

# Lewisham Streetscape Design Guide

Consultation draft  
March 2024



**urban**  
movement



# Contents

## 1. Introduction

1.1	About	5
1.2	Our vision for Lewisham's streets	6
1.3	Sustainability	8
1.4	Existing policy	9
1.5	How to use this document	12
1.6	Street and public realm design	15
1.7	Lewisham's street family	16
1.8	Character areas	18
1.9	Conservation areas and features	19

## 2. Street types

2.1	Neighbourhood streets	22
2.2	Residential streets	24
2.3	Homezone streets	26
2.4	School streets	28
2.5	Connector streets	30
2.6	City hubs/boulevards	32
2.7	High roads	34
2.8	High streets	36
2.9	Town squares/streets	38

## 3. Public realm design components

3.1	Footways	41
3.2	Cycle infrastructure	50
3.3	Carriageways	62
3.4	Bus infrastructure	67
3.5	Junctions and crossings	70
3.6	Traffic management	82
3.7	Parking and loading	88
3.8	Trees and planting	96
3.9	Drainage and SuDS	103
3.10	Play and parklets	105

## 4. Hard and soft landscape guide

4.1	Materials strategy	109
4.2	Materials and street furniture palette	111
4.3	Street furniture	125
4.4	Lighting	130

## 5. Template designs

5.1	Continuous footways	133
5.2	Vehicle crossovers	146
5.3	Footways loading and parking pads	147
5.4	Informal pedestrian crossing	150
5.5	Raised table junction	153
5.6	Bus stops on cycle routes	154
5.7	Cycle lanes and tracks	156
5.8	Rain gardens	159
5.9	Trees in footways	163
5.10	Verges	167
5.11	Modal filters	171
5.12	School streets	175
5.13	New residential streets	177
5.14	Pedestrian priority streets	178

# 1. Introduction

# 1.1 About

## What is the Lewisham Streetscape Design Guide?

The Lewisham Streetscape Design Guide sets out the principles, guidance and standards for works within the existing and planned streets and public spaces in Lewisham.

Using and applying the guidance contained in this document is vital to delivering, maintaining and renewing Lewisham's streets and public spaces, and ensuring that they enhance and protect Lewisham's character; are well-functioning for a range of users and purposes; and help to achieve the broader policy aims around health, biodiversity, transport and sustainability.

## Why use the Lewisham Streetscape Design Guide?

Design guidance contained within this document will help to improve the function and performance of Lewisham's streets and public spaces on a range of metrics, covering environmental, economic and social sustainability. It will also help anyone working in Lewisham's public realm to work better and more efficiently.

The key benefits of using the Lewisham Streetscape Design Guide include:

### Aid decision making

Help engineers, landscape architects, planners and developers and others working within Lewisham's streets and public spaces to make decisions more quickly through providing clear and succinct standards and guidance.

### Ease public realm maintenance, cleansing and repair

To ensure that Lewisham's public realm is able to be maintained and cleansed through considering the maintenance needs of materials and products, and making replacement easier through a simple, consistent palette of materials and products.

## Utilise opportunities for improving the public realm

To ensure that opportunities to improve the public realm and support policy objectives are identified and utilised, avoiding waste and maximising the benefits of work in the public realm.

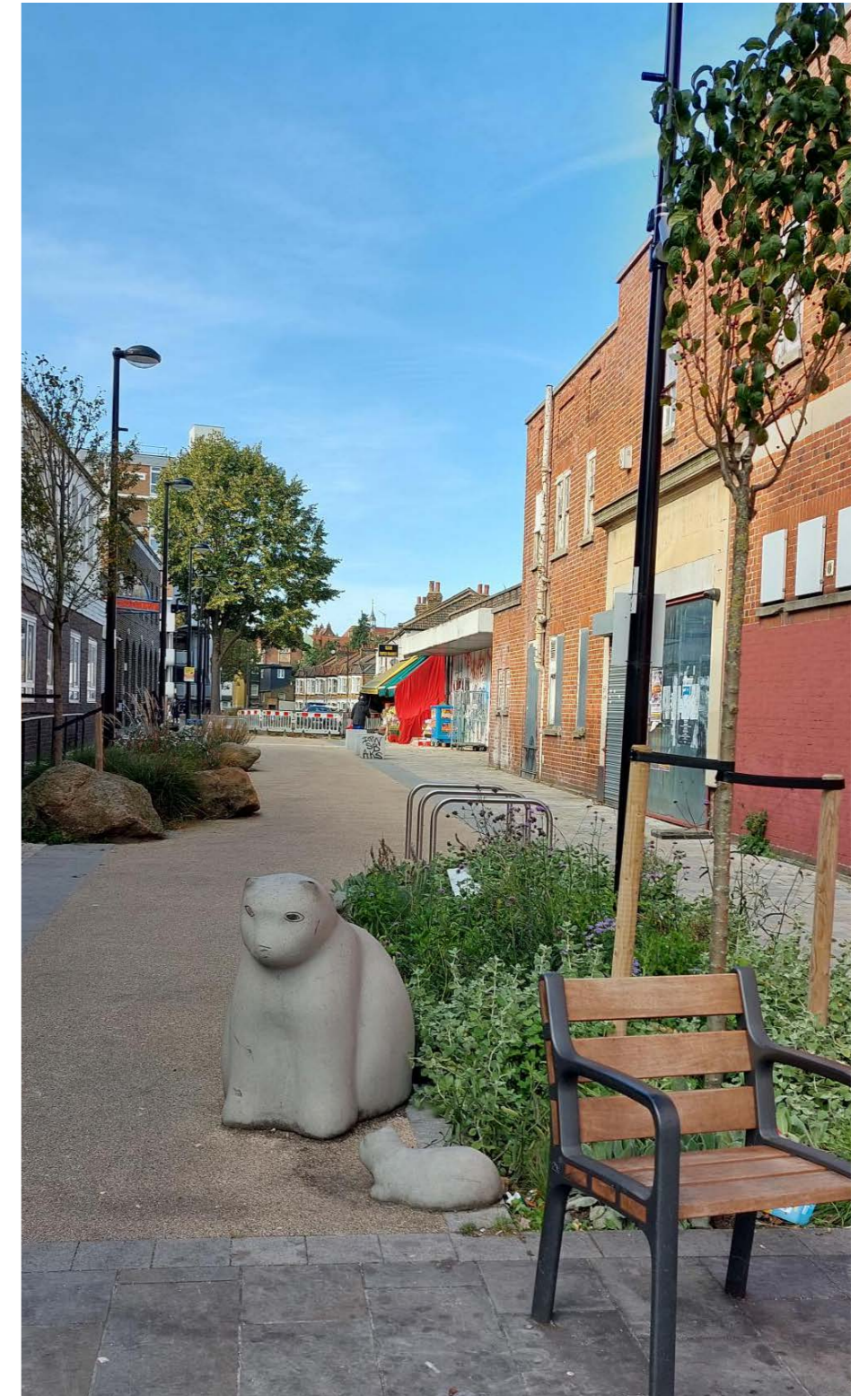
## Reduce the carbon impacts of public realm works

To help minimise the negative impacts of public realm works on people and planet, supporting the selection of sustainable materials and products, and considering the whole product lifecycle.

## Who should use the Lewisham Streetscape Design Guide?

Anyone working in the public realm, or in developing new places in Lewisham should refer to this document. This includes, but is not limited to:

- Developers;
- Planning and regeneration officers;
- Utility companies;
- Highways engineers and designers;
- Maintenance and street cleansing teams;
- Transport for London;
- Consultants, including: engineers, urban designers and landscape architects;
- Tree officers;
- Parks and green spaces team;
- Construction contractors;
- Resident and community groups.



Holbeach Road, Catford

# 1.2 Our vision for Lewisham's streets

We want to reimagine the borough's streets in order to create better public spaces for residents.

We also want to ensure that the design of our streets and public spaces is also aligned with our ambition to tackle the climate emergency, whether through encouraging people to use sustainable modes of transport, increasing greening on our streets for shade or introducing sustainable urban drainage to mitigate flooding.

As part of our work to reduce air pollution we want to reduce the number of car journeys in Lewisham and encourage more people to walk, cycle or use public transport- by creating a better environment for local people.

Well designed, clutter free pavements, which are safe and accessible to all, that have trees and use other nature based solutions to urban traffic issues, support local economies by creating improved spaces on high streets and outside shops and make better use of the road space will hopefully create a better environment for local people.

This document has been developed as a toolkit which can be used by design specialists, consenting teams and stakeholders to enhance the design quality of streets and public spaces.

This document will support well designed public spaces by:

- Enhancing Lewisham's local character;
- Supporting healthy communities and vibrant economies; and
- Addressing the climate emergency.



Coulgate Street, Brockley

## **Distinctive and elegant**

Respond to the local context and historic environment, and enhance Lewisham's places by applying an elegant spatial design, materials, planting and street furniture which respond sensitively to and enhance local character and distinctiveness.

## **Comfort and enjoyment**

Support public life and the enjoyment of streets and public spaces. Respond to the local micro-climate to mitigate noise and air pollution, and provide attractive and comfortable streets and spaces that encourage and enable people to spend time in them.

## **Economy**

Support our town centres and local economy by providing streets that create an attractive, comfortable town centre environment to support public life and encourage people to spend time there.

## **Sustainable and active travel**

Make it easy for people to walk, cycle, wheel and use public transport for everyday journeys; by providing a network of people-friendly streets, paths and public spaces that make active travel and public transport the logical first choice for journeys.

## **Accessibility and inclusivity**

Ensure that people of all ages, abilities, genders and backgrounds feel safe and comfortable using Lewisham's public realm; ensuring streets and public spaces are accessible to all; and providing comfortable streets with shade, shelter, low noise and pollution levels.

## **Nature**

Support ecological processes and create space for nature and wildlife by introducing trees and planting throughout our streets and public spaces. Utilise opportunities for Sustainable Drainage Systems that take the pressure off traditional sewers and drainage, helping to better manage surface water and flooding.

# 1.3 Sustainability

Sustainability should be at the heart of everything we do in the public realm. This means ensuring that we meet the needs of today whilst enabling future generations to meet their own needs.

This impacts all that we do in streets and the public realm, from providing infrastructure to help people live sustainable lifestyles, to using resources and products sparingly and with consideration of their impact on people and planet.

The following principles should be considered at all stages of the design process and management of the borough's streets and public realm.

## **Certified materials and products**

When selecting products and materials, ensure they meet the latest certification standards for social and environmental sustainability.

## **Reuse and repurpose**

Look for ways to re-use or re-purpose products and materials, for example through re-setting existing granite kerbs, rather than introducing new, or using recycled products.

## **Product lifecycle and the circular economy**

Consider the full product lifecycle, including the sourcing of raw materials, transport, production, construction, use, maintenance, repair and disposal; and consider how any negative impacts of each stage on people and planet can be minimised, and benefits maximised.

## **Innovation and opportunity**

Explore and test new innovative materials and technologies that could help to minimise negative environmental and social impacts; and look for opportunities to do more with less.



# 1.4 Existing policy

There is a wealth of existing policy and guidance on many aspects of street and public realm design. This includes policy and guidance at a borough, London-wide and national level.

## 1.4.1 London-wide and national policy

### Streets Toolkit (Transport for London)

Transport for London's (TfL) [Streets Toolkit](#) is a suite of guidance documents that includes:

- Streetscape Guidance, Fourth Edition, Revision 2, 2022;
- Sustainable Drainage Systems, 2016;
- London Cycling Design Standards (LCDS), 2014;
- Access Control Guidance Note, 2023;
- Station Public Realm Design Guidance, 2015;
- Urban Motorcycle Design Handbook (undated);
- Accessible Bus Stop Design Guidance, revised edition, 2017;
- Kerbside Loading Guidance, second edition, 2017.

These provide useful guidance on a range of topics related to the design of streets.

### The Healthy Streets Approach, Transport for London

The [Healthy Streets](#) approach to re-designing London's streets continues the general trend of encouraging active travel and is promoted within the London Plan. There are several toolkits and policies associated with the Healthy Streets Approach, including TfL's Healthy Streets check, which should be carried out during the design stages to ensure that the project is fulfilling its potential in this regard.

### LTN1/20, 2020, Department for Transport

This [Local Transport Note](#) provides guidance and good practice for the design of cycle infrastructure, in support of the Cycling and Walking Investment Strategy. Local authorities applying for funding from Active Travel England are expected to adhere to LTN1/20 standards in order to be successful.

### Manual for Streets, 2007

[Manual for Streets](#) provides design guidance for streets in residential development schemes, though is likely to be superseded by the forthcoming Manual for Streets 3.

### Manual for Streets 2, 2010

[Manual for Streets 2](#) provides design guidance for existing streets though is likely to be superseded by the forthcoming Manual for Streets 3.

### The Traffic Signs Manual (2018), Department for Transport

The [Traffic Signs Manual](#) provides advice to local authorities and those involved in the design and management of streets on the use of traffic signs and road markings on the highway network. The advice assists local authorities in the discharge of their duties under section 122 of the Road Traffic Regulation Act 1984 and Part 2 of the Traffic Management Act 2004 in England.

### Traffic Signs, Regulations and General Directions, Department for Transport (2016)

[Traffic Signs, Regulations and General Directions \(TSRGD\)](#) provides mandatory standards for the provision of road markings and traffic signage and must be followed at all times.

### Design Manual for Roads and Bridges (DMRB)

[DMRB](#) provides design guidance for trunk roads, and should not be applied to streets in Lewisham. However, guidance on bridges and structures contained within DMRB should be referred to when considering bridge and underpass crossings.

### National Planning Policy Framework, Dec 2023

The [National Planning Policy Framework](#) (NPPF) sets out the government's planning policies for England. All local planning policies must be in accordance with the NPPF and all development management decision making must consider the NPPF.

### National Model Design Guide, 2021

The [National Model Design Guide](#) sets out the 10 characteristics of good design for new developments. These include responding to local context and contributing to local identity; as well as principles around sustainable transport and movement, integrating nature and designing public spaces.

### National Model Design Code, 2021

The [National Model Design Code](#) sets out guidance for the production of local design codes, guides and policies and provides further detail on the 10 characteristics of good design set out in the National Model Design Guide.

### The London Plan, 2021

The [London Plan](#) sets out the Mayor's ambitions and policies for planning and development in London, including how development should encourage active and sustainable travel and integrate and provide for nature and green spaces.

### The Mayor's Transport Strategy, 2022 revision

The [Mayor's Transport Strategy](#) sets out the vision for the transport network and travel in London, with a target of 80% of all trips to be made by walking, cycling or via public transport by 2041. Additionally, the Mayor's Transport Strategy aims for all Londoners to achieve 20 minutes of active travel per day, and for fatalities and serious injuries as a result of road traffic collisions to be eliminated by 2041. The policy sets out an array of strategies and policies to help deliver better designed streets and public spaces that will help to achieve these aims.

## 1.4.2 Local policy and programmes

### Lewisham Local Plan

The [Lewisham Local Plan](#) sets out the vision and policies that will shape the future development of the borough. The Lewisham Local Plan sets out 22 strategic objectives, covering topics such as inclusivity, green infrastructure, the climate emergency, local identity, healthy and safe communities, and the local economy.

### Transport Strategy and Local Implementation Plan (LIP) 2019-2041, March 2019

Lewisham's [transport strategy](#) sets out 4 key objectives, all of which have implication on street design and public space. These are:

- Travel by sustainable modes will be the most pleasant, reliable and attractive option for those travelling to, from and within Lewisham.
- Lewisham's streets will be safe, secure and accessible to all.
- Lewisham's streets will be healthy, clean and green with less motor traffic.
- Lewisham's transport network will support new development whilst providing for existing demand.

### Sustainable Streets Programme

Lewisham's [Sustainable Streets](#) programme aims to create better street for residents, reduce the number of car journeys made in Lewisham and encourage more people to walk, cycle or use public transport; in order to reduce traffic and pollution, improve road safety and lower carbon emissions.

The Sustainable Streets programme uses a series of interventions and improvements to improve local streets including introducing parking restrictions and permit areas, planting more street trees, providing safer crossing points, introducing electric vehicle charging points, secure cycle storage and car club bays.

### School Streets Programme

The Council has a growing [School Streets Programme](#), whereby traffic is restricted from accessing the streets around schools during the start and end of the school day, helping to reduce road danger for school children, reduce congestion and encourage active travel to school. The School Streets Programme seeks to:

- Tackle congestion;
- Improve air quality at the school gates;
- Make it easier and safer to walk and cycle to school; and
- Create a friendlier and calmer environment for all.

### Healthy Neighbourhoods

[Healthy Neighbourhoods](#) is a programme that will change our streets to encourage people to walk and cycle rather than drive. The borough is divided into 18 'healthy neighbourhoods' with work to deliver improvements underway. Measures may include:

- Traffic management measures including banned turns and modal filter installations that stop vehicles passing but allow pedestrians and cyclists through.
- Road closures outside schools during pick-up and drop-off times to address congestion and parking, encourage more active travel to school and improve air quality.

Complementary measures are included, such as:

- Contra-flow cycling (cycling both ways along one-way streets), or where needed, segregated cycle tracks;
- Improved pedestrian crossing points;
- Secure cycle parking;
- Street trees;
- Benches;
- Electric vehicle charging points.

### A Natural Renaissance for Lewisham (2021-26), Lewisham Biodiversity Partnership

This strategy forms [Lewisham's Biodiversity Action Plan](#). Streets are key places that could better support biodiversity.

### Lewisham Climate Emergency Strategic Action Plan 2020-2030

The [Lewisham Climate Emergency Strategic Action Plan](#) sets out our commitment to tackling the climate emergency, and a series of action plans, some of which relate to the design and management of the borough's streets and public realm. These include:

- Decarbonising transport; and
- Greener, adaptive Lewisham.

Decarbonising transport actions include implementing a Healthy Neighbourhoods Programme; improving the walking and cycling provision on the borough's streets; supporting more people to cycle through cycle parking and storage schemes, shared mobility schemes and infrastructure improvements; developing Healthy Street corridors on key links; and reducing road danger. Several key streets and places are identified for improvements, including Catford and Lewisham town centres.

Greener, adaptive Lewisham focusses on the ecological crisis, and sets out actions relating to improving air quality, supporting nature and biodiversity, increasing and integrating green infrastructure within the built environment and mitigating measures including managing surface water more sustainably.



### **Lewisham Air Quality Action Plan (2022-2027)**

The [Lewisham Air Quality Action Plan](#) sets out a multi-pronged approach to improving air quality in Lewisham. Much of the borough is covered by Air Quality Management Areas (AQMAs).

### **Low Emission Vehicle Charging Strategy (2019-2022)**

Lewisham's [Low Emission Vehicle Charging Strategy](#) provides further detail on the roll-out of EV charging equipment and locations around the borough.

### **London Borough of Lewisham Parking Policy (March 2023)**

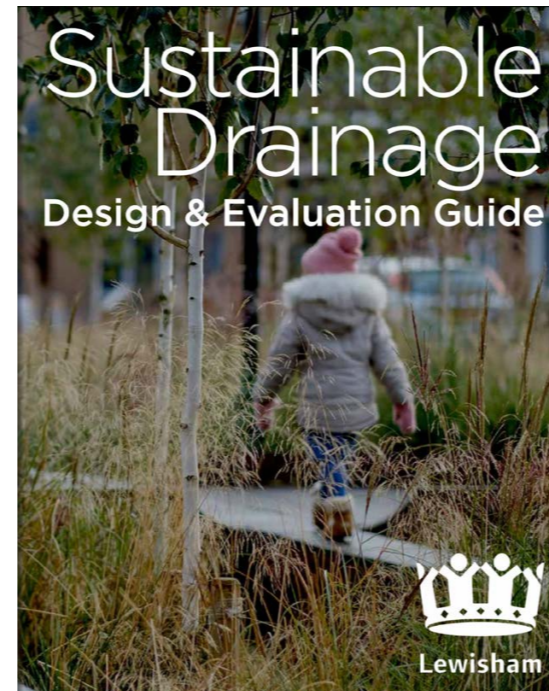
The [London Borough of Lewisham Parking Policy](#) provides further detail on parking management in Lewisham.

### **Lewisham's Local Flood Risk Management Strategy (2022-2027)**

Lewisham's [Local Flood Risk Management Strategy](#) provides detail on local flood risk across Lewisham, and should be consulted to help identify where there are surface water or fluvial flood risk challenges in an area.

### **Sustainable Drainage Design and Evaluation Guide (2018)**

The [Sustainable Drainage Design and Evaluation Guide](#) provides technical information and guidance on the design of SuDS schemes in Lewisham, and should be consulted by developers and officers when designing SuDS schemes.



### **Emerging Active Travel Strategy**

The emerging Active Travel Strategy aims to provide a clear direction for the delivery of active travel improvements throughout the borough over the next 7–10 years.

