economy, driving jobs and skills development to support this. Nothing in the Place Plan detracts from the 4 Priorities.

Local Development Plan 2

The LPP was created through consultation and engagement with the community, and was been reviewed after this against the key strategic policies within the existing Local Development Plan 2 (to ensure that the exercise was not driven by the Local Development Plan 2).

- Strategic Policy 1. includes objectives and policies for how development can enhance and protect our Towns and Villages, our Countryside and our Coast.
- Strategic Policy 2. Our Placemaking policy will ensure we are meeting LOIP priorities to make North Ayrshire safer and healthier by ensuring that all development contributes to making quality places.
- Strategic Policy 3. We will support the development of the Strategic Development Areas identified in line with the guidance set out.

There is nothing contained within the LPP which would require Largs to be considered a Strategic development Area.

The LPP accords with the existing Policies 1 and 2, and the existing Local Development Plan therefore is already aligned with these. This Place Plan details specifics pertinent to Largs, which the Local Development Plan 2 could directly, or in most cases, indirectly support. No fundamental change would be required to these policies to support the LPP aims.

Within Local Development Plan 2 there are no Strategic Development Areas within Largs, and there is nothing contained within the LPP which would require Largs to be considered a Strategic development Area.

National Planning Framework 4

The LPP accords with various aspects of National Planning Framework 4. It would be unrealistic and unproductive to list each requirement against National Planning Framework 4, however overall, the LPP plan supports the following aspects of National Planning Framework 4, and does not conflict with any other areas:

- Liveable places
- Scotlands Forestry Strategy
- Historic Assets and Places
- Forestry, Woodland and Trees
- Sustainable Places: Environment, Communities and Economy
- Sustainable Transport
- National Walking, Cycling and Wheeling Network
- Play, recreation and sport

Developing new facilities
at the Largs Marina, or
maintaining Open Spaces
will support continued
positive mental wellbeing.



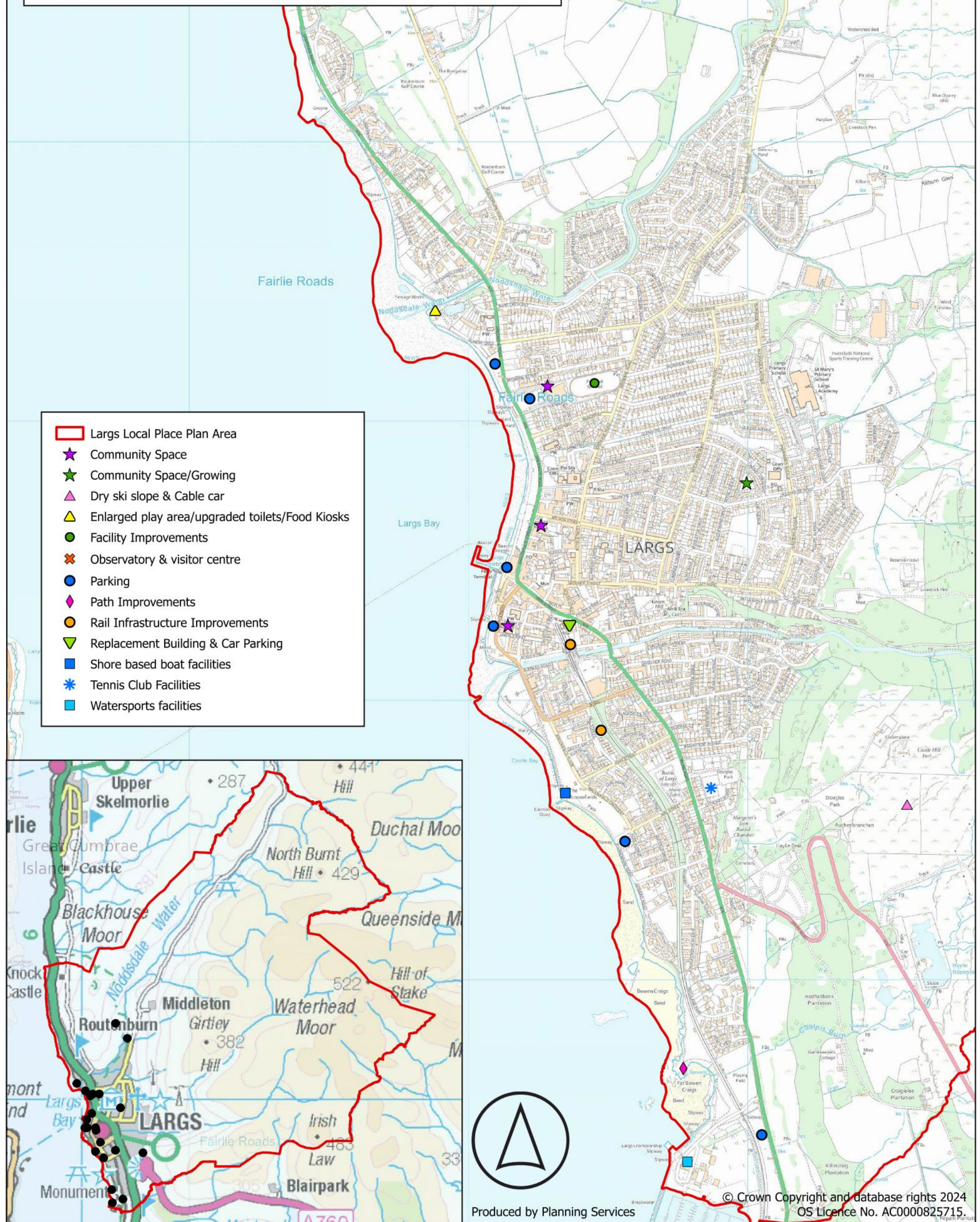


Acknowledgements

The Largs Community Council would like to thank the following for their support in the creation of this Local Place Plan:

- North Ayrshire Planning Services, for their support, guidance and suggestions over many months to create this plan.
- KA Leisure and Vikingar! staff, for their support and use of meeting space within Vikingar! on a regular basis, as well as permitting small consultation events to be held.
- All groups and individuals who have engaged to provide input and suggestions during the various consultation events.
- Largs Community Development Trust for their members time and support.
- Calum Coral of Newsquest Largs and Millport News for their support in publicising events and this project.

Largs Local Place Plan Proposals Map



Summary of Local Place Plan Proposals

Local Place Plan: Largs

Submitted by: Largs Community Council

Submission Date:

Registration Date:

Proposals for the development and/or use of specific land and/or buildings:

Ref	Proposal	Location
1	Development of the site of the Brisbane Observatory as a formal visitor attraction including part of full rebuild and protection of the setting of the Observatory	Brisbane Glen
2a	Core Path improvements – creation of pavement to improve connections to cemetery	NC12 from Brisbane Bridge to Brisbane Mains Road
2b	Core Path improvements – widening or re-alignment of path	NC65 at The Pencil
3	Cable car and dry ski slope and/or alpine roller coaster inc. cable car station and parking	Haylie Brae to Douglas Park (subject to feasibility study)
4	Rail infrastructure improvements e.g. reinstatement or lengthening of platforms, reinstatement of sidings,	Railway station, sidings and turntable site.
5	Coach Park	Not specified, most likely near Largs Marina
6a	Park and Ride site	May Street
6b	Park and Ride site	Bowencraigs
7a	Additional Parking	Bath Street, opposite St. John's Church
7b	Additional Parking	Largs Ferry Slip
7c	Additional Parking	To the front of Vikingar!
7d	New car park	Land adjacent Vanduara
8	Play park renewal/expansion, upgraded toilet facilities, kiosk/food vendor (including up to 3 mobile catering units)	Aubrey Park
9	New Community Hub	Church buildings (e.g. St. Johns or St. Columbas) or at Vikingar!
10	Community Growing Area	Holehouse Road
11	Small-scale development in support of community uses (e.g. toilets, changing facilities, storage buildings)	Douglas Park tennis courts
12	Small-scale development supporting more regular use of Cairnies Quay (e.g. changing and locker facilities, toilets, café).	Cairnies Quay

Ref	Proposal	Location
13	Onshore watersports facilities	Largs Marina
14	Stadium upgrades (e.g. replacement canopies, new stands, changing facilities or buildings to support both training and fixtures)	Barrfields Stadium

NORTH AYRSHIRE COUNCIL

22 January 2025

Planning Committee

Title:	Cumbrae Local Place Plan
Purpose:	To advise Members on the preparation and submission of a Local Place Plan by Cumbrae Community Council.
Recommendation:	<p>It is recommended that the Planning Committee:</p> <ol style="list-style-type: none"> 1) agrees to the registration of the Local Place Plan for Cumbrae submitted by Cumbrae Community Council, and 2) notes the requirement to take account of the plan in the preparation of North Ayrshire's third Local Development Plan (LDP3).