The strategy will consider the borough's existing infrastructure, projects and programmes already in progress, future plans, major developments, and predicted needs. The current and future programmes considered, include but are not limited to:

- Segregated cycle routes;
- Safe walking routes;
- Healthy Neighbourhoods;
- Sustainable Streets;
- Cycle parking;
- Dockless bikes.

# 1.5 How to use this document

## 1.5.1 Design process

### Design stages

The RIBA design stages structure the design, review and sign off process in street design projects. The RIBA design stages have also been adopted by the Landscape Institute (LI) and broadly align with the Institute of Civil Engineers (ICE) work stages.

### Modified stages for street design projects

**Stage 0:** Project objectives

**Stage 1:** Design brief

**Stage 2:** Concept design options

**Stage 3:** Developed / detailed design (for detailed planning submissions)

**Stage 4:** Technical design

**Stage 5:** Construction stage / contract management

**Stage 6:** Handover & adoption

**Stage 7:** Maintenance & monitoring

### Exemptions

In some circumstances, there may be difficulties in meeting the requirement of this guidance and therefore alternative solutions may be required, but these must be approved by the Council. This document aims to reduce the ambiguity as to what is and what is not acceptable within Lewisham's streets and public realm.

### Standards, specifications & best practice

All works must comply with the relevant British Standard, British law and guidance and accepted best practice, as well as any of the Council's specific performance and/or materials and workmanship specifications.

### Design Checklist

The following design checklist should be used by designers and reviewers at the end of each RIBA stage.

1. Has the street typology and design objectives been agreed?
2. Has everything possible been done to improve conditions for pedestrians?
3. Have the needs of physically, visually and mentally impaired people been fully incorporated along with children, the elderly and people with pushchairs?
4. Has everything possible been done to improve conditions for cyclists?
5. Are there opportunities for socialising such as seats and features to engage children?
6. Have all the opportunities to plant trees and introduce planting been exploited?
7. Do the proposals meet the TfL's healthy Streets criteria?
8. Have impermeable hard paved surfaces only been used where absolutely necessary?
9. Have traffic speed and flows been managed without using speed bumps, humps, cushions or excessive signs and lines?
10. Has surface water runoff been sustainably managed on site using raingardens or swales?

### Road Safety Audits

All projects will be required to undergo road safety audits (stage 1 & 2 pre-construction and stage 3 post construction) which must be undertaken by a qualified, independent auditor at appropriate stages of the design, delivery and operation of a project.

The LSDG should be used when designing any street or public space within the borough.

This document is set out in several distinct sections:

## **1. Introduction**

This section provides an overview of Lewisham's places, streets, and public spaces. Use this section to understand Lewisham's context and character, to help make decisions about the spatial design and hard and soft landscaping guide that are appropriate and sensitive to their surroundings.

## **2. Street types**

This section sets out spatial layout principals based on our Vision for the borough's streets. This builds upon and updates Lewisham's previous Streetscape guide to prioritise people friendly places and inclusive design.

## **3. Public realm design components**

This section sets out the wide array of design features and components of streets, from carriageways and cycle tracks to planting beds and SuDS. Use this section to help design the spatial layout of Lewisham's streets and public spaces.

## **4. Hard and soft landscaping and street furniture guide**

This section will inspire characterful spaces based on characterisation of Lewisham's Places and the specification of hard and soft landscape materials will be based on an understanding of maintenance requirements.

## **5. Template designs**

This section provides all the template design drawings for the public realm design components, which can be used and applied to scheme drawings when developing street and public realm design proposals.

The following 3 questions are vital to understand at the start of any project affecting Lewisham's streets and public spaces.

## 1) What type of project are you undertaking?

There are many different types of projects with varying scope to influence the design, materiality and quality of the environment. Some of these include:

- Maintenance works;
- Street and junction re-design;
- Street and junction improvements;
- Decluttering;
- Temporary street improvements;
- Utility works;
- New development and regeneration (creation of new streets, green spaces and public spaces);
- Section 278 works;
- Renewal works e.g. upgrading of furniture or surfacing treatments;
- Mode-specific schemes e.g. bus corridors, segregated cycle routes etc.

Use this document to understand how your project has the scope to influence and deliver good quality public realm within Lewisham.

## 2) What type of street are you working on?

Use this document to cross-check the functional type of street or public space you are working in, and the corresponding spatial design standards to apply.

Different types of streets and places have different roles and functions, and therefore differing needs to meet. The spatial layout of streets and public spaces is vital to meeting these needs. This document sets out the design requirements (e.g. footway widths and layout) for the various types of street and public space.

Use the spatial layout guidance within this document to apply the most appropriate design standards to your project.

## 3) Which of Lewisham's places are you working in?

Use this document to check which of Lewisham's places you are working in, and the specific palettes of materials, finishes and street furniture that should be applied.

Lewisham is a collection of many places with differing character and heritage. Conservation Areas have very specific protected character which should be responded to sensitively and appropriately when carrying out works in the public realm. However places without Conservation Area status can also have unique qualities and histories that should influence the materials and the design process for any public realm project should start with an assessment of the existing public realm and the identification of features of value that are desirable to preserve.

Use the material and street furniture palettes within this document to select the most appropriate finishes for your project.

# 1.6 Street and public realm design

Street design should be driven by existing context, such as how a street is used and the functions it supports; and aims or aspirations such as the need to increase footfall on a high street, or encourage more people to cycle.

## Movement

The movement function of a street or space is concerned with how people travel by different modes; the types of journeys being made (e.g. local trips to school, long distance trips to deliver goods to businesses, or trips to access town centres, for example); and the intensity of use (e.g. vehicle traffic volumes).

The movement function of a street or space should influence the spatial layout of the street, and the design components present (e.g. floating bus stops on a busy, strategic bus and cycle route).

## Environment and ecology

Considering the environmental and ecological function of streets and spaces is increasingly vital as we face major challenges globally and locally such as air pollution, the loss of biodiversity, high rainfall and flooding and high air temperatures.

Whilst many of these challenges apply across all streets and spaces, some are particularly pertinent in localised areas. It is vital to consider locally prevalent issues such as flood risk, low tree canopy cover, and air pollution in sensitive areas (e.g. around schools).

Streets and public spaces play a key role in:

- Minimising the impacts of the built environment on our climate and planet;
- Managing and adapting to changes and challenges such as extreme weather;
- Helping to reverse damage such as through habitat creation.

These factors can influence the spatial layout and components of streets, for example through creating more planted areas and raingardens; as well as the materials and finishes used, for example permeable paving.

## Introduction

## Place function

The place function of streets is another key consideration to understand its role and the various ways in which people use it. Place functions can strongly influence movement, and the design components and street furniture required. A busy station street will draw higher levels of pedestrian footfall, and may also require demands for more seating, cycle parking and wider crossing points for example.

Types of places include:

- Residential streets and neighbourhoods;
- Major centres (e.g. Lewisham, Catford);
- District centres (e.g. Sydenham, Downham);
- Local or neighbourhood shopping parade (e.g. Ladywell)
- Street markets (e.g. Deptford Market, Lewisham Market)
- Culture/leisure hub;
- Heritage and conservation areas;
- School, college and university environments;
- Transport hubs (e.g. New Cross Station);
- Rail/tube stations (e.g. Honor Oak Park Station).

The place function should influence the spatial layout of streets, enabling and supporting these (as well as other) functions.

The place function should also influence the quality of materials and street furniture selected. Streets with higher place value should adopt higher quality material palettes both for robustness and attractiveness to support (and where desirable, encourage) high levels of use.

## Place character

The architectural character and heritage of a place is also a key consideration. Lewisham's development over time has resulted in varying character, particularly between areas with industrial heritage and those developed as suburbs. Whilst some of these are protected within Lewisham's designated conservation areas, many other places such as town centres and neighbourhoods also have attractive and distinctive features.

The existing buildings, materials and forms that help to create distinctive local character should be protected and

complemented, through making sensitive and considered decisions regarding the surface materials, treatments and palettes of street furniture to be applied to a street, space or area.

## Aesthetic considerations

The public realm should not compete visually with the architecture, and designers should adhere to the 'less is more' and 'form follows function' principles to develop aesthetic and design language that is predominantly restrained and neutral.

All proposals should therefore be simple and bold in their execution to give them the appropriate visual strength and physical robustness to hold their own in the street scene. It may be sometimes necessary to 'oversize' elements or cluster them together to ensure that they are not perceived as 'afterthoughts' and become lost.

There will also be occasions, however, when a strong visual statement needs to be made in an area that lacks a defining architectural or streetscape character, but these will be rare and a legible and simple design language will still need to be implemented.

# 1.7 Lewisham's Street Family

Understanding the type of street or public space is vital when developing design proposals or other changes and improvements.

The type of street is based upon its movement and place function. Combined, these considerations should shape the spatial layout of Lewisham's streets, and the key design components employed.

Many streets, over their course, change in their movement and place function and it may therefore be appropriate to identify several different types of street environment to provide the most suitable spatial design solution.

Lewisham's Street Family has been developed to aid the understanding of the role and function of different street environments in the borough, and to help steer high quality design appropriate to this context.

Lewisham's Street Family is adapted from Transport for London's definition of London's Street Family. The programme set out a series of 9 street types, categorised according to the movement function and place function.

Lewisham's Street Family adapts this, adopting those relevant to the borough context whilst omitting those not applicable. Other street types have also been added to reflect Lewisham's more local context and to be applicable to new developments.

An overview of these is provided on the following pages.

## City hubs, boulevards and streets

City hubs, boulevards and streets are situated in places of city-wide significance such as metropolitan and major town centres (e.g. Lewisham and Catford town centres). These streets may be grand in their scale and support an array of functions from strategic traffic through-movement, key bus corridors, access to key stations and transport hubs, access to local jobs, as well as to shops, food and drink establishments, public and civic services and cultural attractions.

## High streets

High Streets are hard-working streets that support all the place functions of town, district and neighbourhood centres, and often provide important routes for local vehicle traffic, buses and walking and cycling. Successful high streets should provide access to shops and services by all modes, and ensure a high-quality public realm and strong focus for community life.

## High roads

Streets that are strategically important vehicle, freight and bus routes, often with high demand for cycling as they form direct connections, and provide a plethora of local shops and services.

## Town squares and streets

Town centre streets and spaces have a highly important place function and may not require 24/7 vehicle access and through-movement. This provides an opportunity to create pedestrian focussed spaces that work hard to provide spaces people enjoy spending time in and socialising with others; supporting town centre shops and businesses and the local economy.



## Neighbourhood streets

Neighbourhood streets provide important local routes to provide access to residential areas. They may carry some through-traffic or form part of a local bus route. They likely form part of the first and last mile of many journeys, providing important local walking and cycling routes to nearby stations, local centres, shops and schools. Successful neighbourhood streets provide quiet, safe and desirable local corridors that foster a sense of local community and support local people making trips by active and sustainable modes.

## School streets

Just as high streets provide the setting for shops and services, school streets provide the setting for local schools and places for education. Increasingly more bespoke design and public space approaches are being employed around schools to help encourage modal shift to walking and cycling, discourage high volumes of vehicle traffic from accessing the street and provide safe and imaginative spaces for play and meeting people.

## Urban residential streets

Urban residential streets occur in dense urban developments, and may be privately owned and managed. These streets often serve medium to high density new residential or mixed use developments.

## Typical residential streets

The movement purpose of residential streets is to provide access to homes for local people and services, however they can also provide important social and community functions, as places for children to play and neighbours to meet. They often provide space to park vehicles at the kerbside, and may provide access to driveways. Residential streets should not form part of vehicle traffic routes that do not originate from the residential area. Despite this, rat-running traffic is a typical issue experienced by residents and should be addressed wherever possible.

## Homezone streets

Homezone streets are residential streets with low movement function, providing vehicle, pedestrian and cycle access only to a small number of homes and not to through-traffic. These streets typically are pedestrian focussed spaces, with a lack of separation or designation of pedestrian and vehicle space.

## Connectors

Successful connectors should provide reliable routes for medium distance and local road journeys, comfortable roads for cyclists and safe and secure routes for pedestrians. Connector streets may have a lower place function where there are a lack of active uses along them.

# 1.8 Character areas

## Character areas

The layout, materials and furniture of the public realm must be 'in keeping' with the prevailing character of the specific Lewisham 'place' and the broader character of the whole borough. The 2019 Lewisham Characterisation Study sets out a description of the physical form of the borough, its history, places, streets and buildings. This analysis helps to provide an understanding of the particular attributes which make the borough of Lewisham what it is today, how its character varies across the borough and how this local distinctiveness might inform future approaches to managing growth and change. The study identified the following five broad character / geographical areas within the borough.

### Northern: maritime / industrial / urban

The Northern Area (Deptford, North Deptford and New Cross) forms the northern edge of the borough with a character influenced by its Thameside position and industrial history. The area contains a large number of early buildings and is mixed in character with the very old sitting next to the new. Historic roads and rail infrastructure are also prominent within the area. The land is predominantly flat and low lying as it sits on the erosional edge of the Isle of Dogs meander where the Ravensbourne River joins the Thames at Deptford Creek.

Key places:  
Deptford District Centre;  
New Cross District Centre.

### East: 19th Century sub-urban

The Eastern Area (Blackheath, Lee and Grove Park) comprises of three villages which have expanded due to the railway. Each place has a suburban feel with low, predominantly two storey buildings. These areas are generally made up of Victorian terraces and 20th century housing along with some impressive Georgian and Regency Villas in Lee and Blackheath.

Key places:  
Blackheath District Centre;  
Lee Green District Centre.

### South: 20th Century sub-urban

The character to the south of the borough (Downham, Bellingham and Bell Green) is very different again. This is the newest area of the borough and is dominated by LCC estates which results in a consistent form of housing across large areas. These areas are interspersed with large parks and open spaces.

Key places:  
Downham District Centre

### West: 19th Century villages

The Western Area (Telegraph Hill, Brockley, Ladywell, Crofton Park, Honor Oak, Blythe Hill, Forest Hill, Sydenham and Sydenham Hill) is made up of a series of older villages on a north south spine which have grown around railway stations. Topography plays a big part in this area's character, and it has many open spaces with high ground offering long panoramic views.

Key places:  
Forest Hill District Centre;  
Sydenham District Centre.

### Central: mixed aged urban

The Central Area includes Lewisham, Catford and Hither Green all of which have a strong relationship with the Ravensbourne, Pool and Quaggy rivers. This area has a varied housing character which reflects where areas have grown and those which were destroyed in WWII.

Key places:  
Catford Major Town Centre;  
Lewisham Major Town Centre

### Design implications

Changes to the public realm should, where practicable, reflect the prevailing character of the neighbourhood through layout, scale, material and furniture choices. For example, in areas

where wide granite kerbs edge Yorkstone footways with grass verges these elements should be carried forward into the public realm project incorporating new features where required. New public realm features such as raingardens, continuous footways, loading pads etc. have no historical precedent but will generally be acceptable, even in conservation areas if they are detailed in materials that are harmonious to the local context. In new greenfield and brownfield developments, local context should be reflected in the design and detail of the streets and public realm.

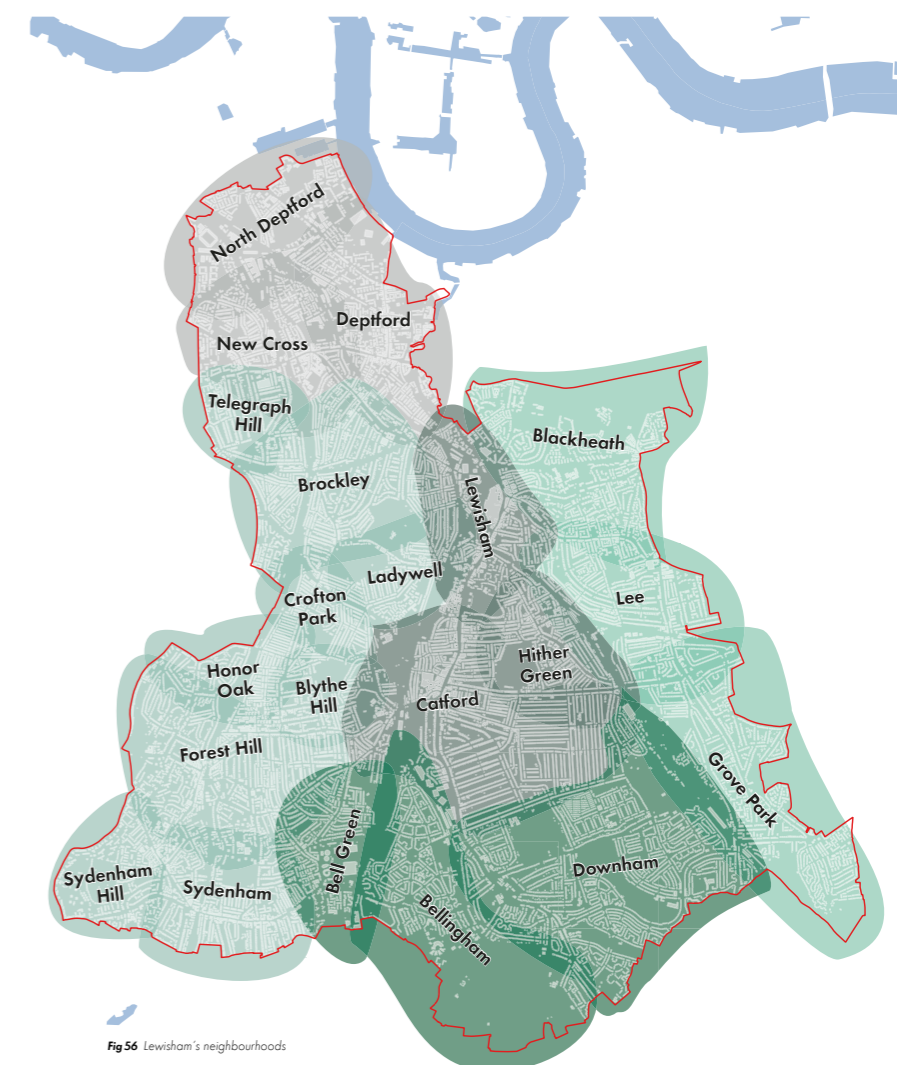


Fig 56 Lewisham's neighbourhoods

### Lewisham Characterisation Study

The map above is taken from the Lewisham Characterisation Study and shows broadly, the places that make up the borough.

# 1.9 Conservation areas and features

The borough of Lewisham contains a total of 29 conservation areas. Most of these are located in a belt across the northern area of the borough between Telegraph Hill, Brockley, Deptford and Blackheath. A second cluster of conservation areas exists in the south west around Forest Hill and Sydenham.

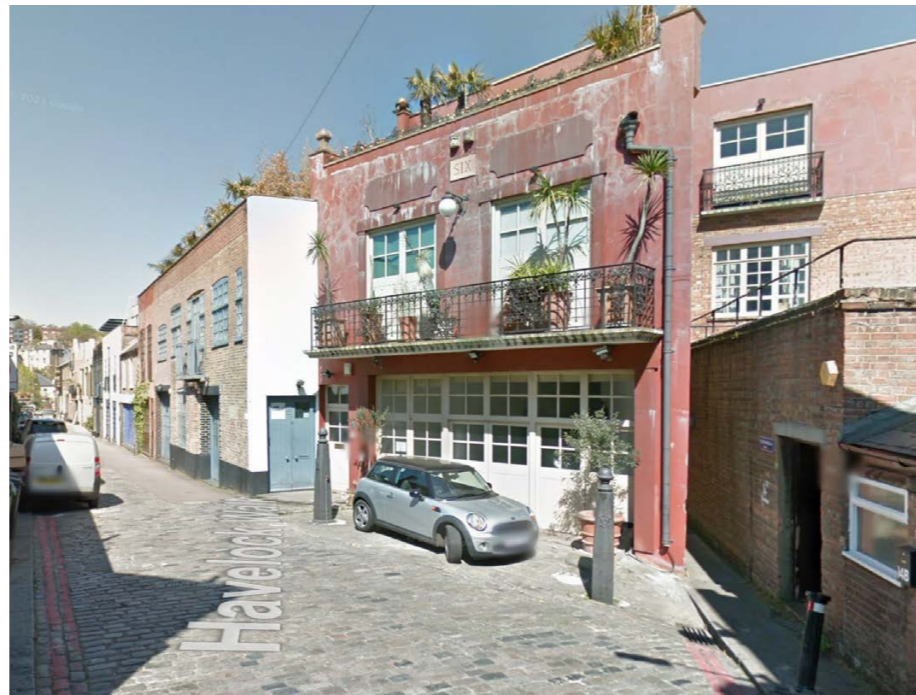
For all streetscape proposals that lie within Conservation Areas it is firstly important to identify which Conservation Area the site is located in from the Conservation Areas map on the Council's website. NB: designers should check the Council website for the most up-to-date lists and mapping of designated conservation areas.