1. Executive Summary

- 1.1 The Planning (Scotland) Act 2019 introduced a new right for communities to produce Local Place Plans (LPPs): community-led plans setting out proposals for the development and use of land and buildings. The aim of LPPs is to enhance engagement in development planning by empowering communities to play a proactive role in defining the future of their places. Planning authorities must take account of registered Local Place Plans when preparing a Local Development Plan.
- 1.2 Cumbrae Community Council submitted a Local Place Plan to the Council on 17 December 2024. Cumbrae Community Council meets the definition of a 'community body' and it is adjudged to have met the requirements concerning the form and content of a Local Place Plan; the steps to be taken before submission; and provided the information required by the legislation and regulations. Accordingly, North Ayrshire Council as planning authority should accept the Local Place Plan as valid and proceed to register the plan.

2. Background

- 2.1 Local Place Plans are part of the Scottish Government's wider work on planning reform which includes steps to reduce conflict, improve community engagement and build public trust in planning matters. Local Place Plans offer the opportunity for a community-led, collaborative approach to creating great local places. It is important that local people can engage meaningfully and have a positive influence in the future planning of development in their areas. The aim of LPPs is to enhance engagement in development planning, empowering communities to play a proactive role in defining the future of their places. The legislative requirements for the preparation, submission

and registration of Local Place Plans are set out in the Town and Country Planning (Scotland) Act 1997, as amended by the Planning (Scotland) Act 2019, and the Town and Country Planning (Local Place Plan) (Scotland) Regulations 2021.

- 2.2 The Act and Regulations set out the minimum requirements for the preparation, form and content and submission of Local Place Plans. LPPs may be prepared by a 'Community Body' defined as a community-controlled body within the definition given in section 19 of the Community Empowerment (Scotland) Act 2015 or a community council established in accordance with Part 4 of the Local Government (Scotland) Act 1973. LPPs must set out and map proposals as to the development or use of land and have regard to certain documents. Prior to submission the community body preparing the Local Place Plan must prepare an 'information notice' for local councillors and relevant community councils and finally should set out the level and nature of community support for the plan.
- 2.3 Cumbrae Community Council intimated their intention to create a Local Place Plan in June 2023, following an initial meeting with the Planning Service in November 2022. Support was provided by the Planning Service throughout the preparation of the plan. Cumbrae Community Council submitted their Local Place Plan to the Council on 17 December 2024.

Cumbrae Local Place Plan Proposals

- 2.4 A copy of the submitted Local Place Plan for Cumbrae submitted by the community council is provided at Appendix 1. It is not the role of the planning authority at this stage to assess the proposals contained within the LPP for their planning merit or deliverability, however, the Plan's proposals for the development and use of land are summarised at Appendix 2. There proposals include:
- New housing and Care Home
 - Business start-up and support facilities
 - A household-waste recycling centre
 - Camping and motorhome sites
 - A cycle lane linking Millport to the ferry slip

Registration

- 2.5 When a planning authority receives a Local Place Plan it should acknowledge receipt of the plan and check it whether it is valid. A valid LPP is one which a) has been prepared by a Community Body; b) is a proposal as to the development and use of land; and c) fulfils the legal requirements set out in the 1997 Act and the 2021 Regulations. If these three conditions are met, then the planning authority must accept the Local Place Plan as valid and proceed to register it.
- 2.6 The Planning Service proposes to take a 'light touch' approach to the interpretation of the legislative requirements and has liaised with Cumbrae Community Council to ensure the submitted LPP meets the requirements of a valid Local Place Plan. It is adjudged that the Local Place Plan for Cumbrae submitted by Cumbrae Community Council is a valid LPP and should be registered.
- 2.7 Every planning authority must keep a register of Local Place Plans and make publicly available a map that shows the land to which the Local Place Plans in their register of

Local Place Plans relate. When a valid Local Place Plan is submitted by a community body, it must be included in the register and the community body that submitted the plan informed that it has been registered. The register and map must be available for inspection by the public free of charge at all reasonable hours at an office of the planning authority and on a website maintained for that purpose. North Ayrshire's Register of Local Place Plans is available to view at: [Local Place Plans](#)

Other Local Place Plans

- 2.8 In accordance with the legislation, an 'invitation to prepare a Local Place Plan' was published in May 2023 and sent directly to community councils and to community groups via locality planning partnerships. Community bodies intending to prepare a Local Place Plan were invited to submit a 'notice of intention to prepare a Local Place Plan' by completing an online form.
- 2.9 To date, the Planning Committee has agreed to the registration of Local Place Plans for West Kilbride, Seamill and Portencross submitted by West Kilbride Community Council in October 2023 and for Stevenston, submitted by Stevenston Community Council in June 2024. The Cumbrae Local Place Plan is one of two being presented to the January meeting, while Planning Services and the Regeneration team are supporting community bodies in the Garnock Valley to jointly prepare a Local Place Plan. Two other community bodies have also indicated an interest or are in the process of preparing a Local Place Plan: Fairlie Community Council and Skelmorlie Environment Trust.
- 2.10 The Planning Service will continue to support community bodies seeking to progress a Local Place Plan on an individual basis, as required or requested. In line with the amended timetable for the preparation of LDP3 set out in the latest Development Plan Scheme, the deadline for submission of Local Place Plans has been further extended from November 2024 to March 2025. The original deadline was set at 30 June 2024. The intention is to allow community bodies the time they require to complete and submit a valid Local Place Plan so that it may be taken into account in the preparation of North Ayrshire's third local development plan.

3. Proposals

- 3.1 It is recommended that the Planning Committee agrees to the registration of a Local Place Plan for Cumbrae submitted by Cumbrae Community Council and notes the requirement to take account of the plan in the preparation of North Ayrshire's third Local Development Plan (LDP3).

4. Implications/Socio-economic Duty

Financial

- 4.1 None.

Human Resources

- 4.2 None.

Legal

- 4.3 The legislative requirements for the preparation, submission and registration of Local Place Plans are set out in the Town and Country Planning (Scotland) Act 1997 as amended by the Planning (Scotland) Act 2019 and the Town and Country Planning (Local Place Plan) (Scotland) Regulations 2021.

Equality/Socio-economic

- 4.4 The Council is required to take account of registered Local Place Plans in the preparation of North Ayrshire's third Local Development Plan (LDP3) which will be subject of an equalities impact assessment and assessment on the impact of the plan on children.

Environmental and Sustainability

- 4.5 The Council is required to take account of registered Local Place Plans in the preparation of North Ayrshire's third Local Development Plan (LDP3) which will be subject of a Strategic Environmental Assessment and Habitat Regulations Appraisal.

Key Priorities

- 4.6 Communities and Local Democracy are one of four interlinked and interdependent priorities set out in the Council Plan (2023-28). The preparation of Local Place Plans by community bodies are a means of enabling local communities to be active in the preparation of North Ayrshire's next Local Development Plan and placemaking approaches.

Community Wealth Building

- 4.7 None.

5. Consultation

- 5.1 While there is no legal requirement for a Community Body to engage with the wider community in the preparation of a Local Place Plan, it is however required to include a statement setting out its view of the level and nature of support for the Local Place Plan and the basis on which it has reached that view, including a description of any consultation in respect of the proposed plan.
- 5.2 Pages 12-17 of the submitted Cumbrae Local Place Plan provide a summary of the community consultation undertaken by the Cumbrae Community Council, including the findings. 545 responses were received to an online survey carried out in March and April, supported by drop-in sessions, stakeholder consultation, sessions with the Boys' Brigade, Cumbrae Primary School and one-to-one interviews. Further consultation on a draft plan was undertaken in October 2024.

DAVID W. HAMMOND
Executive Director (Communities and Housing)

For further information please contact **Alistair Gemmell, Strategic Planning Manager**, on **01294 324021**.

Cumbrae Local Place Plan

December 2024



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INTRODUCTION

This Local Place Plan sets out our community's aspirations for planning policy and land use on Cumbrae.

The local community's experience with a number of recent planning applications convinced Cumbrae Community Council (CCC) that local residents, community groups and businesses need to have more of a say in the way land is used on the island.

Creating a Local Place Plan is an opportunity to consult with the community and create a shared vision for future development. It highlights places that are important to the community, proposes areas that might be suitable for development, and identifies others that are not.

This Local Place Plan was prepared by Cumbrae Community Council and relates to land on the island of Great Cumbrae. It sets out background information about Cumbrae, explains the consultation process that has been undertaken, presents a number of proposals for land use on Cumbrae and provides a series of maps identifying the land that those proposals relate to. It builds on a range of other initiatives and reports, including the Cumbrae Island Plan, the 2021 Isle of Cumbrae Economic Baseline Report and the Carbon Neutral Island (CNI) Project.

This Local Place Plan will be updated over time as the needs and aspirations of the community evolve.



THE PLANNING SYSTEM

The planning system is used to decide whether proposed developments should be permitted. Responsibility for planning generally lies with local planning authorities.

The planning system is plan-led. Plans set out how places will change, where development should and should not happen and places that should be protected. Plans guide decisions on applications for planning permission¹.