Designers should then check the relevant Conservation Area Appraisal (on the Council's website) for guidance on characteristics of the area's streetscape, materials and details, which should be used to inform your proposals.

For major streetscape enhancement projects please seek input from Planning's Conservation Team ([conservation@lewisham.gov.uk](mailto:conservation@lewisham.gov.uk)).

Conservation areas have historically significant features and architectural character that must be protected and complemented by the streetscape and design. This includes ensuring the design and palette of materials and street furniture responds sensitively to the local context. Retaining existing historic streetscape elements such as granite setts and granite kerbs is also important, as these are important elements of the character of conservation areas.

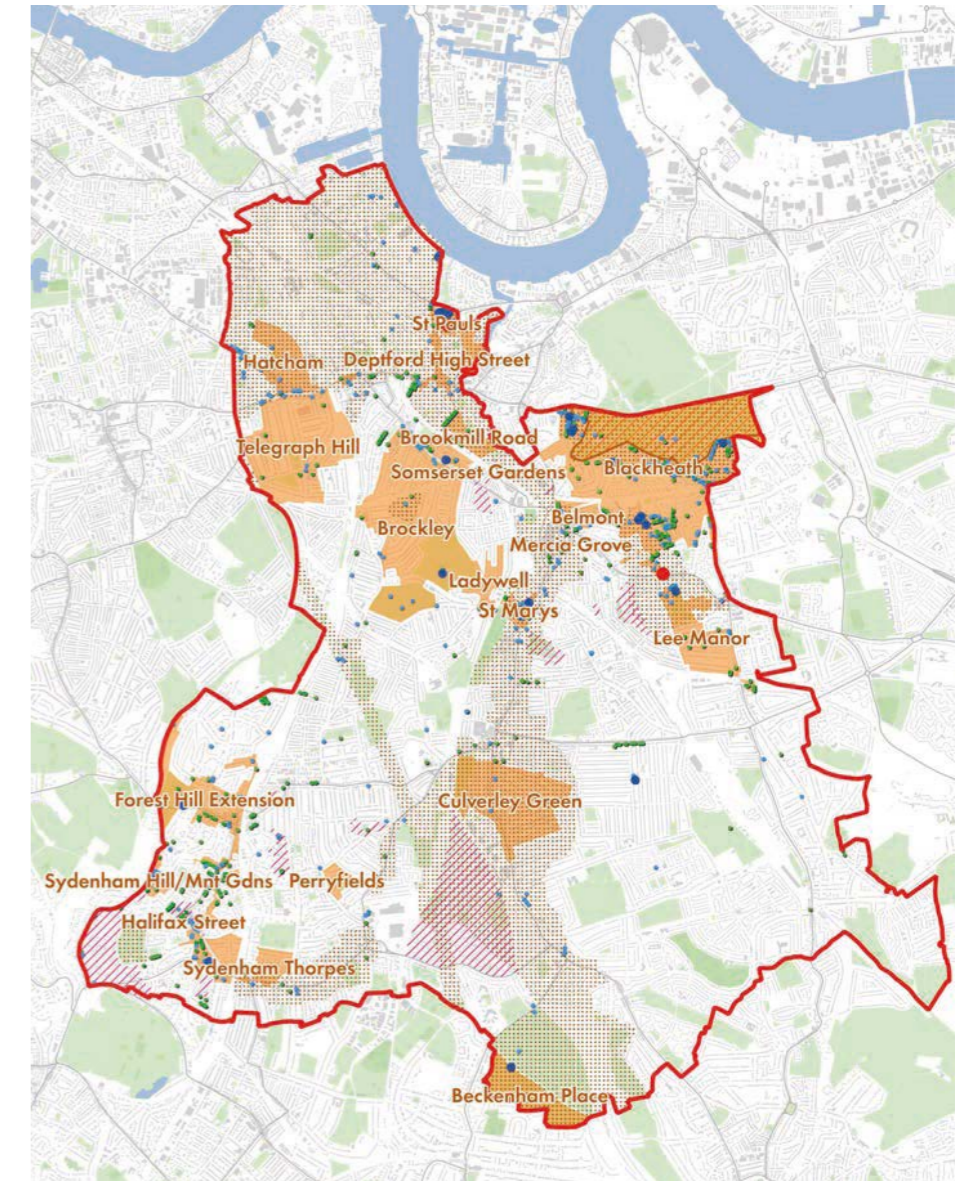
Other streetscape elements (such as historic boundary markers and posts) are locally listed. The Council maintains these lists and they can be found [here](#). These items contribute much to the character of the borough's streets and are often well loved historic features. They must be retained in situ. Some items of street furniture (such as telephone boxes and ventilation shafts) are statutorily listed. Historic England maintains this list and it can be searched by address, [here](#).



**Havelock Walk**  
Historic paving on Havelock Walk, which lies within the Forest Hill Conservation Area.



**Albury Street**  
Historic paving on Albury Street, which lies within the Deptford High Street and St Paul's Church Conservation Area.



- World heritage buffer zone
  - Areas of archaeological priority
  - Conservation areas
  - Area of Special Local Character
  - Areas of special character
- Listed buildings**
- I
  - II\*
  - II
  - Locally listed Buildings

## Lewisham Characterisation Study

The map above is taken from the Lewisham Characterisation Study and shows the designated and protected areas and features associated with conservation and the built environment.



# 2. Street types

The following pages set out a vision for each of Lewisham's street types, including potential spatial layouts, indicative dimensions and typical features.

Streets are diverse, complex and constrained public realm environments, and no two are the same. Whilst the spatial layout may not be feasible in some scenarios, the vision for Lewisham's street types should provide the basis for setting a design brief for any project affecting Lewisham's streets; balancing the need for pragmatism whilst exploring how the key design principles in section 1.2 can be achieved and applied.

# 2.1 Neighbourhood streets

Neighbourhood streets provide important local links, and access to lower order residential streets. They may form part of the local cycle network or form part of local bus routes. Neighbourhood streets typically are residential, and may therefore accommodate on-street parking. However, other neighbourhood facilities such as schools, local shops and leisure centres may also be present. Key challenges facing neighbourhood streets may include the presence of high volumes of through-traffic, which could deter cycling and delay buses; accommodating on-street parking and providing sufficient space for walking, planting and trees.

Examples include:

- Edward Street;
- Pepys Road;
- Shell Road.

## Vision

Lewisham’s neighbourhood streets will support people to walk, cycle, wheel and (where appropriate) take public transport for local trips, enabling access to neighbourhood facilities and key destinations.

Footways will be sufficiently wide and uncluttered to provide a comfortable and accessible walking environment. Carriageway space will be minimised to enable only sufficient access for vehicles.

Streets will be calm and quiet, with low traffic volumes and speeds. People will feel safe and comfortable cycling in the carriageway, or within cycle tracks, including younger and older people and those with disabilities.

Parking for vehicles will be minimised and controlled where needed (using Controlled Parking Zones (CPZs)) whilst meeting local demand, with EV charging facilities and car club bays provided. Secure on-street residential cycle parking will enable people to easily store cycles, with additional provision for visitors.

SuDS and tree planting will help to support ecological processes and local biodiversity, as well as providing shade and urban cooling, and creating attractive streets that communities can enjoy.



**Oudwijkdwardsstraat, Utrecht**

Planting, build-outs and surface treatments in this low traffic bus route provide good conditions for cycling, as well as space for planting, cycle parking and vehicle parking.



**Taff Embankment, Cardiff**

Safe conditions are achieved on this street in Cardiff through low speed limits and restriction of through traffic. A flush central median using imprint encourages considerate driver behaviour.

Component	Desired	Alternatives	Notes
Clear walking zone	3m	1.8m min	On severely constrained streets, the Clear Walking Zone may reduce to 1.2m for short distances.
Kerb zone	450mm	450mm fixed	
Mixed use zone	0.5m - 3m	0.5m min	Most of this space should be used for trees, planting and SuDS.
Cycle infrastructure	Mixed with traffic (in low traffic conditions)	Segregated cycle tracks (where appropriate)	Contra-flow cycling should be permitted on all one-way streets, regardless of lane width. LTN1/20 should be consulted when determining the type of provision.
Clear lane width (2 way streets)	2.5m - 3.2m		Lane widths of 3.2m - 3.9m must be avoided.
Clear lane width (one-way streets)	4.5m	3m - 3.2m 3.9m - 5m	Contra-flow cycling should be permitted. Lane widths of 3.2m - 3.9m must be avoided.
Speed limit	10 - 20mph		Traffic speeds less than 20mph can be achieved ‘by design’ through layout and material choices
Planting			Clear stemmed avenue trees at target spacing of 1 tree every 6-8m on both sides
Drainage	SuDS	Conventional drainage	Conventional piped systems should only be used if it can be proven that SuDs are not viable.

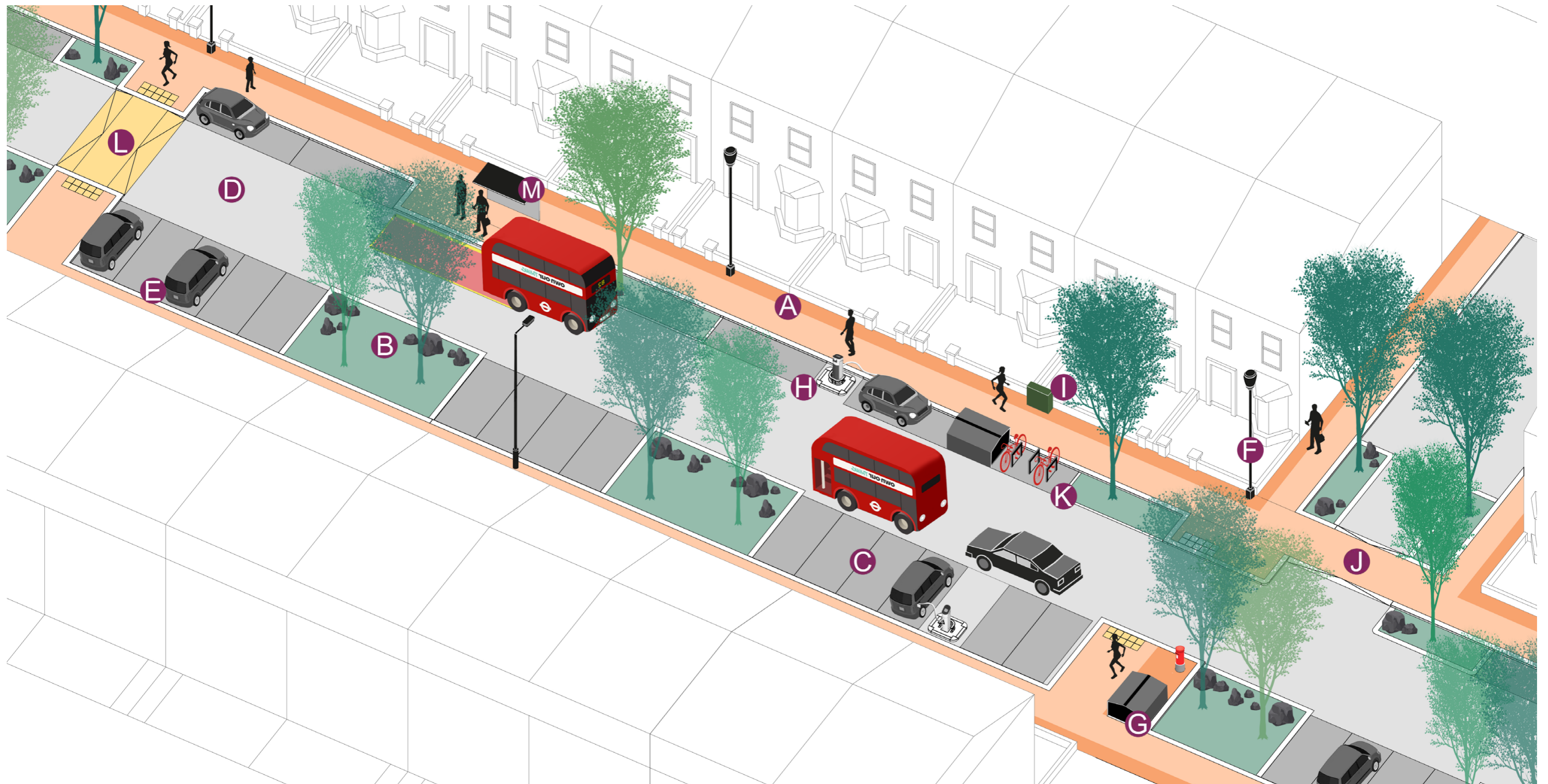
## Neighbourhood street

- A. The footway is organised to provide a dedicated Mixed Use Zone for street furniture, planting, signage and loading, enabling the rest of the footway to be free from clutter.
- B. Trees and rain gardens are interspersed with parking bays, keeping the footway clear whilst providing shade, supporting local wildlife and helping to manage rainwater and flooding. They also encourage lower vehicle speeds and provide a buffer between vehicle traffic and other street users, whilst also creating an attractive streetscene, that people can enjoy spending time in.

- C. On-street parking bays enable resident parking.
- D. Cyclists mix with traffic within the carriageway in low traffic, low speed conditions.
- E. Car club bays help to reduce local parking demand and free up space for planting and SuDS.
- F. Signage and lighting is combined wherever possible to reduce street clutter.
- G. Shared residential cycle hangars enable people to securely store their cycle.
- H. EV charging is located within the carriageway to minimise the impact on the Clear Walking Zone.
- I. Utility cabinets are organised to ensure the footway is well-

organised with space for walking and wheeling kept free of clutter.

- J. Continuous footway treatment at side road junction supports walking whilst providing a natural place for a bench and visitor cycle parking.
- K. Public cycle parking is located within the parking area of the carriageway to avoid obstructing the footway.
- L. The street is easy to cross, with raised, informal crossing points and footway build-outs.
- M. Accessible bus stops with seating and well-lit, provide easy access to local bus services.



# 2.2 Residential streets

Residential streets are the most common type of streets found in Lewisham, and where most journeys, regardless of travel mode, begin and end. Residential streets carry lower vehicle traffic volumes but may form important local walking and cycling routes to neighbourhood destinations. Generally residential streets do not form part of strategic bus corridors, but some local bus services may be present. Building frontage is dominated by housing, and on-street resident parking is often present.

Examples include:

- Ommaney Road, SE14;
- Parbury Road, SE23;
- Venner Road, SE26.

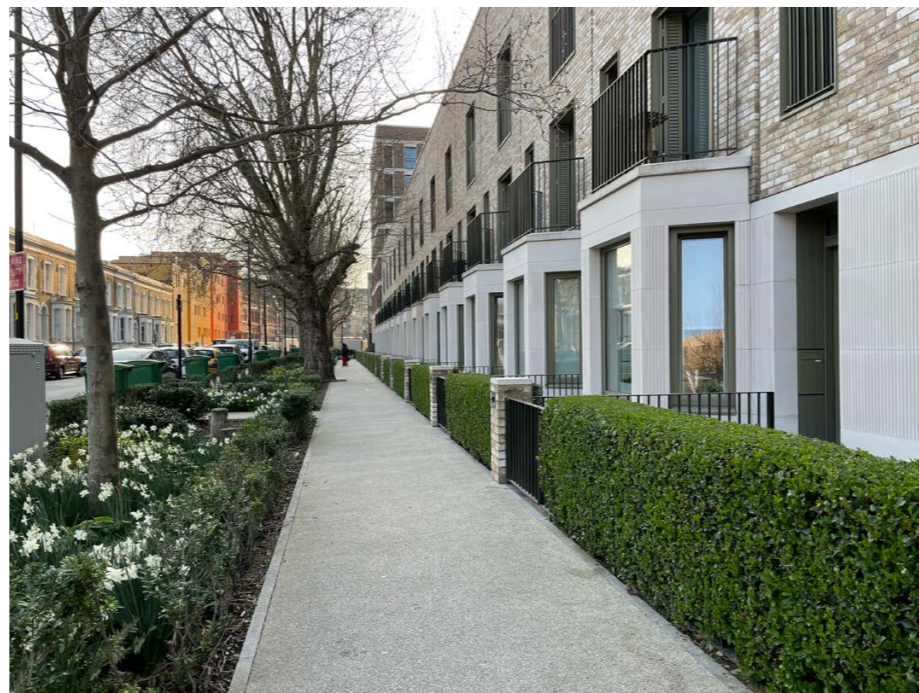
## Vision

Lewisham’s residential streets will support people to walk and cycle for local trips, enabling access to neighbourhood facilities and key destinations.

Footways will be sufficiently wide and uncluttered, providing a comfortable and accessible walking environment. Carriageway space will be minimised to enable sufficient access for vehicles, whilst ensuring people can easily cross at side road junctions.

Streets will be calm and quiet, with low traffic volumes and speeds. People will feel safe and comfortable cycling in the carriageway, including younger and older people and those with disabilities. Parking for vehicles will be minimised and controlled where needed (using Controlled Parking Zones (CPZs)) whilst meeting local demand, with EV charging facilities and car club bays provided. This will free up space for other improvements. Secure on-street residential cycle parking will enable people to easily store cycles, with additional provision for visitors.

SuDS and tree planting will help to support ecological processes and local biodiversity, as well as providing shade and urban cooling, and creating attractive streets that communities can enjoy. Lewisham’s residential streets will be places where neighbours can meet one another, and where children can play safely from traffic, learn to ride a bike and scoot to school. There may be opportunities for communities to take ownership of planting, pocket parks and other features.



**Wansey Street, Elephant and Castle**

An attractive street with a clutter-free footway in a new development. A large planted area accommodates existing mature trees and new in-ground planting.



**Abercynon Street, Cardiff**

SuDS planting beds interspersed within the parking area of the carriageway create an attractive streetscape with benefits for ecology and surface water management.

Component	Desired	Alternatives	Notes
Clear walking zone	2.5m	1.8m min	
Kerb zone	450mm	450mm fixed	
Mixed use zone	0.5m - 2m	0.5m min	
Cycle infrastructure	Mixed with traffic		Contra-flow cycling should be permitted on all one-way streets, regardless of lane width. LTN1/20 should be consulted when determining the type of provision.
Clear lane width (2 way streets)	2.75m - 3m	2.75m - 3.2m	
Clear lane width (one-way streets)	4.5m	3m - 3.2m 3.9m - 4.5m	Contra-flow cycling should be permitted on all one-way streets, regardless of lane width. Lane widths of 3.2m - 3.9m must be avoided.
Design speed	10mph		Traffic speeds less than 20mph can be achieved ‘by design’ through layout and material choices
Planting	Trees, verges, low hedgerows and in-ground planting beds		Trees planted at a spacing of 1/6m on both sides.



## Residential street

- A. The footway is organised to provide a dedicated Mixed Use Zone for street furniture, planting, signage and loading, enabling the rest of the footway to be free from clutter.
- B. Trees and rain gardens are interspersed with parking bays, keeping the footway clear whilst providing shade, supporting local wildlife and helping to manage rainwater and flooding. They also encourage lower vehicle speeds and provide a buffer between vehicle traffic and other street users, whilst also creating an attractive streetscene, that people can enjoy spending time in.

- C. On-street parallel parking bays enable resident parking.
- D. Cyclists mix with traffic within the carriageway in low traffic, low speed conditions.
- E. Car club bays help to reduce local parking demand and free up space for planting and SuDS.
- F. Signage and lighting is combined wherever possible to reduce street clutter.
- G. Shared residential cycle hangars enable people to securely store their cycle.
- H. EV charging is located within the carriageway to help keep the footway clear of clutter.
- I. Utility cabinets are organised to ensure the footway is well-

- organised with space for walking and wheeling kept free of clutter.
- J. Continuous footway treatment at side road junction supports walking whilst providing a natural place for a bench and visitor cycle parking.
- K. Public cycle parking is located within the parking area of the carriageway to avoid obstructing the footway.
- L. Vehicle crossover design allows the footway to continue with minimal disruption.



# 2.3 Homezone streets

Homezone streets provide ultra low (or zero) traffic environments in a residential setting. The street provides access to a small number of homes, and is predominantly used for immediate residents to play, socialise and personalise and occupy the space through introducing or caring for planting, or placing pots, furniture and other features in the street. On-street parking may feature within these streets where there is no off-street provision.

## Vision

Lewisham’s homezone streets will provide people-focussed spaces for local residents to play, socialise, personalise and occupy the street.

This could be through providing an informal layout with space shared between all users.

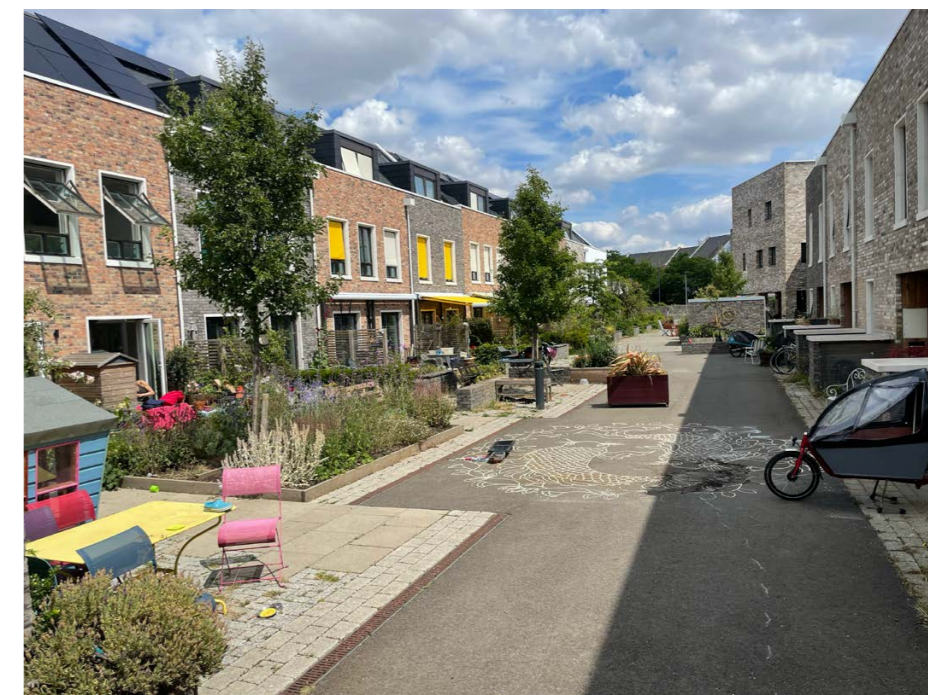
Places for planting and trees should be provided, and these should function as SuDS features where appropriate. There may also be opportunities for residents to take ownership of planting and the public realm, through providing raised planters, or space that could be occupied by benches and seating. Informal play should be considered and integrated within the space.

On-street parking should be kept to a minimum and controlled where needed (using Controlled Parking Zones (CPZs)) and space for the private storage of different types of cycle provided - where this is not provided elsewhere (e.g. within buildings). Space for visitor cycle parking will enable people to store cycles within the street.



**Van Gogh Walk, London**

Van Gogh Walk is an ultra low traffic residential street environment that employs a single surface with planting, play features and cycle parking. Parts of the street are closed to vehicle traffic.



**Marmalade Lane, Cambridge**

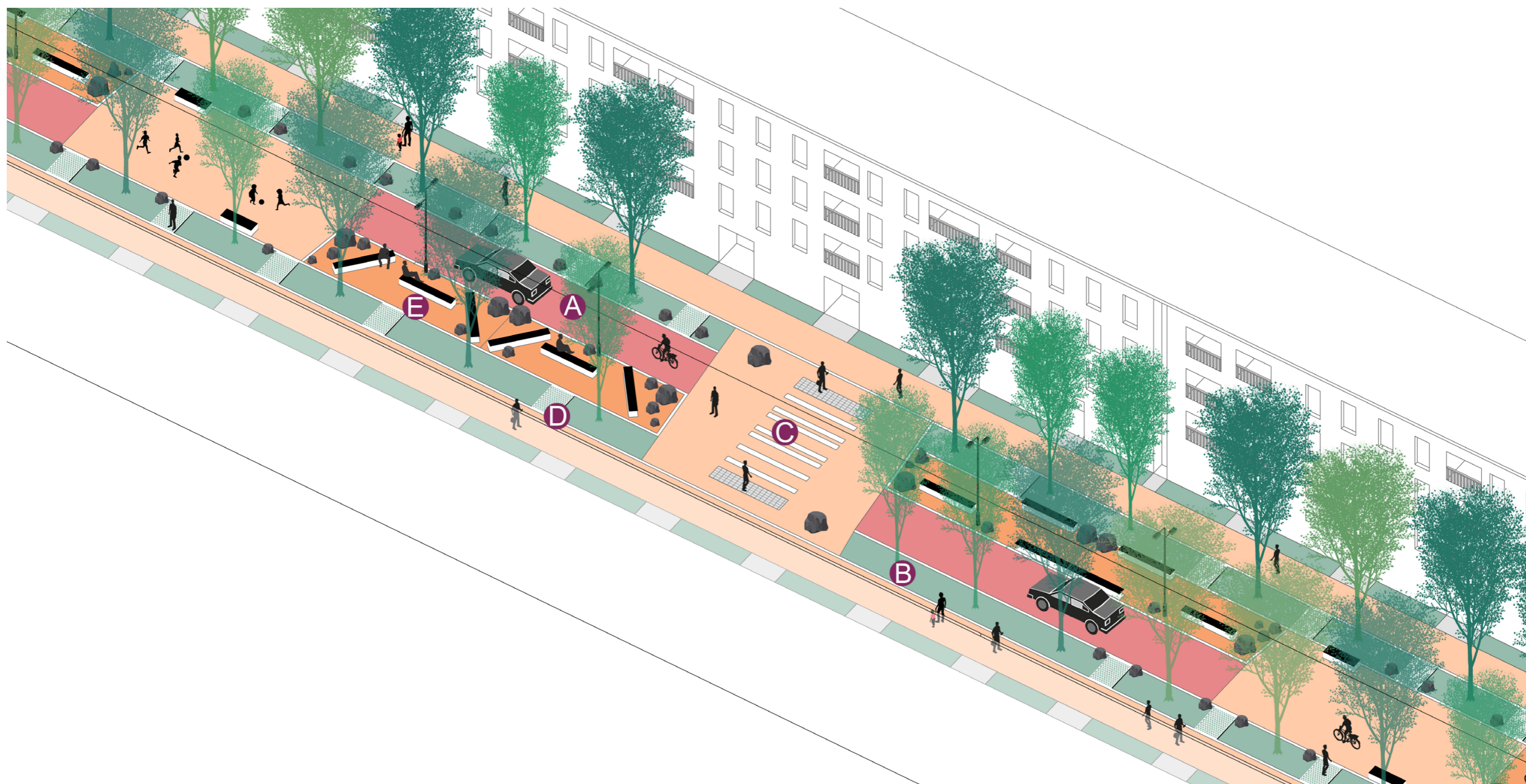
Marmalade Lane provides a traffic-free environment with a focus on play, socialising and planting. The street provides a single surface and uses planting and paving to define different zones.

Component	Desired	Alternatives	Notes
Clear walking zone	Shared with vehicles	1.5m clear walking zone.	The clear walking zone may be shared with vehicles in ultra low traffic environments. In some situations, it may be necessary to provide a traffic-free clear walking zone flush with the street surface.
Mixed use zone	0.5m - 4m	0.5m min	The mixed use zone may be informal. Most of this space should be used for trees, planting and SuDS.
Cycle infrastructure	Mixed with traffic		Contra-flow cycling should be permitted on all one-way streets, regardless of lane width.
Carriageway width	3.7m		Narrowings and widenings help to create an informal environment.
Design speed	5mph		Traffic speeds less than 20mph can be achieved 'by design' through layout and material choices
Planting			Minimum tree density: 1 / 60m <sup>2</sup> of street
Drainage	SuDS	Conventional drainage	Conventional piped systems should only be used if it can be proven that SuDS are not viable.

## Homezone street

- A. Informal street with narrow carriageway with passing places, narrowings and breaks to help create a low speed environment and enable the space to be safely used by people walking, cycling and wheeling, as well as playing and socialising.
- B. Rain gardens and tree planting help to manage surface water and flooding, support biodiversity, create an attractive streetscene, shade people and buildings and encourage slow vehicle speeds.

- C. Informal breaks and crossing points support people walking and wheeling who may not feel comfortable sharing the carriageway space. This can be particularly important for people with disabilities.
- D. Rain garden bridges enable easy access to the carriageway from the footway.
- E. Spaces for informal play, sitting and socialising, supporting public life and active childhoods.



# 2.4 School streets

School streets refer to streets where schools and colleges are present, and can face unique challenges, suffering from traffic congestion at the start and end of the school day, which can pose a road safety risk to children and young people, and discourage walking, cycling and wheeling to school. Streets with schools are often lacking in their provision of seating, crossing points, cycle parking, trees and planting, footway space and gathering space.

Examples include:

- Amyruth Road, Crofton Park.
- St Asaph Road, Brockley.

## Vision

The vision for Lewisham’s streets around schools is focussed on creating people-friendly spaces that support walking, cycling and wheeling to school first and foremost; and create an environment for meeting people, socialising and informal play.

This means footways should be generously proportioned, parking and drop-off space limited, and carriageway space minimised in favour of providing more space for trees, SuDS rain gardens and planting, which may be cared for by the local community or school community.

Informal play opportunities will be provided where possible, such as logs and stumps, cycle parking, and a range of seating to make the journey to school enjoyable and active for young children.

Traffic volumes should be reduced where possible through the use of timed or permanent restrictions, and traffic speeds should be very low, reducing road danger to children.



**Rue de la Providence, Paris**

This example in Paris shows the street closed to traffic permanently, providing an opportunity to introduce planting and play features.



**Westerham Avenue, LB Enfield**

School streets present an opportunity to introduce planting and play elements in the street.

Component	Desired	Min/max	Notes
Carriageway width	3.7m	5m	It may be appropriate to create narrowings allowing one vehicle to pass through at a time.
Parking/loading provision	Parking/loading pads Inset bays		Parking/loading must only be provided where there is a clear need.
Clear walking zone	4m	2.5m min	
Mixed use zone	2m	0.5m min	Most of this space should be used for trees, planting and SuDS.
Cycle infrastructure	Mixed with traffic		
Design speed	10mph		Traffic speeds less than 20mph can be achieved ‘by design’ through layout and material choices
Planting	Trees and SuDS		Trees and planting are encouraged both as traffic calming features and as part of opportunities for informal play.
Drainage	SuDS	Conventional drainage	Conventional piped systems should only be used if it can be proven that SuDS are not viable.

## School street

- A. Vehicle traffic is low flow and low speed, with traffic filtering where appropriate. The carriageway is designed to slow vehicle traffic and enable people and children to use the space, with narrowings, bends and chicanes.
- B. Playful and creative surface treatments help to change perceptions of the environment and encourage good driver behaviour, and support people to walk, cycle, wheel or play in the street.
- C. Informal play features such as climbing boulders, stepping stumps and balancing beams to support children and

activity within the street.

- D. The footway is organised to provide a dedicated Mixed Use Zone for street furniture, planting, signage and loading, enabling the rest of the footway to be free from clutter. The footway is widened in the busiest areas around the school entrance.
- E. Mature tree planting and rain gardens provides shade, support local wildlife and help to manage rainwater and flooding. They also encourage lower vehicle speeds and provide a buffer between vehicle traffic and other street users, whilst also creating an attractive streetscene, that people can enjoy spending time in.

- F. Public cycle parking for standard, cargo and adapted cycles supports active travel to school for both children and parents.
- G. Formal and informal crossing points are located frequently and on desire lines enable people to cross the street safely and conveniently.
- H. Plenty of benches, seats and perches to enable people to sit and rest, socialise or spend time in the street.



# 2.5 Connector streets

Connector streets provide an important strategic movement and can often form a key part of the vehicle, cycling, walking and bus network. However, connectors lack the features and uses that make them important places, and people do not typically spend time in them due to the lack of shops and businesses or things to do. Often connectors lie between different town centres, providing important connections between them.

Examples include:

- Brockley Grove, SE4;
- Honor Oak Park (between Devonshire Road and Forest Hill Road);
- Lee Terrace, SE3.

## Vision

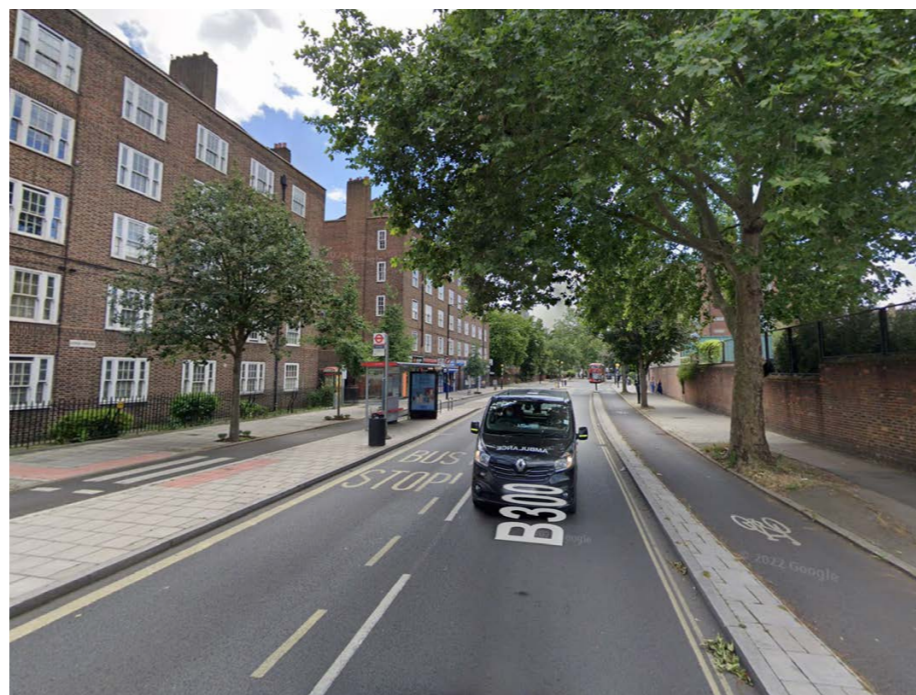
Lewisham’s connector streets will provide reliable routes for medium distance and local road journeys, comfortable streets for cycling, where part of the strategic cycle network, and safe and secure routes for pedestrians.

Lewisham’s connectors will provide excellent walking and cycling connections between key destinations in the borough, whilst also providing efficient bus links where required. 45

Planting, trees and SuDS will be introduced where there is space to do so, to help manage surface water, provide shade and urban cooling, and support biodiversity. This will be particularly in focus where there are pre-existing problems with localised flooding.

Connector streets will prioritise the movement of people by sustainable modes including walking, cycling, wheeling and bus passengers and support access to key places including stations and town centres.

Connector streets will also support the movement of through-traffic, recognising the important vehicle movement function they must perform. Space for vehicles however will be kept to the minimum acceptable amount necessary, with additional space given over to street planting and people.



**Baylis Road, London**

This street lacks active frontage, however provides important bus, cycling and walking links. Segregated cycle tracks support high levels of cycling.



**Forest Road, Walthamstow (credit: Meristem Design)**

With-flow cycle tracks and rain gardens provided on Forest Road in LB Waltham Forest help to create a useful walking, cycling and wheeling link in an area with a low place function.

Component	Desired	Alternatives	Notes
Clear walking zone	3m	1.8m min	
Kerb zone	450mm	450mm fixed	
Mixed use zone	0.5m - 4m	0.5m min	Most of this space should be used for trees, planting and SuDS.
Cycle infrastructure	Segregated cycle tracks		Contra-flow cycling should be permitted on all one-way streets, regardless of lane width.
Clear lane width	3.2m	3m if not on a bus route	Lane widths must only be wider than 3.2m where there is a specific need e.g. on a tight bend.
Speed limit	20mph		Traffic speeds less than 20mph can be achieved ‘by design’ through layout and material choices
Planting			Target tree spacing: 8-10m on both sides and central reserve.
Drainage	SuDS	Conventional drainage	Conventional piped systems should only be used if it can be proven that SuDs are not viable.

## Connector street

- A. Vehicles pass along the street in carriageway lanes of an appropriate size.
- B. The footway is organised to provide a dedicated Mixed Use Zone for street furniture, planting, signage and loading, enabling the rest of the footway to be free from clutter and accessible to all.
- C. Mature tree planting and rain gardens provides shade, support local wildlife and help to manage rainwater and flooding. They also encourage lower vehicle speeds and provide a buffer between vehicle traffic and other street

- D. Segregated cycle tracks enable people to cycle safely and comfortably away from vehicle traffic.
- E. Public cycle parking supports local businesses and active travel.
- F. Signage and lighting is combined wherever possible to reduce street clutter.
- G. Formal crossing points are located frequently and on desire lines enable people to cross the street safely and conveniently.

- H. Accessible bus stops provided with seating and lighting provide easy access to bus services.
- I. Bus stop bypass enables people cycling to avoid collisions with buses, whilst supporting access to public transport for bus passengers.
- J. Continuous footway treatments at side road junctions help to reinforce the Highway Code and give priority to people walking, cycling and wheeling over turning vehicles.



# 2.6 City streets and boulevards

City streets and boulevards are major movement corridors that pass through the boroughs most important places - namely Lewisham and Catford major centres.

These streets form part of the strategic bus network, cycle network and have high demand for pedestrian movement. They provide access to major town centres and/or major transport stations and hubs. They also have a high vehicle movement function, and therefore have many competing demands for space.

Examples include:

- Rennell Street (Lewisham town centre);
- Molesworth Street (Lewisham town centre);
- South Circular Road (Catford town centre).

## Vision

Lewisham's city streets and boulevards will enable everybody to access Lewisham's major town centres and transport hubs, providing attractive busy streets to walk, cycle or wheel along, excellent public transport access and reliable journey times for buses. They will also provide attractive and comfortable streets to spend time in, supporting shops and businesses at street level, and pleasant, bustling streets to live on where there is existing or planned residential development.

Avenues of large trees and generous planting beds and rain gardens will help to manage surface water, soften the streetscape, provide shade and protection from vehicles, as well as helping to provide structure and order to the street.

City streets and boulevards will prioritise the movement of people by sustainable modes including walking, cycling, wheeling and bus passengers and support access to key places including stations and town centres. City streets and boulevards will support essential vehicle access to destinations such as access for freight/deliveries and disabled parking. They will also support the movement of through-traffic, recognising the important vehicle movement function they must perform. Space for vehicles however will be kept to the minimum acceptable amount necessary, with additional space given over to street planting and people.



**Sauchiehall Street, Glasgow**

A reduction in vehicle space and introduction of a bi-directional cycle track, mixed use zone and planting has created a more pleasant street that performs both its movement and place roles.

Component	Desired	Alternatives	Notes
Clear walking zone	4m	2.5m min	Absolute minimum of 1.8m for short distances in constrained areas.
Kerb zone	450mm	450mm fixed	
Mixed use zone	0.5m - 4m	0.5m min	Most of this space should be used for trees, planting and SuDS.
Segregated cycle tracks	2-3m with flow 3-4m bi-directional	1.5m min with flow 3m min bi-directional	Mixed with traffic, advisory and mandatory lanes not appropriate due to traffic levels.
Clear lane width	3.2m		Lane widths must only be wider than 3.2m where there is a specific need e.g. on a tight bend.
Bus lanes	3.2m width		
Design speed	20mph		Traffic speeds less than 20mph can be achieved 'by design' through layout and material choices
Planting			Target tree planting at 10-12m centres on both sides.
Drainage	SuDS	Conventional drainage	Conventional piped systems should only be used if it can be proven that SuDS are not viable.