The Town and Country Planning (Scotland) Act prescribes four different levels of plan:

- **The National Planning Framework (NPF)**. This sets out Scottish Ministers' policies and proposals for the development and use of land.
- **Regional Spatial Strategies (RSS)**. Long-term strategies for the strategic development of an area prepared by a single planning authority, or a number of planning authorities working together.
- **Local Development Plans (LDP)**. Prepared by local planning authorities, showing how their area will change, including where development should and should not happen.
- **Local Place Plans (LPP)**. Community-led plans setting out proposals for the development and use of land in a local area.

This Local Place Plan has been prepared in advance of North Ayrshire Council's new Local Development Plan (LDP3)² so that it can influence the development of LDP3.

NB Some areas also have Locality Plans which cover local areas that would benefit most from improvement³. Cumbrae is covered by the North Coast Locality area⁴.

¹ Local development planning guidance, Scottish Government, 24 May 2023. <https://www.gov.scot/publications/local-development-planning-guidance/>

² Local Development Plan 3 (LDP3), North Ayrshire Council. <https://www.north-ayrshire.gov.uk/planning-and-building-standards/ldp/ldp3>

³ Community planning, Scottish Government. <https://www.gov.scot/policies/improving-public-services/community-planning/>

⁴ Our Localities: North Coast, North Ayrshire Council. <https://northayrshire.community/your-community/north-coast-cumbrae/>

LOCAL PLACE PLANS

Local Place Plans are prepared by, or on behalf of, a Community Council or other community-controlled body. Preparing a Local Place Plan is community-led and collaborative, involving as many people and organisations as possible with an interest in the local area⁵.

The right for communities to produce Local Place Plans was created in 2019 by new planning legislation allowing communities to set out their ideas for the development and use of land in their area. They describe aspirations for the place communities live and suggest ways of tackling the challenges they face.

Local Place Plans are intended to be solutions-focused, realistic, deliverable and as specific as possible. They are a tool for local communities to think about how to improve their local area, agree priorities, and take action.

The Planning Act⁶ and the Local Place Plan Regulations⁷ set out the steps that must be taken in the preparation of a Local Place Plan:

- The Local Place Plan must have regard to other plans (or emerging plans) such as the Local Development Plan, the National Planning Framework and the Locality Plan, where there is one.
- The Local Place Plan must set out in a statement any reasons for considering that the Local Development Plan should be amended.
- It should refer to other local, national or regional plans or strategies which may be relevant, such as the National Islands Plan, as well as planning permissions which may have a significant impact on the local area.
- Local Place Plans should be short, clear and visual, setting out proposals and priorities.

⁵ Community Empowerment (Scotland) Act 2015. <https://www.legislation.gov.uk/asp/2015/6/contents>

⁶ The Town and Country Planning (Scotland) Act 1997. <https://www.legislation.gov.uk/ukpga/1997/8/contents>

⁷ The Town and Country Planning (Local Place Plans) (Scotland) Regulations 2021. <https://www.legislation.gov.uk/ssi/2021/353/contents/made>

Local Place Plans must:

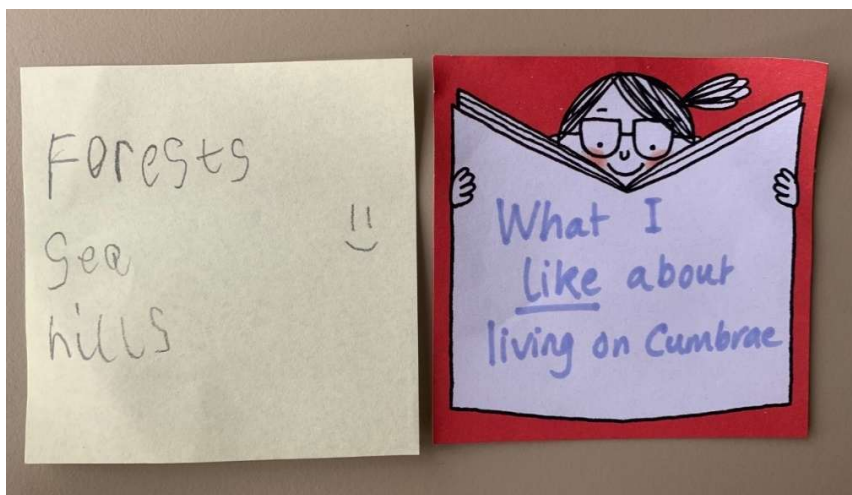
- Identify the Community Body that prepared the Local Place Plan.
- Contain a map that shows the land to which the Local Place Plan relates.
- Contain a statement of proposals about the development or use of land within the Local Place Plan area.

A copy of the proposed Local Place Plan and an information notice must be sent to each councillor for the Local Place Plan area, and any Community Council that adjoins the Local Place Plan area.

The Local Place Plan can then be submitted to the planning authority. This must include a statement about how it has had regard to other plans and policies and how it might align with or differ from them.

It should also include a statement setting out a view of the level and nature of support for the Local Place Plan and the basis on which this view has been reached, including any consultation.

If a Local Place Plan meets the legal requirements set out in the legislation the local planning authority must accept and register it and then they must take it into account in the preparation of their own local development plan⁸.



⁸ Planning circular 1/2022: Local Place Plans. Scottish Government. <https://www.gov.scot/publications/circular-1-2022-local-place-plans/>

BACKGROUND ABOUT CUMBRAE

History of development

The Isle of Cumbrae, also known as Great Cumbrae or Cumbrae, occupies an area of 11.68 km² in the Firth of Clyde⁹. It is approximately 5 kilometres long and 3 kilometres wide, rising to a maximum height of 127 metres above sea level. At just 1.5 miles from the Scottish mainland, it is one of Scotland's most accessible islands.

Cumbrae has been inhabited since the last ice age around 10,000 years ago. Millport is the only town on the island, located at its southern end. Millport was established following a 1634 decision to base a revenue cutter in the Firth of Clyde to collect duties and prevent smuggling. The Garrison was built in 1745 as the soldiers' barracks and the Captain's mansion.

The 'Old Town' of Millport was originally defined by the intersection of Cardiff Street, Stuart Street and Clyde Street. The New Town to the east of the Garrison developed from the 1840s, and subsequently rows of Victorian villas were developed around Kames Bay, Marine Parade, and along West Bay Road.

A more modern housing estate was developed to the west of Ferry Road from the 1950's, with the latest phase of 18 new homes completed at Lady Margaret Court in 2023.

Fast steamers and the railways led to a growth in tourism on the island and from the 1860's Millport became a popular resort town. New hotels, guesthouses, and recreational facilities were developed. The Cathedral of the Isles was established in 1851 and a Marine Biological Station opened in 1885.

The emergence of cheap package holidays in the mid-20th century resulted in a shift towards more day trips, but the island has remained a popular tourist destination, particularly for cycling, walking and water sports.

⁹ Scotland's Census 2001, Statistics for Inhabited Islands, General Register Office for Scotland, 28 November 2003.

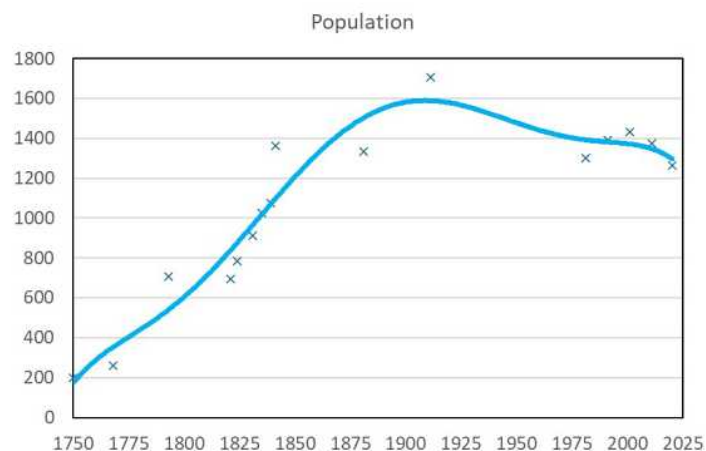
To cater for these changing needs, new holiday parks and campsites were established around Millport, and Garrison House was redeveloped into a community hub, housing a museum, café, and library.

The island has recently benefited from the development of a £48 million flood defence scheme, and a marina is planned within the newly-sheltered bay. The Town Hall is also being refurbished, the Field Studies Council (FSC) centre has been redeveloped and there are plans to develop the College buildings associated with the Cathedral.

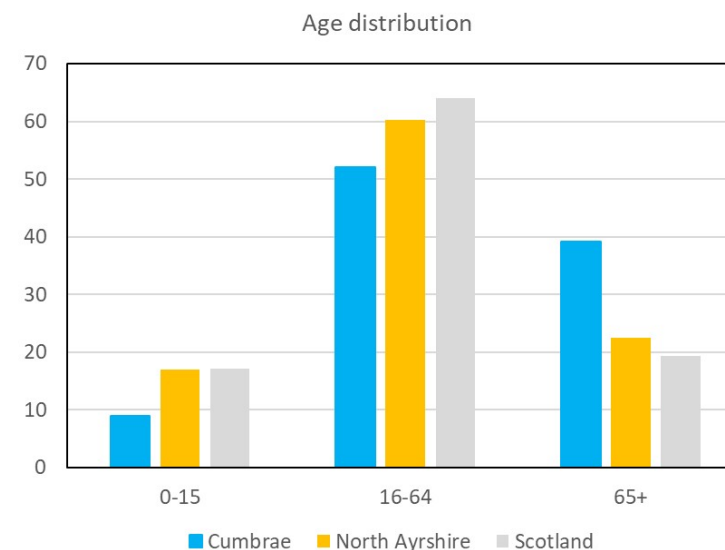
In addition, the island has been selected by the Scottish Government to be one of six carbon neutral islands.

Population

The population of Cumbrae peaked around 1900, and has slowly declined since then, with a current estimate of 1,376^{10 11 12 13 14 15}.



Cumbrae has a relatively elderly population, with a significantly lower percentage of younger people than North Ayrshire or Scotland. This means it has a greater need for accessibility and care provision than many other communities.



The population is approximately 50% male and 50% female¹⁶.

Economy

Millport is in the most deprived 20% of all areas in Scotland¹⁷.

Cumbrae faces a number of challenges common to many Scottish islands, including an elderly population, population decline, economic decline, access problems caused by an unreliable ferry service, and ease of access to supermarkets and other shops on the mainland resulting in a loss of shops on the island.

The relatively elderly population of the island is reflected in the local economy, as a large proportion of residents are retired, and the main source of employment relates to health care and social work activities¹⁸.

¹⁰ Scottish Islands Typology: overview 2024, Scottish Government. <https://www.gov.scot/publications/scottish-islands-typology-overview-2024/pages/7/>

¹¹ Island and parish of Cumbray, 1840, The Rev. James Drummond. <https://stataccscot.ed.ac.uk/data/pdfs/account2/StAS.2.5.69.P.Bute.Cumbray.pdf>

¹² Report on the twelfth census of Scotland, A vision of Britain through time. <https://www.visionofbritain.org.uk/census/S1911POP/3>

¹³ Scotland's Census 2001, Statistics for Inhabited Islands, General Register Office for Scotland, 2003.

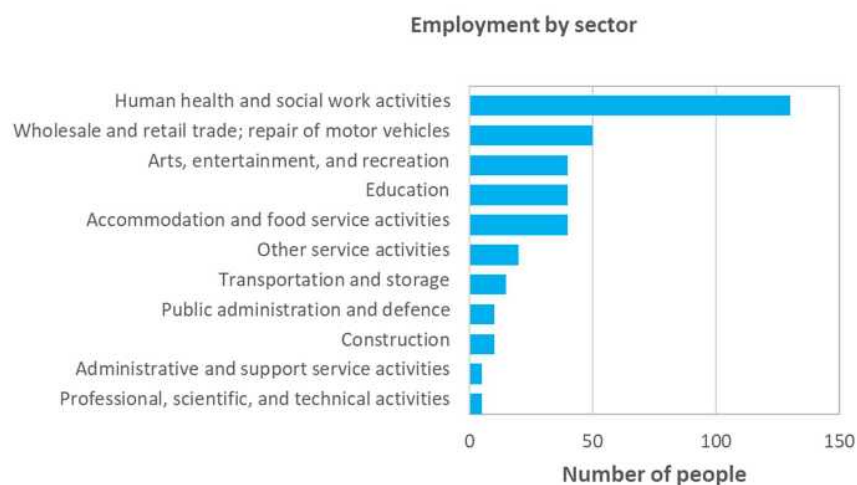
¹⁴ Isle of Cumbrae Economic Baseline Report, North Ayrshire Council, October 2021. <https://www.north-ayrshire.gov.uk/Document-library/economic-baseline-cumbraes.pdf>

¹⁵ Cumbraes, Buteshire, Scotland Genealogy, Family Search. https://www.familysearch.org/en/wiki/Cumbraes,_Buteshire,_Scotland_Genealogy

¹⁶ Isle of Cumbrae Economic Baseline Report, North Ayrshire Council, October 2021. <https://www.north-ayrshire.gov.uk/Document-library/economic-baseline-cumbraes.pdf>

¹⁷ Scottish Index of Multiple Deprivation, Scottish Government, 2020. <https://simd.scot/>

¹⁸ Isle of Cumbrae Economic Baseline Report, North Ayrshire Council, October 2021. <https://www.north-ayrshire.gov.uk/Document-library/economic-baseline-cumbraes.pdf>



Note: The available data excludes agriculture and the increasing number of people who spend much of their time working from home on the island.

Whilst tourism is not identified specifically within the available data, the sectors traditionally related to tourism account for 25% of all employment¹⁹ and 25% of local GVA²⁰ (Gross Value Added – this is the measure of the value of goods and services produced). However, while good for businesses and for local employment, tourism is not viewed positively by everyone, as some residents do not see any personal benefit, only inconvenience²¹.

Housing and energy

The two main architectural styles in Millport are Georgian and late Victorian.

There are 17 listed buildings in Millport; 1 at category 'A', 5 at category 'B' and 11 at category 'C'.

Much of the town is within the Millport Conservation Area which was established in 1971 in recognition of the quality of the historic townscape and to tackle the loss of

architectural detail, insensitive alterations and insertions, and the use of inappropriate materials²².

The age of much of the housing stock means it has relatively poor energy performance compared to more modern buildings. Most of the properties have a solid external wall construction, making them prone to damp and difficult to insulate. This can result in high heating bills, and for those on low incomes can make heating their homes to a comfortable level unaffordable.

These problems are difficult to treat and are typically not suitable for approaches that might attract grant funding or loans, which generally involve insulating the inside or outside of external walls and the installation of heat pumps and solar panels.

External insulation would not be permitted in the conservation area, and internal insulation is generally disruptive and results in the loss of original features that give many properties their special character. Without insulated walls, heat pumps become impractical. In addition, North Ayrshire Council made clear in 2024 that they will not support the installation of solar panels on the primary elevations of properties in the conservation area.

This leaves the community with no practical solutions, despite the designation of the island as part of the Carbon Neutral Islands project, which for the most part has had to focus on non-domestic buildings and more modern properties outside the conservation area.

Research data published by the Scottish Government in 2021 estimated the total number of dwellings on Cumbrae was 1,342, of which, 811 were occupied²³.

It was reported in 2018 that there were 492 second homes on Cumbrae. In the zone covering the centre of Millport, 341 out of 796 homes were second homes. At 42.8%, this is the highest rate for any zone in Scotland²⁴ ²⁵. A significant number of these properties are short-term lets for visitors.

This is perceived by some as reducing the number of homes available for local people, pushing up house prices and private rent charges. However, others feel that second homeowners and visitors staying on the island tend to be relatively affluent and so bring significant revenue. It is also apparent that there is insufficient employment on the island to provide work for a large number of people, and that

²² Millport Conservation Area Appraisal, North Ayrshire Council, 2013. <https://www.north-ayrshire.gov.uk/Document-library/millportcaa.pdf>

²³ Isle of Cumbrae Economic Baseline Report, North Ayrshire Council, October 2021. <https://www.north-ayrshire.gov.uk/Document-library/economic-baseline-cumbraes.pdf>

²⁴ Greens urge action on second homes in Arran and Cumbrae, 2018. <https://greens.scot/news/greens-urge-action-on-second-homes-in-arran-and-cumbrae>

²⁵ Council to consult with islands over second home council tax. Largs & Millport Weekly News, 22 February 2024. <https://www.largsandmillportnews.com/news/24135306.council-consult-islands-second-home-council-tax/>

¹⁹ Isle of Cumbrae: Local Island Plan, North Ayrshire Council, 2022. <https://www.north-ayrshire.gov.uk/Document-library/cumbrae-local-island-plan.pdf>

²⁰ Isle of Cumbrae Economic Baseline Report, North Ayrshire Council, October 2021. <https://www.north-ayrshire.gov.uk/Document-library/economic-baseline-cumbraes.pdf>

²¹ Isle of Cumbrae: Local Island Plan, North Ayrshire Council, 2022. <https://www.north-ayrshire.gov.uk/Document-library/cumbrae-local-island-plan.pdf>

many of the properties on the island have been converted into small flats that are not suitable for working families.

Landscape and habitats

The majority of the island outside the town of Millport is agricultural. In addition, there are a number of beaches around the perimeter of the island and a golf course to the west of the town. Two freshwater reservoirs at the centre of the golf course are used for fishing.

The entire island is designated a Special Landscape Area (the terminology is now changing to Local Landscape Area), and large parts of the coastal fringe are designated Local Nature Conservation Sites, as are Barbay Hill and Ballikillett Woodland at the top of the island.

Kames Bay is designated a Site of Special Scientific Interest (SSSI) as it is an historic site for the study of intertidal marine biology, having contributed more to the understanding of marine biology than any other stretch of beach in Scotland²⁶.