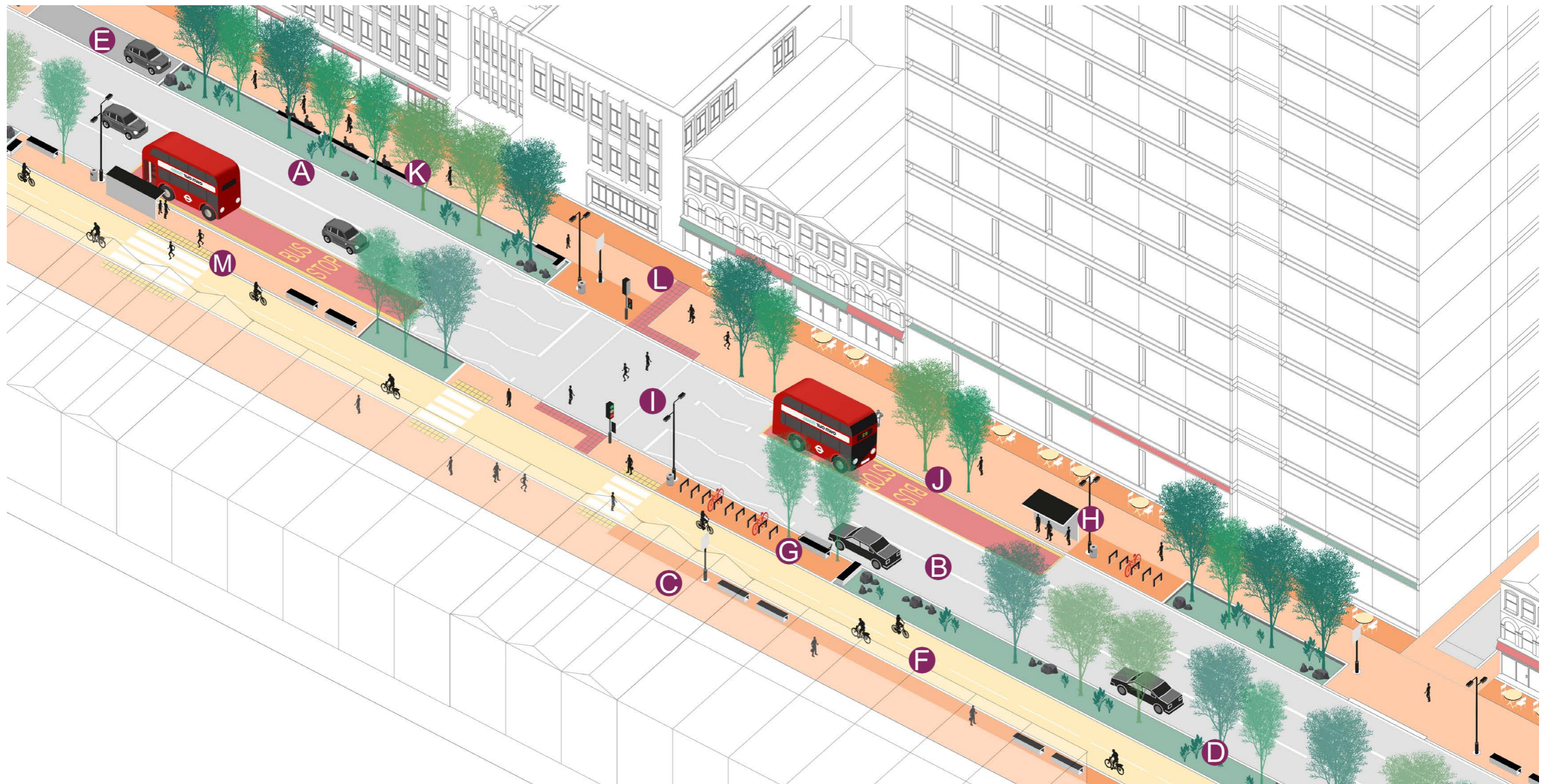
## City streets and boulevards

- A. Bus lanes provided where needed to support reliable public transport.
- B. Vehicles pass along the street in carriageway lanes of an appropriate size and number.
- C. The footway is organised to provide a dedicated Mixed Use Zone for street furniture, planting, signage and loading, enabling the rest of the footway to be free from clutter.
- D. Mature tree planting and rain gardens provides shade, support local wildlife and help to manage rainwater and flooding. They also encourage lower vehicle speeds and

provide a buffer between vehicle traffic and other street users, whilst also creating an attractive streetscene, that people can enjoy spending time in.

- E. Loading pads provided where needed and appropriate to support local shops and businesses, whilst providing additional footway or space for temporary street furniture when not in use.
- F. Segregated cycle tracks enable people to cycle safely and comfortably away from vehicle traffic.
- G. Public cycle parking supports businesses and active travel.
- H. Signage and lighting is combined wherever possible to reduce street clutter.

- I. Signalised crossing points are located frequently and on desire lines enable people to cross the street safely and conveniently.
- J. Accessible, high capacity bus stops provided with seating and lighting provide easy access to key bus services.
- K. Plenty of benches, seats and perches to enable people to sit and rest, socialise or spend time in the street, supporting local businesses and people walking and wheeling.
- L. Clear, uncluttered footway supports walking and wheeling.
- M. Bus stop bypass enables people cycling to avoid collisions with buses, whilst supporting access to public transport for bus passengers.



# 2.7 High Roads

High roads have a high movement function, accommodating large volumes of vehicle traffic, strategic bus corridors, freight, strategic cycle routes and high footfall. They are also important places, often with various functions and destinations along them including passing through town centres, or having local shops, businesses, schools, colleges and other facilities along them. They are therefore highly active streets with a wide array of demands on them, from supporting active and sustainable travel, to supporting local businesses, to providing important strategic vehicle routes.

Examples include:

- Dartmouth Road (Forest Hill town centre)
- Sydenham Road (Sydenham town centre)
- Bromley Road (Downham town centre)

## Vision

Lewisham’s high roads will provide important places for the local community and people passing through, with space to enjoy and spend time in the street, making use of local shops and businesses.

Space for vehicle traffic, including carriageway space and parking and loading will be kept to the minimum necessary, and space for cycle and cargo cycle deliveries provided. High quality bus stop waiting areas, and where possible segregated cycle tracks will be provided encouraging people to travel by active and sustainable modes.

Lewisham’s high roads will be tree-lined wherever possible, and support the sustainable management of surface water, through integrating SuDS. This will help to support ecological processes and local biodiversity, as well as providing shade and urban cooling, and creating attractive streets that are pleasant to spend time in. There may be opportunities for communities to take ownership of planting, pocket parks and other features.

The street will be well-lit, uncluttered with ample public seating, wayfinding signage, cycle parking and litter bins.



**Green Lanes, Enfield**

With-flow cycle tracks in complementary materials and planting help to create an attractive high road environment in Enfield.



**Oxford Road, Manchester**

In-ground planting and cycle tracks on Oxford Road in Manchester provide excellent provision for active travel whilst enabling strategic bus and traffic movement.

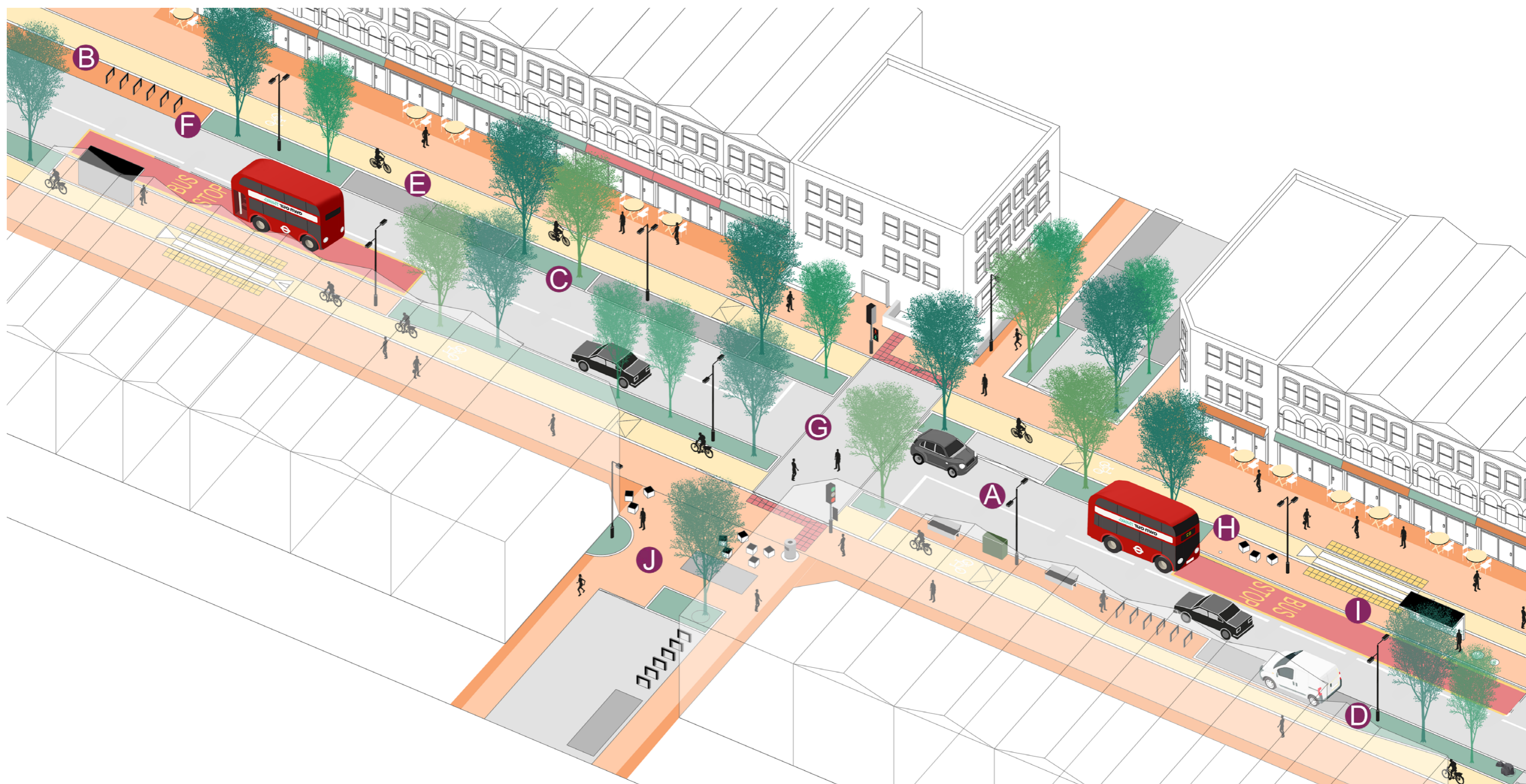
Component	Desired	Min/max	Notes
Clear lane width (2 way streets)	3.2m	3m - 3.2m	
Parking/loading provision	Parking/loading pads Inset bays		Parking/loading must only be provided where there is a clear need.
Clear walking zone	4m	2.5m min	
Mixed use zone	2m	0.5m min	Most of this space should be used for trees, planting and SuDS.
Cycle infrastructure	2m wide with-flow segregated cycle tracks		
Design speed	20mph		Traffic speeds less than 20mph can be achieved 'by design' through layout and material choices
Planting	Trees and SuDS		Tree cover target? Permeable area target?
Drainage	SuDS	Conventional drainage	Conventional piped systems should only be used if it can be proven that SuDS are not viable.

## High road

- A. Vehicles pass along the street in carriageway lanes of an appropriate size and number.
- B. The footway is organised to provide a dedicated Mixed Use Zone for street furniture, planting, signage and loading, enabling the rest of the footway to be free from clutter.
- C. Mature tree planting and rain gardens provides shade, support local wildlife and help to manage rainwater and flooding. They also encourage lower vehicle speeds and provide a buffer between vehicle traffic and other street users, whilst also creating an attractive streetscene, that

- people can enjoy spending time in.
- D. Loading pads provided where needed and appropriate to support local shops and businesses, whilst providing additional footway or space for temporary street furniture when not in use.
- E. Segregated cycle tracks enable people to cycle safely and comfortably away from vehicle traffic.
- F. Public cycle parking supports local businesses and active travel.
- G. Signalised crossing points are located frequently and on desire lines enable people to cross the street safely and conveniently.

- H. Plenty of benches, seats and perches to enable people to sit and rest, socialise or spend time in the street, supporting local businesses and people walking and wheeling.
- I. Accessible bus stops with cycle bypasses enables people cycling to avoid collisions with buses, whilst supporting access to public transport for bus passengers.
- J. Modal filter at a side street junction provides an opportunity for a public space, supporting local shops and businesses, and enabling additional street trees and planting.



# 2.8 High Streets

Lewisham’s high streets are key places within the borough for local communities and provide the setting for key services, retail and places for leisure and socialising. They also may provide local vehicular connections and/or form part of the strategic or local cycle network. Bus services may also be present, and access to public transport stations is important where present.

Examples include:

- Honor Oak Park;
- Ladywell Road.

## Vision

Lewisham’s high streets will become people-friendly spaces that support local shops and businesses, and encourage people to spend time in out town, district and local centres.

Traffic levels will be low-mid level and low speed, with streetscape and traffic calming features that imply pedestrian priority and encourage considerate driver behaviour and low speeds. Space for deliveries/freight will be provided, including by cycle and cargo cycle.

Lewisham’s town squares and streets will be people-friendly, social spaces employing enhanced and prestige quality surfacing materials, finishes, furniture and lighting that create attractive streets and spaces with a strong identity rooted within the local context. Seating, lighting and trees and planting will help to create an attractive and comfortable people-focussed space that supports walking and wheeling, as well as socialising, shopping and dining.

Planting and trees should be abundant, and help to add to the identity and attractiveness of the space, and support its function, providing shade and shelter and creating a more human scale to the space. SuDS should help to manage surface water where appropriate. There may be opportunities for communities to take ownership of planting, pocket parks and other features.

Space for businesses to spill out will be present where possible, adding to the ambience and atmosphere of the street. Local markets, where appropriate, will provide additional activity and street life, and support the identity of the space.



**Abbey Wood**

Informal street environment around Abbey Wood Station integrating street planting, SuDS and parking and loading around local shops.



**Stamford New Road, Altrincham**

An informal street approach with low kerb upstand, high quality materials, an uncluttered space and tree planting create an attractive high street which remains a vehicle thoroughfare.

Component	Desired	Min/max	Notes
Clear lane width (2 way streets)	3m	3.2m	
Parking/loading provision	Parking/loading pads Inset bays		Parking/loading must only be provided where there is a clear need.
Clear walking zone	4m	2.5m min	
Mixed use zone	3m	0.5m min	Most of this space should be used for trees, planting and SuDS.
Cycle infrastructure	Mixed with traffic or segregated cycle tracks		Dependent on local traffic context and spatial constraints (see LTN1/20)
Design speed	20mph		Traffic speeds less than 20mph can be achieved 'by design' through layout and material choices
Planting			In-ground planting and tree pits.
Drainage	SuDS	Conventional drainage	Conventional piped systems should only be used if it can be proven that SuDS are not viable.

## High street

- A. Vehicle traffic is low flow and low speed, with minimal carriageway space whilst enabling traffic flow. The carriageway is treated wholly, or in key locations, with a low, cane detectable kerb upstand to create a more informal space.
- B. The footway is organised to provide a dedicated Mixed Use Zone for street furniture, planting, signage and loading, enabling the rest of the footway to be free from clutter.
- C. Mature tree planting and rain gardens provides shade, support local wildlife and help to manage rainwater and

flooding. They also encourage lower vehicle speeds and provide a buffer between vehicle traffic and other street users, whilst also creating an attractive streetscene, that people can enjoy spending time in.

- D. Loading pads provided where needed and appropriate to support local shops and businesses, whilst providing additional footway or space for temporary street furniture when not in use.
- E. Public cycle parking supports local businesses and active travel.

- F. Formal and informal crossing points are located frequently and on desire lines enable people to cross the street safely and conveniently.
- G. Plenty of benches, seats and perches to enable people to sit and rest, socialise or spend time in the street, supporting local businesses and people walking and wheeling.
- H. Forecourt space for businesses to spill out, providing tables, seats and product displays to support the public life and success of local businesses.



# 2.9 Town squares and streets

Town squares and streets are pedestrian priority streets and spaces where traffic levels are extremely low, or restricted to certain times of the day, or certain vehicles only (e.g. for loading).

Town squares and streets are typically in town, district or local centre locations, and have a very high place function. These are often streets that benefit from historic character and features, though new developments may also create new town squares and streets. These streets typically are lined with shops and businesses, and may host public markets, presenting unique challenges for their design.

Examples include:

- Deptford High Street (Deptford town centre);
- Coulgate Street (Brockley town centre);
- Catford Broadway (Catford town centre).

## Vision

Lewisham’s town squares and streets will be people-friendly, social spaces employing high quality surfacing materials, finishes, furniture and lighting that create attractive streets and spaces with a strong identity rooted within the local context.

Seating, lighting and trees and planting will help to create an attractive and comfortable people-focussed space that supports walking and wheeling, as well as socialising, shopping and dining.

Planting and trees should be abundant, and help to add to the identity and attractiveness of the space, and support its function, providing shade and shelter and creating a more human scale to the space.

Space for businesses to spill out will be present where possible, adding to the ambience and atmosphere of the street. Local markets, where appropriate, will provide additional activity and street life, and support the identity of the space.

The street will be a flexible space, allowing for a range of activities to take place, from pop-up markets, outdoor cafe seating, to play and events.



**Plaza de las Comendadoras, Madrid**

Space for outdoor seating, play and planting help to create an social and lively space for everyone.



**Venn Street, Clapham**

Following public realm works, Venn Street provides a pedestrian priority space, with ample space for businesses to spill out, and hosts a regular market.

Component	Desired	Min/max	Notes
Clear lane width (2 way streets)	2m	3.2m max	The clear lane width should also be based upon how pedestrians will use the space.
Parking/loading provision	Parking/loading pads Inset bays		Parking/loading must only be provided where there is a clear need.
Clear walking zone	4m	2m min	Where traffic is extremely low, it is expected that the central space will be where the majority of people walk, however a dedicated Clear Walking Zone may be required to support accessibility.
Mixed use zone	3 - 4m	0.5m min	The mixed use zone will be vital to providing the features that make the street comfortable and attractive. Target seating: 1 seat per 10m <sup>2</sup> .
Cycle infrastructure	Mixed with traffic		Alternative cycle routes may be required e.g. during market trading.
Speed limit	5mph		Traffic should be extremely low in volume and speed. Traffic speeds less than 20mph can be achieved 'by design' through layout and material choices
Planting	Trees and SuDS		Trees, in-ground planting should form part of the scheme, though raised planting beds may provide a seating ledge, supporting public life. Target tree density: 1 per 20m <sup>2</sup> .
Drainage	SuDS	Conventional drainage	Conventional piped systems should only be used if it can be proven that SuDs are not viable.

## Town square/street

- A. Vehicle traffic is very low, providing local access only. Traffic restrictions prevent traffic access during the busiest times of day. The carriageway is treated with attractive, paved surfacing, and is used by people walking and wheeling, and where appropriate, cycling.
- B. The footway is organised to provide a dedicated Mixed Use Zone for street furniture, planting, signage and loading, enabling the rest of the footway to be free from clutter.
- C. Mature tree planting and rain gardens provides shade, support local wildlife and help to manage rainwater and

- flooding, whilst also creating an attractive streetscene, that people can enjoy spending time in.
- D. Dedicated space for market stall pitches, pavement licensing and out-of-hours loading is provided to support a range of uses along the street, including local markets where desirable.
- E. Breaks in the planting and market pitches enable free movement of people around the street.
- F. Plenty of benches, seats and perches to enable people to sit and rest, socialise or spend time in the street, supporting local businesses and people walking and wheeling.



# 3. Public realm design components

The following section sets out details of how Lewisham's streets and public spaces should be designed and arranged spatially to ensure that they support the key aims and principles of the Council, from supporting health and wellbeing, to sustainable travel, to supporting biodiversity and ecological processes. Design proposals should take a holistic approach to ensure that different spatial features, street furniture components and materiality, textures, colours and tones co-ordinate successfully with each other and the surrounding built environment to enhance local character.



# 3.1 Footways

## 3.1.1 Footway layout

Footways are essential in enabling and encouraging walking and wheeling for everyone, and should be designed or improved to prioritise the movement, comfort and accessibility of people walking or wheeling above other functions.

Journeys conducted entirely on foot make up 24% of all trips in London, with most other trips involving walking for part of the journey (TfL, 2019). All walking trips involve use of the footway, however these spaces can often be significantly compromised and present constraints or even barriers to some people from using them.

Transport for London (TfL) produced Pedestrian Comfort Guidance for London - Version 2 (2019) to help set out key standards and methods of measuring the ability of footways to perform their primary purpose- accommodating pedestrian movement. Understanding the space requirements of people walking and wheeling, and the typical pedestrian flows along a street is vital to providing an accessible and comfortable footway.

The footway is made up of several functional and buffer zones.

Functional zones include:

- **Clear walking zone** - the unobstructed, clear space in which people walk and wheel.
- **Mixed use zone** - the space for placing street furniture, signage, inset parking/loading and planting.
- **Forecourt and licencing zone** - the privately owned or licenced space in front of buildings that can be accessed by the public and forms part of the perceived footway or street.

Buffer zones include:

- **Pedestrian buffer zone** - 200mm offset from buildings, objects and the carriageway edge which is not used for walking and wheeling.
- **Kerb zone** - 450mm offset from the carriageway edge to avoid posing a vehicle collision risk.

These zones are explained in further detail on the following pages.

## Design principles

The key design principles for designing or improving footways in Lewisham are:

- As a minimum, footways should have a clear walking zone of at least 1.8m where there are no obstructions e.g. street furniture. This does not include the 200mm buffer required between both the kerb and building edge on either side. This minimum applies to low pedestrian flow areas only.
- Buffer space of at least 200mm should be provided offset from any item of street furniture. This must not be included when calculating the clear walking zone.
- Footway parking is illegal in Lewisham, except in marked, designated bays. Designated parking and loading on the footway must only be provided in exceptional circumstances, where a suitable minimum clear walking zone can be maintained, and where alternatives have been exhausted.
- Illegal footway parking should be discouraged through strict enforcement. Physical measures such as bollards and planting should be employed where there are persistent issues, however these should not impede on the clear walking zone, and should firstly seek to take space from the carriageway rather than the footway.
- Continuity of the footway is key to ensuring an accessible and comfortable environment. Situations where there is a vehicle crossover or side road junction should be considered as an intrusion by vehicles into pedestrian space. Designers should consider the impact of crossovers and side road junctions on the walking and wheeling experience and ensure that they maintain ease of passage for wheelchair users.
- Consideration should be given to the relocation of part-time carriageway uses, such as loading and parking bays, to a widened footway. This way, when these facilities are not occupied, they can revert to being used as additional footway space rather than idle carriageway space.
- The total footway width should closely relate to the function of the street. In town, district and local centres footways should be generous and where possible allow for spill-out activity from shops, cafes and restaurants etc.
- Particularly in new developments, the total width of the

footway should relate to the scale of the surrounding buildings in order to provide a comfortable people-friendly environment. The table below sets out the minimum total widths of the footway for different scales of development.