Ballochmartin Bay is also designated an SSSI, as the most varied section of coast on the island, which is important for research and teaching marine biology²⁷.

The island is home to extensive wildlife and important habitats.

Studies of Minnemoer undertaken as part of, or in response to, the planning application for a large solar farm at the top of the island, identified twenty endangered species of bird on the RSPB red and amber lists²⁸. This included two species (skylark and common linnet) on the priority species list in the North Ayrshire Local Biodiversity Action Plan²⁹, and eight (dunlin, curlew, linnet, lesser redpoll, cuckoo, swift, black-headed gull and northern lapwing) on the Scottish Biodiversity List³⁰. In addition, there were seven Scottish Biodiversity List Priority Habitats including upland heathland and upland flushes, fens and swamps, semi-natural broadleaved woodland and wet woodland³¹.

²⁶ Kames Bay Site of Special Scientific Interest, Strathclyde Region, Cunninghame District. SSSI Citation 825, NatureScot. <https://sitelink.nature.scot/site/825>

²⁷ Ballochmartin Bay Site of Special Scientific Interest, Strathclyde Region Cunninghame District. SSSI Citation 132. NatureScot. <https://sitelink.nature.scot/site/132>

²⁸ Representation regarding planning permission appeal DPEA ref: PPA-310-2039, Cumbrae Community Council, 2023. <https://cumbrae.org/assets/files/Cumbrae-CommunityCouncil-representationPPA-310-2039.pdf>

²⁹ North Ayrshire Local Biodiversity Action Plan 2019-2031, North Ayrshire Council, 2019. <https://www.north-ayrshire.gov.uk/Document-library/approved-lbap.pdf>

³⁰ Scottish Biodiversity List, NatureScot, 2020. <https://www.nature.scot/scotlands-biodiversity/scottish-biodiversity-strategy-and-cop15/scottish-biodiversity-list>

³¹ Solar Farm, Isle of Cumbrae, Extended Vegetation Survey, EnviroCentre Limited, January 2023, Executive Summary. https://www.eplanning.north-ayrshire.gov.uk/OnlinePlanning/files/945C3E75C0605517719EC8901CC53436/pdf/23_00114_PP-Extended_Vegetation_Survey-1127089.pdf

Despite this, North Ayrshire Council planning officers recommended that the planning committee approve the application for the solar farm. The committee unanimously rejected the application, but it was nonetheless approved on appeal.

It is clear therefore that further protection is needed for Cumbraes' important landscapes, habitats and species.

There are also a number of stands of Japanese knotweed on the shore side of the coast road. This is an invasive non-native species that is damaging to infrastructure and biodiversity, and work is being undertaken to ensure it is eradicated³².



³² Japanese knotweed map, Cumbrae Community Council, 2023. <https://www.google.com/maps/d/edit?mid=1Nvcoe41TMPpHCoi777UonSg8mFQybuFH&usp=sharing>

COMMUNITY CONSULTATION

CCC sought the views of the local community to inform development of this Local Place Plan. A brief summary of the consultation process and findings is presented below.

A digital survey was launched at the end of March 2024, open for all of April. The survey was promoted through:

- Announcements at CCC public meetings.
- A campaign on social media.
- Posters in shops, on the CCC noticeboard and on the bus.
- An article in the Largs and Millport News.
- Emails to 300 subscribers to the CCC mailing list.

The survey took approximately 20 minutes to complete, and 545 responses were received.

In addition, CCC and members of The Cumbrae Forum held drop-in sessions for those who wanted to complete the survey in person on 9 April, 11 April and 13 April, and an open consultation for the whole island was held on 13 April.

A stakeholder consultation was held on 19 April with input sought from key island stakeholder groups:

- Police
- HM Coastguard
- Isle of Cumbrae Tourism Association (IOCTA)
- Cumbrae Community Development Company (CCDC)
- The Cumbrae Forum
- Millport Motors
- Millport Golf Club
- The Cumbrae Primary
- Field Studies Council (FSC)
- Ferry Users Group (FUG)
- Religious organisations on the island
- Millport Bowling Club

- Millport Town Hall
- Millport Care Centre

The Boys' Brigade held a stakeholder consultation on 17 April and Cumbrae Primary School held a full school assembly followed by a stakeholder consultation with P4-5 on 29 April.

Members of CCC also conducted in-depth 1-2-1 interviews with 7 islanders.

A first draft of the proposals for this Local Place Plan were shared with North Ayrshire Council in June 2024. A second draft was then published in October 2024, and a meeting was held with Local Councillors on 4 October. A community consultation meeting was held on 5 October.

On 10 November 2024 the proposed Local Place Plan was shared with Largs Community Council, Fairlie Community Council and Local Councillors, who were given 28 days to make representations, as required by the Town and Country Planning (Local Place Plans) (Scotland) Regulations 2021.



Summary of the survey findings

- In general, respondents felt positive about Cumbrae in relation to safety, community, and views.
- Respondents were negative about the ferry service, North Ayrshire Council, business opening hours, some aspects of tourism and the proposed solar farm.
- They expressed a desire for improved amenities, fewer cars and motorhomes and a greater proportion of people visiting the island as foot passengers.

Development

- **53.3%** of respondents did not think development should be allowed beyond the town's boundaries (30.6% disagreed and 14.1% did not know).
- **82.2%** did not think development should be allowed on the shore side of the coast road (11.1% disagreed and 6.6% did not know).
- **63.8%** thought there are other parts of the island that should be protected from development, such as sites where development would spoil the skyline of the island (14.6% disagreed and 21.6% did not know).
- **49.2%** felt there were parts of the island where new developments could be allowed (27.5% disagreed and 23.3% did not know). Suggestions included:
 - Parts of Ferry Road and Golf Road
 - Parts of the land behind Bute Terrace
 - The land between the new houses at Lady Margeret Court, Ballikiliet Farm and the hospital
 - Parts of Kames Street and College Street
 - Ninian Park
 - Land between Ravenscraig and the FSC
 - The former Watersports Centre
- **80.1%** felt the conservation area should be retained, (8.3 disagreed and 11.6% did not know) but concerns were raised that it is only enforced selectively by North Ayrshire Council.
- **63.6%** felt that buildings in the conservation area should be allowed to have solar panels on their roofs facing towards the sea (25.2% disagreed and 11.2% did not know).
- **46.5%** believed the island needs more housing, in particular family homes, affordable housing, social housing and sheltered housing (29.6% disagreed and 23.8% did not know).

Landscape

- **92.7%** of respondents thought that views and panoramas on the island are very important or extremely important, and **84.3%** thought there are views that should be protected.
- **92.7%** of respondents felt that monuments such as the crocodile rock, standing stone, Indian rock and lion rock should be protected.

Amenity

- **75.1%** of respondents felt there were parts of the island in need of immediate attention, such as; potholes, pavements, some areas of the town and the public toilets.
- **58.2%** felt there is not enough for young people to do (12.3% disagreed and 29.6% did not know). Young people themselves expressed a desire for informal activity spaces such as a skate park.
- **82.2%** felt that public bins should include recycling and **75.5%** felt there should be a household recycling centre on the island.
- **76.7%** supported a call for a care home on the island so that elderly people are not forced to leave the island when they need care (the existing Care Centre provides specialist care for adults with extremely complex needs).

Transport

- **67.6%** felt there should be a cycle lane from the FSC to the ferry slip (24.4% disagreed and 8% did not know).
- **61.4%** felt there is not enough parking on the island (29.5% disagreed and 9.1% did not know). Many respondents thought visitors should be encouraged to come to the island by public transport rather than bringing a car, in order to free up space for residents and those with accessibility needs as well as helping the island meet sustainability targets.
- **79%** felt there should be a second ferry crossing to the island with enough parking on the mainland to encourage day trippers to come to the island as foot passengers. (12% disagreed and 9% did not know)

Energy and infrastructure

- **57.1%** believed it is extremely important or very important to have a community energy project on the island, owned by the community. However, there were strong calls for this to be in a more sensible location than the proposed solar farm.

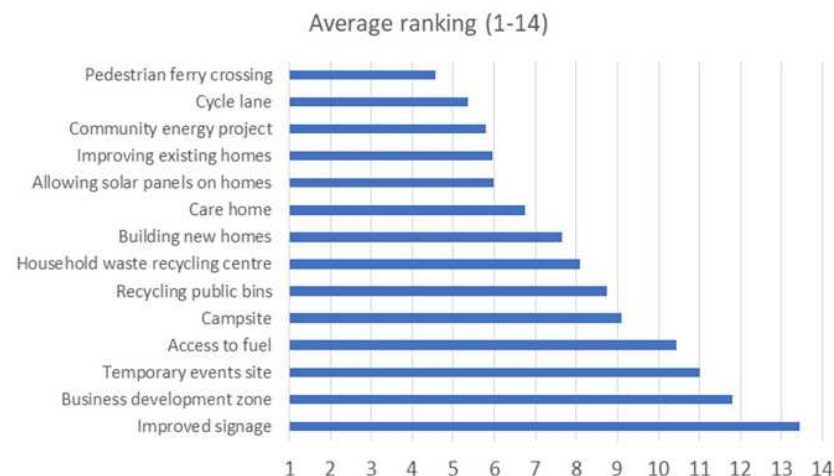
- **51.6%** felt there are particular problems with housing on the island, including its age, size and tenure and difficulties retrofitting properties (17.9% disagreed and 30.6% did not know).

Business and tourism

- **57.9%** did not support an increase in the second home council tax, suggesting it would kill the economy, second homeowners would leave the island, and local businesses would suffer (28.4% disagreed and 13.8% did not know).
- **54.7%** felt the island needs more tourism (18.5% disagreed and 26.8% did not know). There was a strong preference for an increase in foot passengers and a reduction in vehicular traffic. Respondents also felt the island should be seeking greater economic return from tourism, but with less disruption.
- **68%** believed the tourism offer could be improved (9% disagreed and 22.9% did not know). Issues raised included; unreliable opening hours, the availability of food in the evenings and the need for wet weather facilities. Suggestions for more diverse provisions included more ecological tourism (terrestrial and marine), sailing and other watersports activities, arts and crafts activities, enhanced walking and cycling experiences and a marina.
- **82.5%** said they would support a controlled campsite on the island, for example at the Garrison, or the former Watersports Centre. (10.9% disagreed and 6.6% did not know)
- **52.9%** felt there should be a business development zone to support the marina (10.3% disagreed and 36.8% did not know).
- **44%** believed there are initiatives which could be developed to create more jobs (5.2% disagreed and 50.8% did not know). Suggestions included more accommodation for workers, business start-up facilities, business support provision and better promotion of business opportunities.

Priorities

Survey respondents were asked to rank the importance of a range of possible improvements to Cumbrae. The results are set out to the right, with the most important at the top.



THE PROPOSALS

The views of the community have been distilled into the following proposals. These proposals will be updated over time to ensure they continue to properly reflect the views of the community.

Note: Where potential development sites are identified, this plan is not suggesting those sites definitely will be developed, it is simply indicating preferred locations for any such developments.

Development

Proposal 1

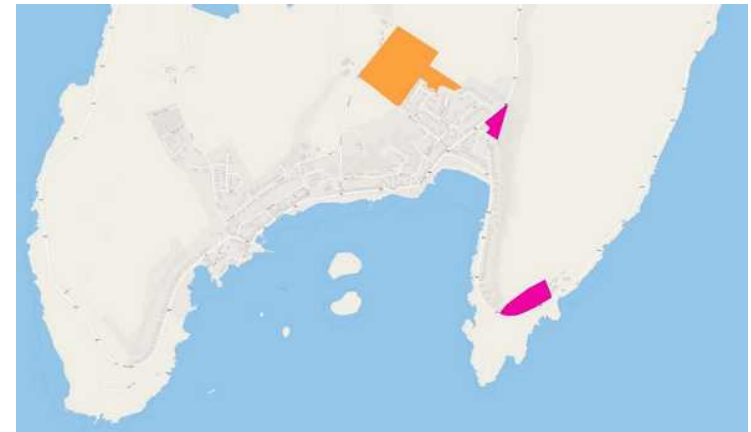
Oppose development on the shore side of the coast road and outside the Millport town boundaries, other than on sites identified in the proposals below.

This policy re-states a long-standing principle that has been applied to the consideration of proposed developments. Its purpose is to preserve the compact character of Millport, which creates a focus of activities at the south of the island, and to prevent it from sprawling along the coast. This protects the countryside on the rest of the island and preserves important views and habitats from development.



Proposal 2

Support the development of new housing on sites identified on the map, in particular sheltered and affordable housing, family homes and a care home.



Note The areas marked in orange are suitable for housing only, whereas the areas in magenta might be suitable for either housing or business uses (see also [Proposal 3](#)).

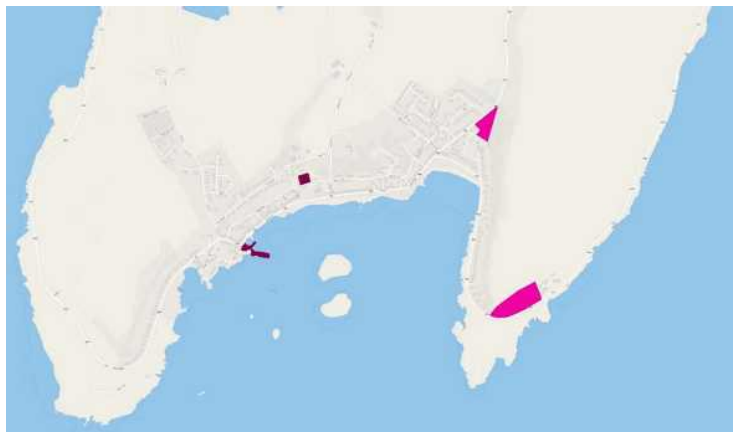
The majority of the existing housing stock on the island is relatively old, energy inefficient and difficult to heat. It also has access challenges for people with disabilities. In addition, many properties have been subdivided into small flats that are unsuitable for families. There is a need for more modern housing, and in particular, accommodation suitable for families and for older people, people with disabilities and people requiring care, so they are not forced to leave the island as their needs change.

It is important that any new development is accompanied by suitable infrastructure, in particular sustainable urban drainage solutions (SUDS), as the existing drains are already easily overwhelmed, resulting in local flooding.

See also **Proposal 19**.

Proposal 3

Support the creation of business development zones on sites identified on the map and the creation of business start-up facilities and business support provision.



Note The areas marked in purple are only suitable for business uses, whereas the areas in magenta might be suitable for housing or business uses (see also [Proposal 1](#)).

The availability of the internet and the acceptance of working from home by employers means it is easier than ever to work or establish a business on the island. This is an opportunity to change the demographics of the island, to attract young families and diversify the economy so it is less reliant on seasonal tourism.

The area currently occupied by the huts on the Garrison site would make a particularly good location for business start-up facilities, and the proposed development of the marina makes the area around the existing pier and harbour an important business opportunity.

Proposal 4

Retain the conservation area to prevent the loss of architectural detail, insensitive alterations and insertions and the use of inappropriate materials.

It has been suggested that the conservation area should be abolished to make it easier for residents to get permission to install solar panels on the roofs of their homes. Solar panels are currently only a permitted development (meaning that planning permission is not required) outside the conservation area, or on the rear of roofs within the conservation area (in Millport the rear of roofs tends to face away from the sun).

However, the consultation made clear the community is supportive of the conservation area, and feedback noted there could be unintended consequences if it is abolished. Instead, other ways should be found to permit solar panel installations within the conservation area.

See also **Proposal 5** and **Proposal 19**.



Proposal 5

Support the installation of solar panels on the primary elevation of domestic properties within the conservation area.

The installation of solar panels on the primary elevation of domestic properties in the conservation area is not a permitted development. A planning application is required to seek approval.

Cumbræ Community Council, which is a statutory consultee for planning, will support such applications.

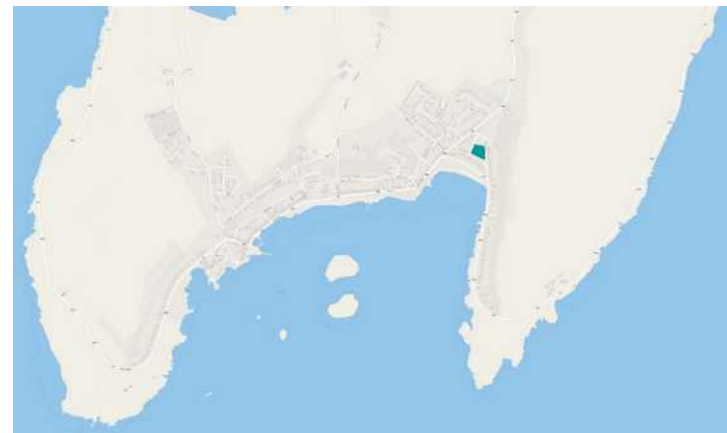
See also **Proposal 4** and **Proposal 19**.



Amenity

Proposal 6

Promote the creation of an informal play area for young people on a site identified on the map.

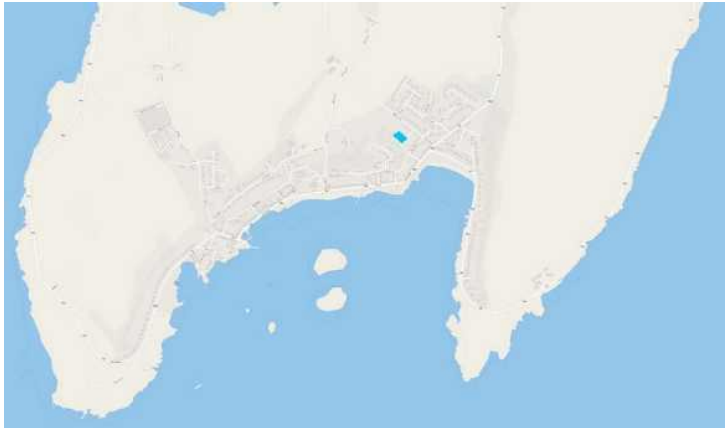


During the consultation process, young people made clear they would welcome an informal play area where unstructured activities could take place – with a particular desire for a skate park.