4 storeys or more	8 storeys or more	12 storeys or more	20 storeys or more
3m minimum	4m minimum	5m minimum	6m minimum

## Useful guidance

Pedestrian Comfort Guidance for London - Version 2 (2019), Transport for London



### Avoid

A narrow footway alongside a new development provides a poor Pedestrian Comfort Level. Setting the building back or narrowing the carriageway would enable a wider footway to be provided.

## Clear walking zone

The walking zone is the most important feature of the footway, as it's purpose is to provide sufficient, unobstructed space for people to walk and wheel safely and comfortably- the primary function of the footway.

The clear walking zone must be clear of street furniture, signage and other obstructions. These features should be kept to a minimum (whilst considering the need for seating, lighting etc.) and placed in the mixed use zone of the footway.

The width of the clear walking zone should vary according to the Pedestrian Comfort Level. Based on TfL's Pedestrian Comfort Level Assessment Guidance, typical minimum widths for the clear walking zone are shown in the table below.

Low flow (< 600 pph)	Active flow (600 - 1,200 pph)	High flow (> 1,200 - 2,000 pph)
1.8m minimum	2.2m minimum	3.3m minimum
3m ideal	4m ideal	5m + ideal

## Kerb zone

The kerb zone is fixed at 450mm measured from the edge of the kerb (from the carriageway side).

The purpose of the kerb zone is to provide an offset for any vertical features placed on the footway to reduce the risk of vehicle collisions and damage.

This zone must be kept clear of all vertical objects, though low level planting beds and tree pits are permitted.

The mixed use zone (when at the front of the footway) and kerb zone may overlap, however a 450mm offset between vertical objects and the carriageway edge must be retained.

## Pedestrian buffer zone

The pedestrian buffer zone is a fixed 200mm offset from any object, vertical edge or carriageway edge. This could include items of street furniture, signage, garden walls at the back of the footway or a stepped edge.

The pedestrian buffer zone is set out in TfL's Pedestrian Comfort Guidance for London, Version 2 (2019); and is based on research showing that pedestrians typically avoid using the space closest to objects and the edge of the carriageway.

The pedestrian buffer zone is therefore the clear space that borders each side of the clear walking zone. No objects should be placed in the pedestrian buffer zone, and there is no requirement to visually demarcate this zone.

## Mixed use zone

The mixed use zone provides space to place items of street furniture such as street lighting columns, cycle stands and signage. This ensures that street furniture and other components do not impede movement - keeping the clear walking zone clear, providing an orderly environment and helping to prevent a visually cluttered streetscape.

Planting and off-carriageway parking and loading may also be accommodated here. The mixed use zone varies in its width to accommodate the amount of furniture and other features required to support the street's function. It may be placed against the kerb edge, at the back of footway (where there are no active frontages) or in the centre of the footway or street where there is sufficient width.

Typically, the mixed use zone will be positioned either at the front of the footway, against the carriageway edge (overlapping with the kerb zone) where it is suitable to accommodate parking/loading bays and EV lamp column charging; or at the back of the footway, where there are no active frontages e.g. residential streets.

On some streets (such as pedestrianised high streets and public squares) it may be possible to designate several areas

throughout the street as mixed use zones.

The width of the mixed use zone should be determined by the required functions, and the space available. It is important to consider that some items of street furniture (such as cycle stands) will have a large footprint when in use (i.e. when a cycle is parked). Care should be taken to ensure that this does not result in an encroachment into the clear walking zone.

It is important to consider the use of the street and functions of the mixed use zone to help determine it's best positions (or positions) and dimensions.

## Forecourt zone

Private forecourts often exist around new development sites and in front of shops and businesses. Private gardens and forecourts which have vertical boundaries (such as walls and fences) do not need to be considered as part of the public realm.

Privately owned, or licensed space in front of buildings that can be accessed by the public forms part of the perceived footway or street. Typically this refers to business forecourts where space may be used for cafe-style seating or product displays.

To support businesses and shops, and support a broader range of activity and life within the street.

### 3.1.2 Pedestrian priority spaces

This section covers the design of streets and spaces that fall within the Chartered Institution of Highways and Transportation's (CIHT) 'Pedestrian Priority' typology. This term emerged when the CIHT were asked to review 'Shared Space' for the government with a view adding clarity to the widely misunderstood concept. The primary purpose of a Pedestrian Priority street is to create new public spaces in what would have been a standard street/ road environment. To this end these 'places' must be designed to prioritise pedestrians and be furnished as pedestrianised public spaces with seats, play features, tree and shrub planting, raingardens and art for example.

The principles are relevant to the design of all streets that have some restriction on vehicle access and speed and where pedestrians dominate including pedestrian precincts; Home Zones; market streets; school streets and in some instances pocket parks and larger modal filters.

The underlying premise that underpins 'Pedestrian Priority' streets and spaces is that spatial character influences human behaviour. If a space is designed clearly as a place for pedestrians, drivers will behave accordingly i.e. ceding priority (giving-way) and moving at slower speeds. Pedestrian Priority streets need to look like pedestrianised spaces but with some additional features (primarily tactile paving) to aid navigation for visually impaired people and strategically placed street furniture and planting to control traffic movements.

#### New developments

Pedestrian priority streets in new residential neighbourhoods will usually take the form of a Home Zone, Play Street and Pocket Parks and should be considered first where there is little through traffic.

Pedestrian Priority streets and spaces must also be considered in commercial and retail areas where there is little through traffic, as these, with seats and trees etc, can then act as breakout spaces.

They can also be used to manage cycle traffic in, for example, larger modal filters and where cycling is permitted through pedestrianisation where there is insufficient space for segregation.

#### Existing Streets

Retrofit Home Zones / Play Streets in existing residential streets will generally be initiated by a resident's group who will then help to steer the project and develop the design brief.

Establishing Pedestrian Priority and Pedestrianised typologies in existing high streets and town centres must be considered first as the template for carrying out refurbishment projects. In these areas projects are likely to be steered by the local BID or a looser coalition of business owners and neighbours.

#### Traffic volumes

Pedestrian Priority streets shall normally be considered appropriate where two-way motor traffic flows are below 50 vehicles per hour (DfT Shared Space Project – Stage 1: appraisal of Shared Space. MVA Consultancy, 2009). Local conditions, however, should be the primary component when determining suitability.

#### Single, step free surfaces

If the topography allows, Pedestrian Priority streets tend to have single, step free ground planes to allow pedestrians largely unrestricted movement across the whole space. The surface materials can vary to convey different functions and as navigational aids but meaningless abstract patterns must be avoided as they can be confusing to visually impaired people.

#### Pedestrian-only safe space along the building edge

Most streets will require a safeguarded walking space, usually on both sides of the street, where the traditional 'footway' would be, for the comfort of visually impaired people. This needs to be detectable by a long cane and/or a guide dog user and usually involves a tactile paving edge with a tonal contrast. Usually,

1.8m is a enough space for this feature as the whole street space is also available to pedestrians. The precise detail of this feature should be developed with local visually impaired groups. Typically, it may involve a 400 to 800mm width of corduroy tactile paving interspersed with blister paving at designated crossing areas. Refer also to the section on tactile paving. In some instances, a raised 60mm kerb may be needed to define the pedestrian-only safe space although can be detailed with a 45 degree chamfered edge.

#### Vehicle movement space and traffic speed

Where vehicle movements are one-way the vehicle movement space needs only to be slightly wider than the anticipated largest vehicle, about 3.2 - 4.5 m. In two-way situations, this needs to be increased to between 5 and 6 m in places where they need to pass. The minimum traffic speed should be set at the legally enforceable minimum of 20mph, but the street should be laid out to ensure that vehicles cannot travel faster than appropriate, given the context. In most cases this will be much less than 20mph given that pedestrians typically walk at 3mph. This can usually be achieved by making the vehicle movement space as narrow as possible and creating a meandering alignment for through traffic with the careful placement of street furniture and planting.

#### Material strategy

In trafficked sections of the street the pavement construction needs to be sufficiently robust to withstand vehicle loadings and turning movements. Asphalt, with a coloured surface dressing in many places will be most suitable material for this. The pedestrian only areas can be surfaced in any of the surfacing materials listed in the material palette that are appropriate in colour and texture.

Road markings and signs These should never be used in Pedestrian Priority streets if possible as they are signifiers of vehicle space. Parking, loading, speed and access restrictions etc. should only be signed at the entry points to the street to the legal minimum requirements.

## **Cycling through pedestrian priority streets**

In Pedestrian Priority and Pedestrianised streets cycling should generally be permitted but not necessarily encouraged or segregated unless the route is part of the strategic network. In some streets it may be beneficial, to pedestrians and cyclists, to indicate the cycling route to legitimise the presence of cyclists, using inset paving roundels of painted symbols.

In other instances, however, it may be necessary to formally define the track with different materials but should not usually be `stepped' unless it is a busy strategic route through a busy pedestrian area.

Where a formal track is required, a raised profile unit (see materials palette) should generally be used as this can be detected by visually impaired people and easily crossed by people with physical impairments.

## **Home Zones / Play Streets**

These are essentially Pedestrian Priority streets in residential areas that have been designed primarily as communal `play' or nature spaces whilst accommodating vehicle access and residents parking. To this end they will include play features and equipment and seats as well maybe as exercise machines, trees, lawns, swales and raingardens etc. In existing streets, the design will generally be driven by a residents' steering group.

## **Pedestrianisation**

Despite their name, vehicles will still be permitted at certain times and for certain activities, such as servicing, through pedestrianised streets and must be well considered at the planning stage to ensure they don't prevent necessary access or create `dead' places at night. Visually impaired people often find pedestrianised streets difficult to navigate as there is no kerb to guide them. Designing in navigation aids, therefore, should be considered in a comparable way to Pedestrian Priority streets, using tactile paving, strong colour contrasts and street furniture.

## **Other opportunities**

All types of Pedestrian Priority spaces should be able to accommodate other street improvement features such as raingardens, trees, seats, play facilities, cycling infrastructure, art, water fountains etc. Where needed, these features can also be strategically placed to control traffic movements and speeds.

### 3.1.3 Street furniture and clutter

The presence of street furniture, signage, lighting, utility cabinets and other objects must be kept to the minimum necessary for the successful functioning of the street. This should be carefully placed within the footway, and never in the clear walking zone where this would limit accessibility.

Where the presence of street furniture and other objects exceeds the minimum necessary, or is located within the clear walking zone of the footway, this becomes 'street clutter'. This can cause significant accessibility problems for people walking and wheeling, and particularly for people with disabilities.

Street design and maintenance schemes of all scales should seek to avoid and address issues of street clutter.

#### Design principles

The key design principles are therefore:

- Street furniture should be kept to the minimum necessary to ensure the street is usable and comfortable for all. This means providing a suitable amount of seating, ensuring lighting meets standards and signage is provided to the legally enforceable standard.
- Objects must not be placed within the kerb zone (i.e. within 450mm of the carriageway edge), except where the adjacent carriageway has been repurposed and is not used by vehicles e.g. as a planting bed.
- On all new streets, street furniture and other objects should be placed within the mixed use zone.
- On existing streets, new street furniture, utility cabinets, signage and other objects should be placed within the mixed use zone. Existing objects outside of the furniture zone should be relocated wherever possible to within the furniture zone. Where objects are too costly to relocate (e.g. utility cabinets), sufficient clear footway width should be provided around them to ensure accessibility and pedestrian comfort. Objects that are unable to be relocated should be considered in the early stages of the design process to enable sufficient space to be provided around them.

- Signage should be kept to the legal minimum to reduce the need for excessive objects in the footway. Consult the Traffic Signs Regulations and General Direction (TSRGD) manual to ensure compliance.
- The number of posts should be minimised wherever possible, for example by placing signage on lighting columns, or multiple signs on the same post. Consult the Traffic Signs Regulations and General Direction (TSRGD) manual to ensure compliance in terms of sign placement and distribution.
- Signage may be placed upon buildings and walls where permission from the owner has been agreed.

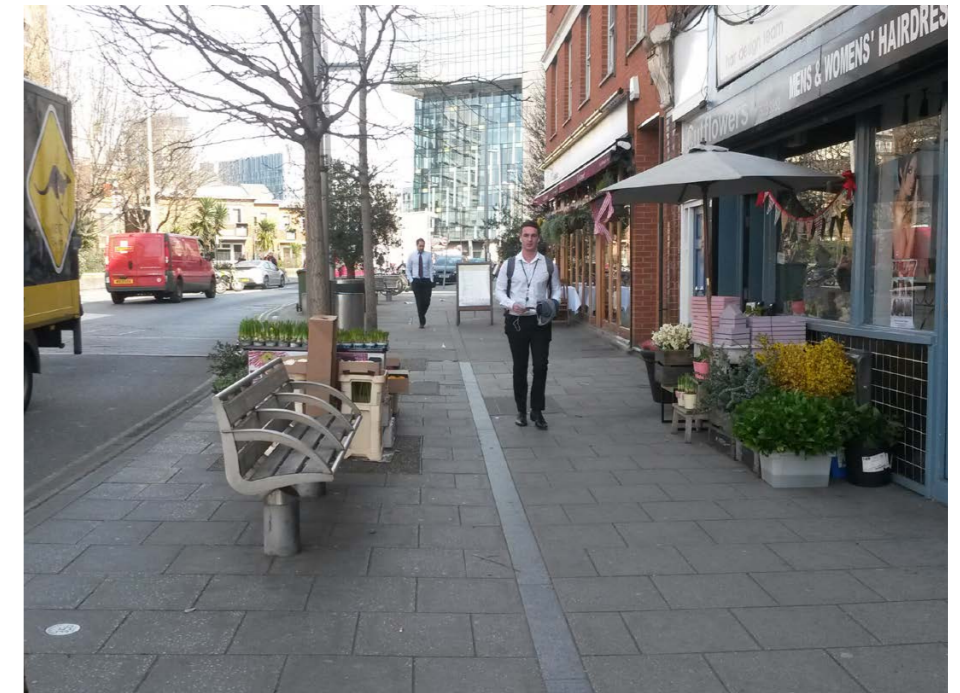
#### De-cluttering

Streets within new developments, or those subject to re-design should ensure that proposals adhere to the footway layout principles provided, and address any existing issues of street clutter.

However most existing streets will not be subjected to significant design activity. Here, it is important to identify and address where existing street clutter causes problems for people walking and wheeling, and particularly where there is less than 1.8m of clear footway width around an object.

An audit of existing street furniture and other objects is a useful exercise to identify issues, and particularly where they cause accessibility issues.

Opportunities to audit street clutter and address issues should be utilised where possible. Maintenance schemes are a key opportunity to address street clutter, and should seek to identify whether street furniture, signage, lighting columns and other objects could be reduced, condensed, or relocated. Designers should seek to create a mixed use zone within the footway where possible, and ensure that minimum widths for the clear walking zone are provided or exceeded.



#### Well-arranged footway with a mixed use zone

An example of a well-ordered street with a mixed use zone. NB: private advertising features (such as A-boards) are not permitted within the public realm without a license, and should be removed.



#### Furniture placed within the mixed use zone

Street furniture, planting and signage placed within a well-defined mixed use zone, and provides a buffer between the cycle track and the carriageway.

### 3.1.4 Protective measures

Protective measures are sometimes employed within streets to protect bridges and structures, or people from vehicle collisions.

The use of protective measures typically involves placing objects such as barriers, bollards or larger kerbs within the footway and therefore can detract significantly from the quality of the streetscape and reduce the width of the clear footway zone, reducing accessibility in some cases. It can also limit access to the kerbside, preventing easy crossing of the street or parking and loading.

Protective measures should therefore only be employed where there is a clear need and requirement.

#### Design principles

The key design principles are therefore:

- Protective measures must only be employed where there is a clear need and requirement.
- Protective measures should be placed within the mixed use zone and not impede the clear walking zone.
- The need for protective measures should be considered from the outset, and where needed, carefully integrated into the street layout. This may, for example, influence the width and position of the mixed use zone.
- Where protective measures are required, designers should seek to minimise their impact on the streetscape and clutter e.g. through integrating measures with street furniture, and specifying products that respond sensitively to the surrounding environment and palette of materials and street furniture.
- The impact of measures on physical permeability for pedestrians must be carefully considered, and schemes should limit any disruption to movement patterns e.g. informal crossing.
- The impact of measures on the visual permeability of the street must be carefully considered. Measures should not block views of buildings, entrances etc. or create perceived hiding or ambush places.

- Where possible (e.g. in new developments and for new structures) the need for protective measures within the public realm should be designed out, through providing structures able to withstand impacts, or through integrating measures within the fabric of the building.

#### Bridge and structure protection

Vehicles can present a hazard to buildings and structures (such as bridges) with potentially serious consequences. In some environments, protective measures are required to deflect vehicles.

Whilst this is often the case for structures such as bridges and underpasses, protective measures should only be used where there is a justified need, and where other measures such as traffic calming, speed limit reduction and soft measures such as planting and swales have been explored.

#### Hostile Vehicle Mitigation (HVM)

Hostile Vehicle Mitigation is a counter-terrorism measure used to prevent vehicles colliding with people walking, cycling and wheeling. Its use may be appropriate in high-profile locations such as large public transport stations, or major attractions or busy public spaces where people are expected to gather.

HVM should only be used where there is a clear need, and should be designed sensitively, considering the use of raised beds or planters, or high quality street furniture that responds sensitively to the surrounding context and streetscape.

HVM measures should be sensitive to the need for physical and visual permeability. Bollards can often be the most appropriate solution for enabling people to walk between them (e.g. to cross the street) and minimise disruption to existing views along the street and visibility generally.

#### Useful guidance

LTN 2/09 Pedestrian Guardrailing, Department for Transport



#### HVM in the City of London by Townscape Products

Integrating HVM with other typical items of street furniture such as benches and planters reduces clutter and provides a solution that complements and 'blends in' with its surroundings.



#### Trief kerb and setts

Bridge protection can be carried out more sensitively, without the need for fencing and barriers, here using trief kerbs and granite setts.

### 3.1.5 Pedestrian guardrail

Pedestrian guard rail (PGR) has often been introduced as a result of road safety concerns, and is often found around school entrances, park entrances and at formal crossings and junctions. Research has however, found that PGR often provides no additional safety benefits for people walking and wheeling, and can in some cases, be a leading cause of collisions.

Often pedestrian guardrailing has been introduced as a means to control pedestrian behaviour as a result of poorly provisioned pedestrian environments, for example where a crossing is provided inset into the junction and off the pedestrian desire line, guardrail is often provided to coerce pedestrians to use the crossing provided rather than crossing informally on the desire line.

The negative impacts and risks of providing PGR include preventing free pedestrian movement along desire lines and therefore hindering walking and wheeling; creating physical and visual clutter that detracts from the streetscape; minimising the width of the clear footway zone, and encouraging poorer driver behaviour due to a reduction in the perceived collision risk with people walking and wheeling.

There is therefore a general presumption against the installation of new PGR, or replacing existing PGR. Furthermore, schemes of all scales and types should assess the need for any existing guardrail, and remove where appropriate.

LTN 2/09 (Department for Transport) sets out a methodology for assessing the need for and removal of pedestrian guardrailing, and must be used when assessing whether PGR is suitable for removal. This must be used in conjunction with a full road safety audit (including pre and post implementation).

#### Design principles

The key design principles are therefore:

- There is a presumption against the installation of new pedestrian guardrailing (PGR) and the replacement of existing.

- PGR should be placed within the mixed use zone and not impede the clear walking zone.
- The need for PGR should be considered from the outset, and where needed, carefully integrated into the street layout if a need is determined. This may, for example, influence the width of the mixed use zone.

#### Pedestrian guardrailing studies

In the first year of a PGR removal scheme in London, around 42% of assessed PGR was found to be suitable for removal. Furthermore, one study found that the number of collisions involving pedestrians fell by 56% at sites where PGR had been removed (TfL, Collisions Before + After the Removal of Pedestrian Railings at 70 Junctions and Crossings on the TLRN, 2011).



**After - pedestrian guardrail removed**

The Morning Lane/Mare Street junction following the removal of PGR improves the pedestrian environment and streetscene.



**Before - pedestrian guardrail not required**

The Morning Lane/Mare Street junction in Hackney employed PGR that was identified as not required, and hindered the pedestrian environment.



**Post-scheme - further street improvements**

The Morning Lane/Mare Street junction was later improved to provide a single stage crossing on the pedestrian desire line.

### 3.1.6 Boundary demarcation

Demarcating boundaries within the public realm is important to help distinguish between private areas and the public highway, ensuring that owners are clear where maintenance responsibilities apply, how space may be used, and who may use it. Boundaries also may be used to demarcate where licensed space exists such as market stall pitches, seating areas for businesses within public areas and events spaces.

#### Design principles

The key design principles for demarcating boundaries are therefore:

- All ownership boundaries, and particularly those with the public highway, must employ demarcation.
- Areas of different ownership, but that will likely be used for one purpose or 'read' as a single element should apply the same surface treatment, with subtle demarcation.
- Areas intended for alternative uses (e.g. business forecourts for seating/product display) may match footway surface treatments, or apply alternative, complementary treatments in similar colours and tones. Where there is a run of business forecourts, the surface treatment material should be consistent and not differ between forecourts.
- Metal studs may be used to demarcate boundaries. These should be no greater than 6mm in height, and should ensure that a slip or trip hazard is not created.
- Metal edging may be used to demarcate boundaries.



#### Avoid

Avoid using different materials in public and private areas, where the surface will be 'read' as one element - in this case, the footway.



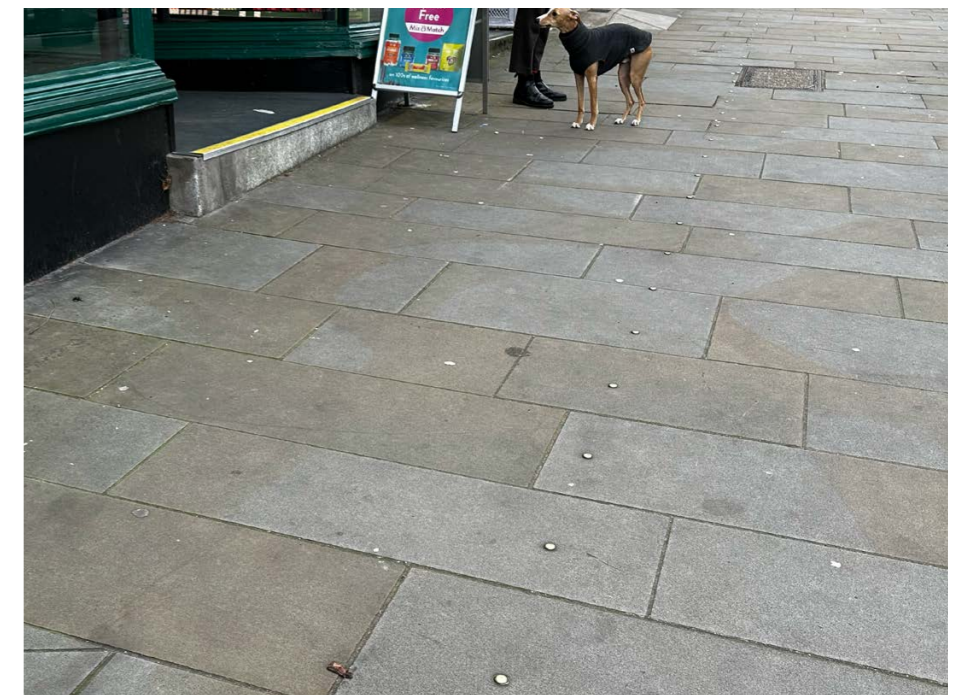
#### Surfacing detail

Changes in paving bond or unit size can be a sensitive way to create continuity whilst demarcating different areas.



#### Metal edging

Brass, stainless steel or aluminium edging can provide subtle demarcation where footway materials match private forecourts.



#### Metal studs

Metal studs may be used to demarcate areas. These must be no higher than 6mm and must not create a slip or trip hazard.



### 3.1.7 Nature-based solutions

Designers should explore ways in which green and blue infrastructure or nature-based solutions could be integrated with the footway environment. This, however, must never be at the expense of providing sufficient and comfortable space for walking and wheeling.

There are many opportunities to integrate nature with the footway environment. This could include:

- Using permeable paving and surface treatments;
- Using wider paving joints to allow surface water to percolate;
- Introducing planting beds or rain gardens within the mixed use zone;
- Using planting beds or trees to border bus stops, parking/loading bays or other features within the mixed use zone;
- Provide green roofs on bus shelters;
- Integrate nature within street furniture e.g. bug hotels and bee bricks;
- Introducing tree planting within the mixed use zone;
- Reinstating a green verge within the mixed use zone;
- Encouraging businesses to provide planting within their private forecourts; and
- Providing structures for vertical planting and green walls.

#### Design principles

The key design principles are therefore:

- Planting beds must never be situated within the clear walking zone of the footway.
- Trees must never be situated within the clear walking zone, however tree pits may extend across the footway. Suitable surfacing materials are required.
- Surfacing materials should be suitable for walking and wheeling, considering accessibility needs within the clear walking zone. The mixed use zone may employ alternative materials, however accessibility to the kerbside e.g. to access parking bays or crossing points; should be carefully considered.



**In-ground planting beds in Catford**

Introducing planting beds into the footway can create more attractive spaces that support biodiversity and, if designed as SuDS, surface water management.



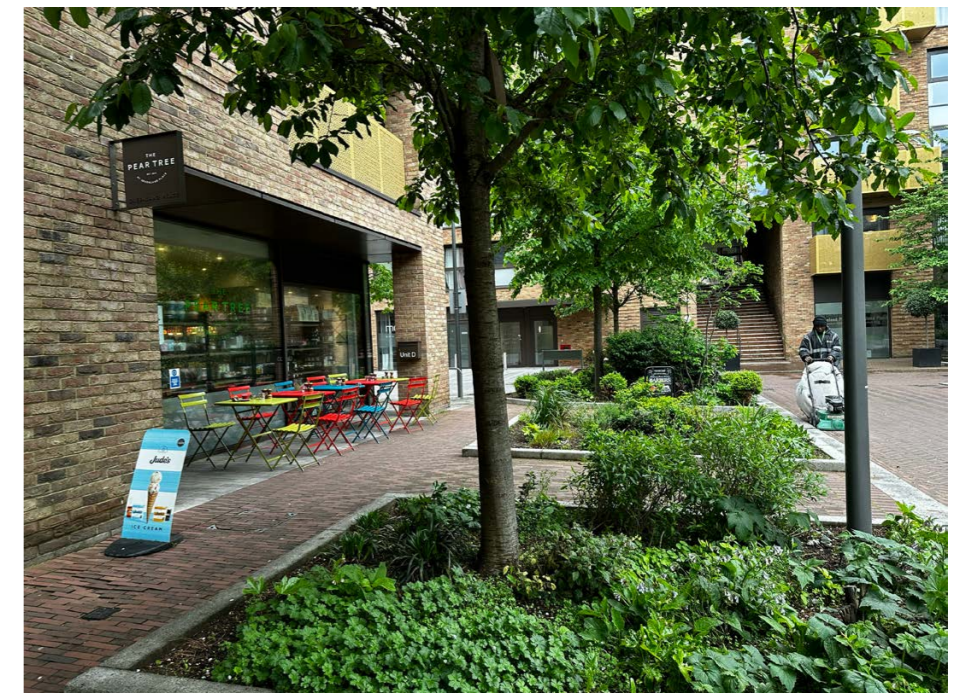
**Urban hedgerow or green verge**

Many streets historically included a green verge between the footway and kerb edge. These can be reinstated where lost, or enhanced with hedgerow or wildflower planting.



**Footway tree pits**

Use of permeable surfacing to help provide a walkable footway surface whilst retaining a mature tree on an existing street.



**In-ground planting beds**

Large in-ground planting beds provide significant street greening, benefitting local wildlife and ecology, including drainage.

# 3.2 Cycle infrastructure

## 3.2.1 Cycle infrastructure

All streets should consider the needs of people cycling to help encourage and enable everybody to take up cycling in their everyday lives. It is important that designers consider and understand the wide range of users of cycle infrastructure, from young children to elderly people, and the range of wheeling or cycling modes used, from standard bicycles, trikes, cargo-bikes, as well as adapted cycles, e-bikes and e-scooters. It is important that cycle infrastructure is designed to accommodate all types of cycles and meet the needs of users.

### LTN1/20

The borough has adopted the design standards for cycling set out in LTN1/20 and this must be consulted as part of the design of any cycling scheme in the borough.

As such, the guidance contained here is supplementary to LTN1/20 and provides further guidance on the preferred spatial arrangement, design approaches and surfaces and finishes of cycle infrastructure.

The key design principles set out in LTN1/20 include:

- Safe – an appropriate degree of separation for cyclists and pedestrians;
- Comfortable – facilities that are fit-for-purpose and appeal to existing and new cyclists;
- Coherent – consistent, predictable provision, not constantly changing between types;
- Direct – a choice that promotes direct cycle movement, without unnecessary delay;
- Attractive – facilities that contribute positively to the urban realm and wider neighbourhood;
- Adaptable – provision for cycling that can be altered to meet changing needs over time including substantial growth in cycle numbers.

These principles inform the range of technical design guidance and standards set out in LTN1/20 and in this document.

### New developments

New development must deliver or future-proof the delivery of the borough's cycle network within and around the development site. Development proposals should seek to improve existing cycle routes and facilities where they do not meet current standards set out here and in LTN1/20.

Where multiple land owners or development sites are involved, co-operation and partnership must be sought to enable the delivery of the new or improved cycle network.

Developers of all scales are encouraged to consult with the borough's Cycling Officer, to help identify opportunities and understand local aspirations for the cycle network. If any of the borough's existing or planned cycle network passes through or alongside the development site, pre-application discussions must take place with the borough's cycling officer.

All development sites should identify where there are existing or potential cycling desire lines, and opportunities to expand the network of safe, comfortable, direct, coherent and attractive cycle routes in the borough.

### Existing streets

The exact requirements for the type and level of cycling infrastructure must be agreed with the cycling officer.

### Useful guidance

[LTN1/20 Cycle Infrastructure Design, 2020, Department for Transport](#)

[London Cycling Design Standards \(LCDS\), 2014, Transport for London](#)

[A Guide to Inclusive Cycling, 4th edition, 2020, Wheels for Wellbeing](#)

[Sustrans traffic-free routes and greenways design guide, 2019, Sustrans](#)



## Selecting the route type

The type of cycle infrastructure along a route should be carefully considered and tested from the outset, to ensure it meets LTN1/20 standards according to the traffic and street conditions, and user needs.

There are three main types of cycle route:

- Quiet mixed-traffic streets;
- Separated cycle tracks on busier streets;
- Off-street or traffic-free routes.

Where traffic flows or speeds are too high to safely deliver the quiet mixed-street approach, cycling infrastructure such as cycle tracks is required. All types of routes will require additional features such as cycle stands and wayfinding.

Cycle tracks should always be delivered within existing carriageway space so that pedestrian comfort levels are protected. The use of cycle lanes comprising only a painted line are increasingly discouraged. The idea being that if traffic flows are low, people should be encouraged to cycle in the primary position. If traffic flows are high, people should be fully protected in a separate cycle lane. They remain useful in specific situations however, such as at side road entrances. See more on this in section 3.2.1.

### LTN1/20 route type selection table

Figure 4.1 in LTN1/20 (DfT) shown adjacent provides guidance on the traffic flow and speed thresholds for different types of cycle route. The key points to consider are:

- Designer should always explore the potential to reduce traffic flows and speeds before deciding on cycle tracks;
- There is some overlap between motor traffic flow ranges to allow for flexibility.
- Speed means speed limit, but if actual speeds are significantly higher, consider next highest category of speed.
- Cycle tracks include light segregation and stepped tracks unless noted.

Speed Limit <sup>1</sup>	Motor Traffic Flow (pcu/24 hour) <sup>2</sup>	Protected Space for Cycling			Cycle Lane (mandatory/ advisory)	Mixed Traffic
		Fully Kerbed Cycle Track	Stepped Cycle Track	Light Segregation		
20 mph <sup>3</sup>	0	Green	Green	Green	Green	Green
	2000	Green	Green	Green	Green	Green
	4000	Green	Green	Green	Yellow	Yellow
	6000+	Green	Green	Green	Yellow	Yellow
30 mph	0	Green	Green	Green	Yellow	Yellow
	2000	Green	Green	Green	Yellow	Yellow
	4000	Green	Green	Green	Yellow	Yellow
	6000+	Green	Green	Green	Yellow	Yellow
40 mph	Any	Green	Yellow	Yellow	Pink	Pink
50+ mph	Any	Green	Pink	Pink	Pink	Pink

- Provision suitable for most people
- Provision not suitable for all people and will exclude some potential users and/or have safety concerns
- Provision suitable for few people and will exclude most potential users and/or have safety concerns

#### Notes:

1. If the 85<sup>th</sup> percentile speed is more than 10% above the speed limit the next highest speed limit should be applied
2. The recommended provision assumes that the peak hour motor traffic flow is no more than 10% of the 24 hour flow
3. In rural areas achieving speeds of 20mph may be difficult, and so shared routes with speeds of up to 30mph will be generally acceptable with motor vehicle flows of up to 1,000 pcu per day

### 3.2.2 Cycle tracks

Where cycle tracks are required on busier streets, they should normally be with-flow cycle tracks, one on each side of the carriageway. This means that cyclists enter and leave junctions on the correct side of the carriageway, which reduces conflict and simplifies layouts. However two-way tracks may be appropriate in areas with a high concentration of destinations on one side of the street or simple tidal flows.

Cycle tracks may be set back from the carriageway edge and separated from it by a verge, swale and/ or car parking. Such tracks should be at or slightly below the level of the footway and paved in a contrasting material.

Minimising effort should be a key consideration in the design of any infrastructure, so that cycling is a pleasant and comfortable experience. People of all ages and abilities and types of bike (tricycles, recumbents, cargo bikes etc.) must be considered when designing cycling infrastructure.

#### Design principles

Cycle routes should always be designed to deliver the following outcomes:

- Safe – an appropriate degree of separation for cyclists and pedestrians;
- Comfortable – facilities that are fit-for-purpose and appeal to existing and new cyclists;
- Coherent – consistent, predictable provision, not constantly changing between types;
- Direct – a choice that promotes direct cycle movement, without unnecessary delay;
- Attractive – facilities that contribute positively to the urban realm and wider neighbourhood;
- Adaptable – provision for cycling that can be altered to meet changing needs over time including substantial growth in cycle numbers.

#### Fully protected cycle track

Fully protected or segregated cycle tracks offer users the maximum protection from vehicles whilst riding within the carriageway. Ideally they will be with-flow, but bi-directional may be appropriate in some cases. They are typically kerb-protected, though may also employ features such as planted verges, mixed use zones or car parking to provide additional separation from the carriageway - benefitting the walking as well as the cycling environment.

To be fully effective, segregated cycle tracks must continue through junctions where users are at most risk from collisions with vehicles. Where users cannot be physically separated from traffic through the junction, separation in time through manipulation of traffic signals should be explored. Geometric requirements are set out in LTN1/20, which should be seen as a minimum standard for any new cycling infrastructure delivered in the borough.

#### Stepped cycle track

Stepped cycle tracks sit between the height of the carriageway and the kerb, offering users some level of separation from traffic. They offer the flexibility of being easy to join and leave, and are easier to cross for people walking or wheeling. However, they are more prone to being parked than fully protected tracks, and so effective traffic management is required.

Stepped cycle tracks should maintain at least a 60mm level difference between the footway when a standard kerb unit is used, to ensure a cane-detectable edge is present. A chamfered or splayed kerb is recommended between the footway and cycle track to provide a more forgiving edge.

There are examples of chamfered kerbs being used to form the edge of the stepped cycle track and carriageway - known as 'the Cambridge kerb'. This is useful where the cycle track width is minimal, to aid cycles overtaking in the carriageway, and to provide an easy transition where cyclists may wish to enter and leave the facility (e.g. to access a side road junction).



#### Fully segregated cycle track

This carriageway-level cycle track is segregated from traffic using an in-ground planted area.



#### Bi-directional stepped cycle track, Epping Forest

A bi-directional stepped cycle track with chamfered kerb edge between the cycle track and footway.

## Footway-level cycle track

Footway-level cycle tracks also offer a higher level of protection for people cycling from traffic, however can cause conflicts between people cycling and people walking, if users encroach into each others space; and cause accessibility problems if there is insufficient differentiation between space for walking and cycling.

As such, the cycle track should sit just below the level of the footway or be separated with a clearly marked tactile edge able to be detected by a long cane user. Surfacing materials (namely colour and tonal contrast) should differ between walking and cycling space. A trapezoidal delineator kerb is recommended for use with footway-level cycle tracks. See LTN1/20 and Guidance on the Use of Tactile Paving Surfaces for more details. A painted white line is not sufficient delineation and must not be used.

## Light separation

Light separation offers a cost effective and flexible form of protection for people using cycle lanes. Though not sufficient for all levels of traffic, as stipulated in LTN1/20, the use of traffic wands, orcas and armadillos can help to reinforce existing mandatory cycle lanes or to introduce new protected lanes quickly and cheaply.

The use of intermittent wands instead of kerbs also provides users with flexibility to join or leave the cycle lane as they choose, and provides a softer edge to the cycle lane than a kerb.

Light segregation products can sometimes detract from the streetscape due to their appearance. This should be carefully considered in sensitive or important places. Designers are encouraged to employ planters and street furniture to create protected space.

A solid white line must be used, in accordance with LTN1/20 and TSRGD to provide a mandatory cycle lane, with protective features then placed on the cycling side of the white line.

## Bi-directional cycle tracks

Separated bi-directional cycle tracks offer space efficiency over with-flow protected tracks due to a need for kerbed protection on one side of the carriageway only. They can also reduce construction costs as works are only required on one side of the street.

Bi-directional cycle tracks can prove useful on routes where key destinations are concentrated on one side of the street, or where there are major turning movements and frequent side roads on the other side of the street. They can also respond better to tidal flows.

However, they can be unintuitive for drivers who may not be expecting cyclists to be travelling against the flow of traffic and so extra care must be taken in their design. Access for users from the other side of the road must also be carefully considered.

Bi-directional cycle tracks may employ full segregation, light segregation, a footway level or stepped track arrangement.



### Footway-level cycle track

Footway level cycle track in Leeds, set just below footway level and surfaced in contrasting materials to make it stand out from the footway



### Bi-directional cycle track

Kerb-protected bi-directional cycle track in Coventry, built within the carriageway.



### Light separation

Using traffic wands to create light separation in Islington.

## Cycle lanes

Painted cycle lanes should not be a first resort as they do not offer any physical protection from vehicles. There are two types: mandatory cycle lanes marked by a solid white line; and advisory cycle lanes marked by a dashed white line (see LTN1/20 for guidance on line markings).

There are some instances where they remain useful, including:

- Continuation of a cycle route over a side road entrance.
- On narrow rural roads, where the vehicle lanes have been reduced and centreline removed, to encourage drivers to move around cyclists into the centre.
- To reinforce contraflow cycling priority.

## Contraflow cycle facilities

All one-way streets should have contra-flow cycling. For low traffic streets it may be sufficient to simply use sign posts and cycle road markings in the carriageway, however some streets with higher vehicles flows or on key cycle routes, it may be appropriate to provide dedicated space for contraflow cycling. This could take the form of a mandatory cycle lane (at the start or for the full stretch), or island splitter at the entry point to protect cycle traffic from turning vehicles. Where opposing traffic flows or speeds are sufficiently high, a stepped cycle track or fully protected contraflow track could be introduced.

Traffic Management Orders are no longer required to create with-flow mandatory cycle lanes, following the publication of TSRGD (2016). However, a contraflow mandatory cycle lane still requires a Traffic Management Order.



### Contraflow advisory cycle lane

Contraflow advisory cycle lane used for quiet narrow street in Flintshire, improving the directness of a local cycle route.



### Contraflow cycle track

Contraflow cycling reinforced by a stepped cycle track and cycle lane in Hereford, protected by planters and parking bays.

### 3.2.3 Traffic-free paths

Traffic-free routes provide useful connections away from main roads, often through green spaces or along rivers or canals. Traffic-free paths are often the most enjoyable to use, and can attract more vulnerable or less confident users such as children. They can also provide an opportunity for connection with nature, and social interaction.

They are typically designed as shared used spaces for people walking, wheeling and cycling. However, separation of modes is usually preferable, either via separate paths entirely or by demarcating the path using a tactile delineator kerb, in keeping with national guidance. A painted line is not sufficient as it cannot be identified by those with visual impairment. Where separation cannot be achieved, the width of the shared space must be maximised.