Ninian Park, shown on the map above, currently has a small playground at its northern end, but it is largely unused and the whole area is in need of improvement.

Proposal 7

Promote the creation of a household waste recycling centre on a site identified on the map, and the provision of public recycling bins.



At present there is no household waste recycling centre on Cumbrae. This means that those with access to transport have to leave the island and take their waste to the mainland. Those without transport have to pay for an uplift from the council. Waste is often left in the street while it is waiting to be removed.

The site at the top of Woodlands Street (the former gas works), would make a suitable location for a household waste recycling centre.

There is also a need for public recycling bins on the island so that visitors are able to dispose of their waste responsibly. The clothes recycling facility at the end of Marine Parade is regularly overflowing, demonstrating demand, and it needs to be complemented by a more extensive and a greater range of recycling capacity.

Both these changes would help contribute to Cumbrae's Net Zero Island project.

Proposal 8

Encourage expansion of the motorhome site at the Garrison and the creation of formal camp sites with parking and other facilities on sites identified on the map.



The number of motorhomes parking overnight in laybys and parking spaces around the island has increased dramatically in recent years, particularly since COVID restrictions limited people's ability to travel abroad. The numbers are now unsustainable, with no suitable facilities, inadequate bins, and motorhomes parked up in large numbers, preventing other people from accessing beaches.

The motorhome site at the Garrison has proved successful and could be expanded. In addition, the field at the back of the Garrison could be used as a motorhome or camping site, as could the former Watersports Centre by the ferry slip.

Not only could these sites provide essential facilities, they would also take a number of cars, motorhomes and campervans off the streets, freeing up more parking for others.

See also **Proposal 16**.

Proposal 9

Support an increase in the range of shops and food outlets so that residents do not have to leave the island to shop, and visitors have a suitable range of options available.

A problem common to many islands is that once people have to go to the mainland to get one thing, they get everything else while they are there. This means that even where items may be available on the island, people often buy them from the mainland.

A broader offer on the island would reduce the number of enforced trips to the mainland, benefitting the community and local businesses.

It would also support a reduction in journeys, contributing to the Carbon Neutral Island project.

Proposal 10

Support improved accessibility, in particular relating to the ferry.

Cumrae has a relatively elderly population, and so accessibility issues are a particular concern. Problems that people encounter are exacerbated by being on an island, and the need to travel to the mainland for some essential services such as medical care.

A number of accessibility issues were raised during the consultation process, in particular relating to the ferry and improvements that could be made to the bus stance, passenger facilities, queuing, the walkway, and the steepness of the slip. Some problems are worse during the summer when there can be large numbers of visitors using the ferry service and long queues. CCC will support the Ferry Users' Group (FUG) in seeking appropriate improvements.

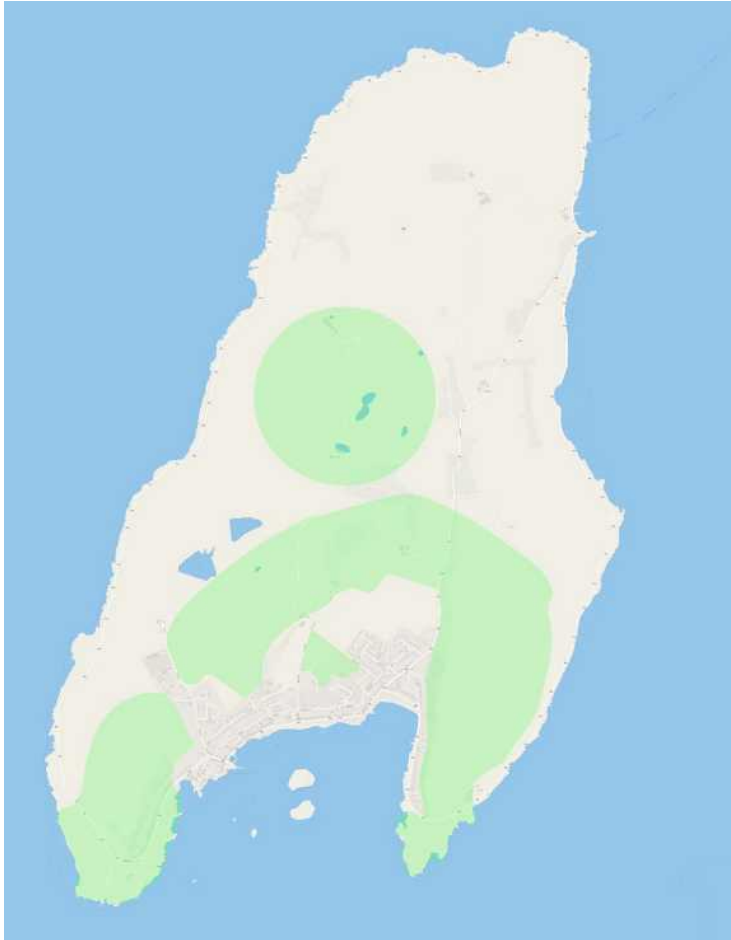
CCC will also champion accessibility issues in its responses to planning applications and in its discussions with North Ayrshire Council.



Landscape

Proposal 11

Protect important views identified on the map.



Many people move to the island or visit it because of its views, so it is crucial to residents and to the tourist economy that they are properly protected. This relates both to views of the island and views from the island.

There are many well-loved views, too numerous to mention, but two stand out:

1. The view from the highest point: The highest point of the island provides a rare 360° view of the Clyde. Its importance to residents and visitors was highlighted by the strong negative reaction to the planning application for the proposed solar farm on Minnemoer.
2. The hills behind Millport: The Landscape Capacity Assessment published by North Ayrshire Council in 2008 identified the importance of protecting the hills that surround Millport. It stated: "These hills help to enclose the settlement of Millport and reinforce the form of the bay itself; providing a background horizon to the landscape setting of the town and bay. These areas help to enclose the settlement of Millport; providing a distinctive background horizon to the landscape setting of the town and development in these remote areas would be highly visible and likely to lead to adverse effects."



Proposal 12

Ensure designated landscapes and habitats identified on the map are protected from development and seek additional protections where appropriate.



Cumbrae has a many much-loved landscapes that include important habitats and provide homes to species identified on the Scottish Biodiversity List and in the North Ayrshire Local Biodiversity Action Plan. The whole island is designated a Candidate Local Landscape Area (previously a Special Landscape Area).

The areas marked on the map have additional designations as either Local Nature Conservation Sites, or Sites of Special Scientific Interest and should be protected from development.

Despite these designations however, the planning application for the solar farm on Minnemoer was approved. CCC will therefore seek measures that give these landscapes additional protection.

Proposal 13

Eradicate invasive non-native species such as Japanese knotweed.

Japanese knotweed is present in several locations on the shore side of the coast road. Japanese knotweed is an invasive, non-native species that spreads easily and is difficult to get rid of. It can grow through concrete and poses a risk to wildlife as it reduces biodiversity.

CCC has created an online map showing the locations of Japanese knotweed around the island³³ and North Ayrshire Council is working with the community to eradicate it.

³³ Japanese knotweed map, Cumbrae Community Council, 2023.
<https://www.google.com/maps/d/edit?mid=1Nvcoe41TMPpHCoi777UonSg8mFQybuFH&usp=sharing>

Proposal 14

Protect important monuments identified on the map and seek legal designations where appropriate.



Cumbrae is well-known for its famous 'rock' monuments that are a feature of any trip around the coast road. There are also a number of less well-known rocks and stones on the island, as well as four memorials.

These monuments should be protected so they can be experienced and enjoyed by future generations, and where appropriate legal protections should be sought.

Transport

Proposal 15

Promote a second ferry crossing.

The large number of day tripper visitor cars could be limited by having an appropriate park and sail ferry service, with adequate car parking on the mainland. This could operate from an alternative location on the mainland away from Largs pier where a parking area could be built, and a passenger only, or limited car and passenger service could operate to a new landing location on the east of Cumbrae, or to a passenger berth at the new marina.

The design for the marina currently includes a berth large enough to accommodate a passenger ferry, and while there are no proposals for such a service at present, the marina is an opportunity to ensure appropriate infrastructure is in place.

This could also provide an alternative service for when the existing ferry is inoperative.

Proposal 16

Seek new protections to discourage visitors staying overnight in campervans and motorhomes outside of designated sites.

Developing the motorhome site at the Garrison was the first step toward reducing the very high numbers of motorhomes and campervans parking overnight around the island where there are no facilities.

The installation of 'no overnight parking' signs around the island was the second step.

Further measures may be required to relieve pressure on the countryside outside of Millport, where waste, fires, lack of toilet facilities and long-term occupation of a limited number of parking spaces are an increasing problem for the island.

See also **Proposal 8**



Proposal 17

Support the creation of a cycle lane from the FSC to the ferry on a route identified on the map.



Cumbræ is renowned for its cycling, with a relatively flat coast road that is a manageable 10 miles round. With stunning views and countryside, it is one of the main draws for people visiting the island.

However, cyclists currently share the road with vehicular traffic, particularly between the Field Studies Council (FSC) and the ferry slip. A cycle lane along this stretch of the coast road would improve safety and make the journey more pleasant for cyclists.

North Ayrshire Council is currently investigating options for such a cycle lane.

Energy and infrastructure

Proposal 18

Support the development of a community energy scheme in a suitable location.

While the local community was strongly against the proposals for the solar farm on Minnemoer, this was because of the location, and the fact that the scheme would not benefit local people, not because of an objection to renewable energy in principle.

CCC would support the development of a more appropriate scheme that benefits the community and will support the work of the Carbon Neutral Island project to assess feasible options.

Proposal 19

Support upgrading the existing housing stock and the development of a pilot project to test the viability of low carbon and energy-saving technologies.

Many of the existing buildings on the island are relatively old and are difficult and expensive to heat.

They are also generally not able to benefit from schemes that could improve their energy efficiency. They are not suitable for external wall insulation, many owners and occupants are reluctant to face the disruption, cost and loss of features that would be associated with internal wall insulation, and without those, technologies such as heat pumps would not be efficient. In addition, solar panels are not a permitted development on the roofs of the primary elevation of properties within the conservation area. This leaves the community with very limited available improvements.

A pilot project to test alternative technologies that might be suited to the types of property on the island is necessary to find viable solutions and help take residents out of fuel poverty.

See also: **Proposal 5** and **Proposal 2**



COMBINED MAP



APPENDIX 1: REGARD TO OTHER PLANS

In preparing this Local Place Plan, CCC has had regard to:

- The National Planning Framework.
- The adopted Local Development Plan, LDP2 and the proposed LDP3.
- The North Coast & Cumbraes Locality Partnership, Locality Action Plan 2023/24.

This Local Place Plan is broadly aligned with those plans and the framework.

The Local Development Plan might be amended as LDP3 is developed in line with this Local Place Plan and in particular to:

- Reflect the preferred development sites shown on the map.
- Strengthen the presumption against development outside the town of Millport, other than sites identified on the map.
- Identify the area around the pier and harbour as a strategic development area in order to provide services for the proposed marina.
- Identify Ballikiliet Woodland as a Local Nature Conservation Site, as it is on the Review of Local Nature Conservation Sites (LNCS), but not within LDP2. Ref <https://storymaps.arcgis.com/stories/d037001e221a4760ab8bcad7a16284ac>

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ABOUT CUMBRAE COMMUNITY COUNCIL

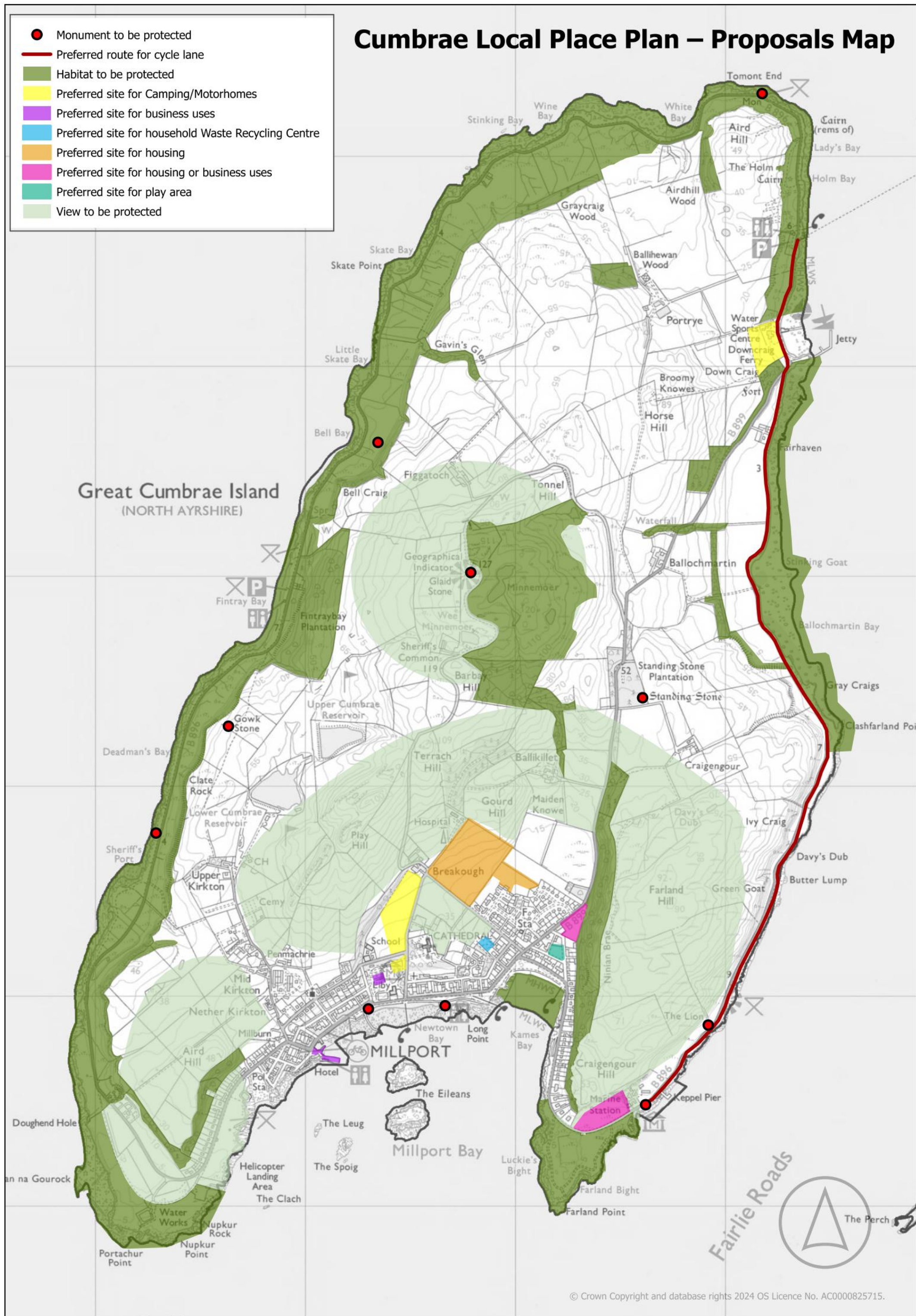
Community Councils are the most local tier of statutory representation in Scotland (ie their purpose is set out in law). They bridge the gap between local authorities and local communities.

Their main purpose is to represent their local community, gathering community opinion and sharing the views of the community with the local authority and other public bodies.

Information about the daily workings of Cumbrae Community Council, along with further updates to this Local Place Plan can be found at www.cumbrae.org.



Cumbrae Local Place Plan – Proposals Map



Summary of Local Place Plan Proposals

Local Place Plan: Cumbrae

Submitted by: Cumbrae Community Council

Submission Date: 17 December 2024

Registration Date:

Proposals for the development and/or use of specific land and/or buildings:

Ref	Proposal	Location
2	New housing (particularly affordable housing, family housing, sheltered housing) and Care Home	a) Kames Street, south-west of The Lady Margaret Hospital b) Ferry Road c) The Hawk's Nest, Marine Parade
3	Business start-up and support facilities	a) Garrison House huts b) The Peir c) Ferry Road d) The Hawk's Nest, Marine Parade
6	Informal play area	Ninian Street
7	Household waste recycling centre (plus provision of public recycling bins)	Former Gas Works, Woodland Street
8a	Expansion of existing motorhome site	Garrison House
8b	Formal camping sites	Former Watersports Centre
10	Accessibility improvements, including at Ferry Slip	Ferry slip, across the island
17	Cycle Lane	Field Studies Centre to Ferry Slip
18	Community Energy Scheme	Not specified

NB: The Local Place Plan also:

- Opposes development on the shore-side of the coast road and outside the boundary of Millport (excluding identified sites) (Proposal 1)
- Supports the retention of the Conservation Area (Proposal 4) and the installation of solar panels on the primary elevation of domestic properties within it (Proposal 5)
- Supports an increase in the range of shops and food outlets (Proposal 9)
- Proposes protection of important views (Proposal 11), designated landscape and habitats (Proposal 12) and monuments (Proposal 14)
- Proposes the eradication of non-native invasive species (Proposal 13)
- Promotes a secondary ferry crossing for foot passengers (Proposal 15)

- Seeks new protections to discourage visitors staying overnight in campervans and motorhomes outwith designated sites (Proposal 16)
- Support improvements to existing housing stock to improve energy efficiency (Proposal 19).