#### Design principles

The key design principles are:

- Traffic-free paths should either be properly segregated (i.e. with tactile and visual delineation between walking and cycling space) or fully shared (i.e. a single surface with no visual or tactile delineation). This avoids creating environments that can be confusing and unable to be 'read' by different users, or encourage unwanted behaviour such as as faster or inconsiderate cycling. Environments must be unambiguous as to user priority.
- Segregated traffic-free paths are preferred, particularly on designated cycle routes, those with high utility cycling use, or with high cycling flows.
- Fully shared use paths can be appropriate on leisure routes where users are expected to cycle more slowly, in small groups while chatting or with children (for example) and generally taking care.
- The width of the traffic-free path should be sufficient for the expected walking, cycling and wheeling flows, and not kept to a minimum unnecessarily. People often walk or cycle in groups through green spaces, and this should be encouraged and considered when defining the width of the facility. This should be carefully balanced with the need to protect mature trees and be appropriate to the

surroundings. Where green surface is lost, planting could be amplified to provide wildflower verges, swales and avenues of trees.

#### Segregated paths

Separate, dedicated space for walking and cycling is preferred for most traffic free paths.

As a minimum, traffic-free paths with separated walking and cycling space should provide at least a 2m wide walking path (free of any street furniture or other clutter) and a 2m wide cycle path. Preferably, the space for cycling should be 3m wide (or more if on a high-flow route) to enable easier passing, and the pedestrian space should be increased according to the expected flows.

Segregated paths must always provide suitable visual and tactile delineation between the walking and cycling space. This could include a stepped arrangement, with the cycle track 60mm lower than the footway, or by using a trapezoidal delineator kerb. A painted white line must not be used.

#### Fully shared use paths

Fully shared use paths may be appropriate where paths are sufficiently wide, with low flows and are expected to be mainly used by people cycling for leisure rather than utility.

Fully shared paths must not visually delineate space for walking and cycling, and should adopt a single surface treatment throughout. Markings such as 'considerate cycling welcome' are sometimes used to encourage appropriate user behaviour.

#### Barriers

Traditional design approaches have resulted in many traffic-free paths being 'protected' from illegitimate users with physical measures such as A-frames, gates and chicanes. These are not accessible for wheelchair and adapted bike users and should not be used at entry points. Evidence also shows that they have minimal effect in deterring illegitimate use. In-line bollards

should be used where physical access restrictions are required. These should be spaced to leave a 1.5m wide gap, to ensure accessibility.

#### Lighting

Lighting should be employed on traffic-free paths expected to be used for utility i.e. as a mode of transport rather than for leisure. This should be carefully integrated into the surrounding environment, and is not required to meet street-lighting standards.



#### Segregated traffic-free path, Newcastle-upon-Tyne

This traffic-free path provides segregated space for walking and cycling using a planted and mixed use strip, with attractive use of timber and wildflower planting.

### 3.2.4 Mixed with traffic

Ideally people cycling are able to safely use the carriageway. This is more space efficient, reduces complexity at the street level and invites greater interaction between street users, 'civilising' the street.

LTN1/20 states that:

**Most people, especially with younger children, will not feel comfortable on-carriageways with more than 2,500 vehicles per day and speeds of more than 20 mph. These values should be regarded as desirable upper limits for inclusive cycling within the carriageway.**

Delivering quiet mixed traffic streets requires identification of both existing streets with suitable conditions (as per Figure 4.1 in LTN1/20) and consideration of the possibility to change the nature of existing busier streets.

New developments should also seek to deliver streets which are safe for in-carriageway cycling, avoiding the cost and complication of extensive cycling infrastructure where possible. This can be done by providing a street network that does not accommodate through-movement for vehicles, and ensuring that the design speed is 20mph or less.

Most streets within the borough are residential streets which typically carry low levels of traffic, except where rat-running occurs. These streets should be considered part of the local cycle network, though may not form strategic cycle connections.

However where traffic levels and speeds are low, and the street forms part of a strategic cycle route with high cycle flows, a cycle street treatment could be introduced.

#### Design principles

The following design principles should be applied to streets for in-carriageway cycling:

- Vehicle lanes should be narrow, and there should be no centre line. Drivers should be discouraged from overtaking cyclists.
- Junction radii should be narrow (ideally less than 2m) to

slow vehicles entering the street.

- Traffic calming may be required where actual vehicle speeds are higher than 20mph. The design of the street should reinforce the speed limit.
- On-street parking, where there needed, should be arranged formally to prevent impacts on the cycling environment.

#### Typical streets

All low-traffic streets with a speed limit of 20pmh or less should be considered part of the cycle network and suitable for in-carriageway cycling.

New low traffic streets delivered as part of developments should provide a minimum of 4.5m in clear carriageway width (i.e. free from parked vehicles), and a maximum of 5.5m width.



## Cycle streets

Cycle street treatments can be applied to low traffic, low speed streets that have high cycle flows and are part of the strategic cycle network. This could include Cycleways formerly known as Quietways.

Cycle streets are commonly used in The Netherlands, and employ the concept of the street being for people walking and cycling, where vehicles are guests, or secondary users. Vehicles should therefore not overtake cyclists. Cycle streets should employ street design techniques to enforce this hierarchy and user behaviour.

This could include visual narrowing of the carriageway with setts or contrasting surfacing (such as buff anti-skid surface dressing). It could also include the creation of a flush central median, to create the impression of two narrow cycle lanes in opposing directions.



**Taff Embankment, Cardiff**

Safe conditions are achieved on this street in Cardiff through low speed limits and restriction of through traffic. A flush central median using imprint encourages considerate driver behaviour.



**Vauxhall Walk, London**

The use of planting beds to narrow the street and contrasting surfacing of the contraflow cycle lane help to create a sense of cycle priority on this low traffic street in Lambeth.



**Maliesingel, Utrecht**

This cycle street treatment in the Netherlands prioritises people cycling, with two way vehicle traffic sharing the central lane, using the cycle lanes on each side to overtake when needed.



**Rue Alphonse Guérin, Rennes, France**

Narrowing of the street and introduction of in-ground planting beds creates good cycling conditions on this low traffic street in Rennes.



**Columbia Road, London**

The use of reclaimed setts in the central strip, with smoother concrete paving at the edges retains the character of the conservation area whilst providing a suitable surface for cycling.

### 3.2.5 Cycle crossings

Particular attention should be paid to the design of crossing points and junctions as this is where the majority of potential conflicts and road traffic collisions involving cyclists occur.

Table 10-2 of LTN1/20 sets out the thresholds for crossing requirements in terms of traffic volumes, speeds and the distance to be crossed.

#### Design principles

The key design principles are:

- Deliver crossing points that respond to the requirements of LTN1/20.
- Provide for cyclists at all useful crossing points, not just those on key cycle routes. Crossing provision should also provide access to connecting routes, desire lines and key destinations, as well as facilitate the continuation of the cycle route.
- Cyclists should be able to cross in one phase to reduce delay and risk of conflict, unless alternatives can be justified.
- Crossing points should be located on desire lines to ensure a more seamless journey.
- People cycling should be separated from those walking and wheeling at crossing points where the link provision segregates these users.

**Table 10-2: Crossing design suitability**

Speed Limit	Total traffic flow to be crossed (pcu)	Maximum number of lanes to be crossed in one movement	Uncontrolled	Cycle Priority	Parallel	Signal	Grade separated
≥ 60mph	Any	Any	Not suitable	Not suitable	Not suitable	Not suitable	Suitable
40 mph and 50 mph	> 10000	Any	Not suitable	Not suitable	Not suitable	Suitable	Suitable
	6000 to 10000	2 or more	Not suitable	Not suitable	Not suitable	Suitable	Suitable
	0-6000	2	Not suitable	Not suitable	Not suitable	Suitable	Suitable
	0-10000	1	Not suitable	Not suitable	Not suitable	Suitable	Suitable
≤ 30mph	> 8000	> 2	Not suitable	Not suitable	Not suitable	Suitable	Suitable
	> 8000	2	Not suitable	Not suitable	Not suitable	Suitable	Suitable
	4000-8000	2	Not suitable	Not suitable	Not suitable	Suitable	Suitable
	0-4000	2	Not suitable	Not suitable	Not suitable	Suitable	Suitable
	0-4000	1	Not suitable	Not suitable	Not suitable	Suitable	Suitable

- Provision suitable for most people
- Provision not suitable for all people and will exclude some potential users and/or have safety concerns
- Provision suitable for few people and will exclude most potential users and/or have safety concerns

- Notes:
1. If the actual 85<sup>th</sup> percentile speed is more than 10% above the speed limit the next highest speed limit should be applied
  2. The recommended provision assumes that the peak hour motor traffic flow is no more than 10% of the 24 hour flow

## Uncontrolled crossings

An uncontrolled crossing is only deemed 'safe for all users' on streets with maximum speeds of 30mph, and even then only when flows are below 4,000 PCU (passenger car units). Where traffic flows increase, using the crossing point very quickly becomes unsafe.

Ideally cyclists would be able to cross in one phase, but where a stagger is required, the central island must comfortably accommodate the length of all cycle types. Central islands must also not create pinch points for those cycling through the crossing.

Locating uncontrolled crossings on raised tables can help to reinforce lower vehicle speed limits and improve visibility of those trying to cross. Good visibility either side of the crossing must be ensured for all users.

Narrowing the carriageway improves the effectiveness and safety of uncontrolled crossing points, encouraging slower driving speeds and yielding, and reducing crossing distances.

## Parallel zebra cycle crossings

Parallel zebra crossings are not signalised but do separate people cycling from other users, requiring them to cross in parallel. Drivers are expected to act just as they would with a typical zebra crossing, yielding to all users.

Where traffic flows and speeds are suitably low, they can work well to maintain good cyclists flows across a road, removing the need to wait for a signal to cross.

## Signalised cycle crossings

At very busy junctions, signalisation may be the preferred method of giving cyclists priority over turning traffic. The two key types of signalised crossings for people cycling or wheeling are the Toucan (shared by people walking, cycling and wheeling) and the 'Sparrow' (where mode types are separated).

Additional space will be required to allow cyclist to be held at the signal until they can cross. Conflict with other users as people leave the crossing in different directions must be carefully considered.



### Parallel zebra crossing

Example of a parallel zebra cycle crossing in Denbigh, where people walking and cycling share a path on the approach to the crossing point.



### 'Sparrow' crossing

Example of a signalised crossing in Nottingham where people walking are separated from people cycling and wheeling.



### Signalised crossing

A signalised crossing in Leeds with separate cycle signals, allowing people cycling to safely cross the junction arm.

### 3.2.6 Cyclists at junctions

As a primary location for conflict and collisions, junctions are often the most hazardous and intimidating parts of the network. Ensuring provision for people cycling through junctions is therefore crucial. Failing to do so means that even high quality cycle tracks will be of limited benefit. This is a key consideration through all junctions, not just those on key cycle routes.

There are two main design approaches for junctions:

- Separating cycle and motor traffic streams; and
- Integrating cycle and motor traffic streams.

Where it is appropriate to separate cycle and motor traffic streams, this can be done in either space or time, either by providing cycling space protected from the carriageway, or manipulating signals to allow cycle traffic to move while vehicle traffic is stationary, thus reducing risk of collision.

Choosing which to apply should be based on traffic speeds and volumes through the junction. Separating cycle and motor traffic streams will increase the number of potential conflict points to be considered and managed (see Figure 10.2 in LTN1/20), which may increase the overall time delay at a junction. Combining traffic streams reduces the number of conflicts but mixes cycle and motor traffic. This approach is inappropriate where there are significant traffic speeds and volumes.

#### Design principles

The key design principles are therefore:

- Traffic lanes and junction radii should be reduced to a minimum to discourage dangerous overtaking, reduce traffic vehicle speeds and improve sight lines.
- For mixed traffic junction, low vehicle speeds and flows should be reinforced through design.
- For higher traffic junctions, cycle traffic should be separated in space or time from vehicle traffic.
- LTN1/20 provides a JAT assessment tool which can be used to assess an existing or proposed junction against national design standards.

#### Priority junctions

Being able to navigate a priority junction with confidence and fluidity contributes to a more comfortable cycling journey and minimise the effort exerted. The key risk for people cycling through priority junctions is being hooked by vehicles turning left or right. Designing priority junctions well helps to reinforce the priority of people cycling and reduce risk of collision with drivers.

Where cycle lanes cross quiet side roads, they can continue with minimal deflection. However, where cycle lanes cross busier side roads, the lane should be set back from the main road to provide a waiting area for traffic turning into the side road to stop and give way to cyclists.

#### Roundabouts

People cycling through roundabouts are at risk from lefthand hooks by drivers looking to exit the roundabout, or those pulling onto the roundabout.

Whilst roundabouts are not preferable for cycle routes, use of compact roundabouts reduces some risk by encouraging slower driving speeds and discouraging dangerous overtaking. They are only appropriate in contexts where cycling in the carriageway is already suitable on the approach to the junction.

For busier roundabouts, there should be physical separation from traffic for people cycling. The best practice example is a dutch-style roundabout (pictured below). These allow cycle traffic to travel without stopping due to priority created by parallel zebra crossings over the junction arms. However, these are space intensive and therefore may not always be achievable in existing streets.

Island separators on junction arms may cause pinchpoints for cyclists. It should always therefore be considered if a roundabout might be designed without them and pedestrians be allowed to cross in a single phase.



#### Protected roundabout

This roundabout employs kerb-segregated cycle tracks, and parallel cycle and zebra crossings on all arms.

## Signalised junction

To feel safe cycling through a major junction, most people will need far more protection than Advanced Stop Lines (ASLs). Traffic signals are typically installed at busier junctions where facilities that separate and protect cyclists from motor vehicles will normally be required (see Figure 4.1 of LTN1/20).

The types of facilities which can improve the safety, comfort, directness and coherence of a route through a junction include the following:

- Cycle bypasses (most protective);
- Separate cycle phases;
- Cycle and pedestrian-only stage;
- Hold the left;
- Two stage right turns;
- Cycle gate;
- Early release; and
- Advanced stop lines (least protective).

Whilst traffic signals can be manipulated to maximise priority for people cycling, introducing more complex traffic signals typically increases delays overall when compared to priority junctions and roundabouts. Sometimes there are benefits in removing traffic signals or providing cycle bypasses of signals, for example, for people turning left at a T-junction. The needs of all users, including pedestrians, will need to be considered when making any such changes. LTN1/20 sets out detailed guidance on signalised junction design and signing, with only a brief summary included here.

The key ways that signals can be deployed for cycling at junctions are:

- Dedicated cycle and pedestrian phases - these can be on demand;
- Hold the left - ensuring cycle and vehicle traffic move at different times, reducing left hooks;
- Two stage right turn - enabling cyclists to turn right without having to move into the carriageway;
- Cycle bypasses - where junctions are designed so that cycle traffic can actually bypass unnecessary signals to save time;
- Cycle gate - provides a reservoir area with separately

- controlled entry points for cyclists and motor traffic;
- The CYCLOPS - enables full protection through the junction.

## CYCLOPS Junction

This types of junction is based on the principles of the Dutch roundabout, but has the cycle tracks going around the outside of the pedestrian crossing routes instead. This design approach enables full protection for cyclists and pedestrians to be provided on all movements around the junction, without pedestrians and cyclists having to share space.

A key feature is that it enables the pedestrian and cycle phases to run at the same time without the cycles conflicting with green man signals for pedestrians, which is critical in UK regulations. This approach is being rolled out in a number of locations across the UK.

See the Greater Manchester Interim Active Travel Design Guide (Transport for Greater Manchester, 2021) for further detail.



### CYCLOPS junction

CYCLOPS junction provides segregated cycle facilities on the outside of pedestrian crossing facilities and retains the option for cyclists to mix with traffic when desired.

## Dutch-style signalised junction

Dutch-style signalised junctions place cyclists on the inside of the junction, with pedestrians on the outside.

This provides a more direct alignment for people cycling, and does not provide opportunity to rejoin traffic, as with a CYCLOPS junction.

Cyclists are typically permitted to travel in 2 directions across each signalised crossing point.



### Dutch-style junction

Dutch-style junctions provide cycle facilities on the inside of pedestrian crossing facilities.

# 3.3 Carriageways

## 3.3.1 Carriageway layout

As a rule, the carriageway should take-up minimal space, whilst still being able to accommodate each of a street's required movement functions. This has two primary benefits: maximising the space available for other necessary activities; and moderating vehicle speeds.

Often the highway is designed by providing minimal footway space either side of a carriageway that simply occupies the remaining space. This often results in a 'baggy' carriageway that encourages higher vehicle speeds, is more difficult for pedestrians to cross and is hostile to cyclists, particularly where the width of the carriageway regularly changes.

Unnecessarily wide lane widths result in 'baggy' and ineffective spaces that perform poorly at most times of the day, and encourage speeding at off peak times. This is particularly poignant in urban settings where every centimeter of space counts. Research has shown that narrower lane widths can effectively manage speeds without decreasing safety, and that wider lanes do not correlate to safer streets.

Wider travel lanes also increase exposure and crossing distance for pedestrians. Lane width should be considered within the overall assemblage of the street, with the appropriate width of the carriageway being determined by the design team on any given project. Decisions should be made by identifying the preferred users and functions, and allocating space accordingly.

### Design principles

All new streets, even those not being offered for adoption, must be designed and constructed to adoptable standards and in accordance with this guidance.

For existing streets, designers should carry out an analysis of the existing carriageway to identify un-used or 'baggy' highway that could be put to any number of better uses: tree planting, raingardens, buildouts, seats, cycle storage, cycle lanes etc.

The following design principles are therefore recommended:

- The design speed for all carriageways is 20mph or less, to

reflect the borough-wide speed limit of 20mph.

- Lane widths should not fall between 3.2m and 4.0m (or 4.5m where there are larger vehicles) in width where segregated cycling infrastructure is not provided, to discourage vehicles from passing cyclists too closely (LCDS 4.4.2).
- For bus streets, a travel lane of 3.25m may be used in each direction. In select cases, narrower travel lanes of 2.7–3m can be effective.
- Surface construction must be detailed to accommodate the loads and foreseeable uses acting upon it, and to ensure long-term durability and maintenance of the materials
- Surfaces should be smooth, firm and non-slip in all weather conditions with gradients that are both comfortable to walk on and sufficient for free draining of surface water.
- Lanes wider than 3.2m are not necessary in most urban areas carrying mixed traffic including buses (Manual for Streets 2 8.6.5).
- Consideration should be given to the relocation of part-time carriageway uses, such as loading and parking bays, to wider footways. This way, when these facilities are not occupied, they can revert to being used as additional footway space rather than idle carriageway space.
- Carriageway space for vehicles should be kept to the minimum required.
- Where additional space for over run is required, this should be paved to create contrast and give the illusion of a narrower carriageway. This will help to reduce the risk of drivers speeding both on links and at junctions.
- Additional space should be repurposed for other uses wherever possible. This could include space for tree planting, SuDS, seating and cycle parking, or additional footway space. In some cases, there is enough excess space to create pocket parks or small public spaces for use by communities or to support local businesses.
- Engagement with the local community is vital when implementing schemes of this scale, and particularly where communities may be required to maintain planting beds, or make use of such spaces for informal play or business spill-out.

## Central reservations

There should be a general presumption against the use of central reservations and ghost islands as they ultimately create wasted or unproductive space and a wider carriageway overall. Exceptions can be made for tree planting and crossing facilities for example.

## Excess and overrun space

Many streets have excess carriageway space that is not required for most general traffic. However, in some cases excess space is required to enable large vehicles to manoeuvre at a junction or bend.

Hatching is often used in these scenarios, however can detract from the streetscape, particularly in town centres and conservation areas; and creates the impression of a road for cars rather than a street for people. Understanding where excess space is needed is key to determining how it should be treated and used. Where space is required for overrunning vehicles, this should be paved. Where the carriageway is black asphalt, paving should provide visual tonal contrast.

## One-way streets

As a general rule, there should be a presumption against the use of one-way streets. However, there are circumstances where they will be useful and/or necessary. This must be assessed on a case by case basis. Reversing one-way streets and/or reverting them to two-way working can be complicated but should be considered if it will bring about a positive change to the quality of the public realm. There should be a general presumption that contra flow cycling is allowed and facilitated on all one-way streets unless it can be proven to be unsafe.

## Vehicle tracking and swept path analysis

A swept path analysis should always be based on the largest vehicle which requires regular access to a space. Larger vehicles which are only expected to use a street infrequently (refuse vehicles, removal vans, arctics etc.) need not be fully accommodated within a single traffic lane, provided that safe

access and manoeuvring can be provided, perhaps by using both sides of the carriageway for example.

## Channels

The carriageway channel generally sits on the outside edges of the carriageway adjacent to the kerbs to collect surface water runoff from the footway and carriageway for transfer into the gullies. Historically they were formed with stone setts, or kerb stones. Where paved channels exist and are in good condition, this must be retained. In Conservation areas the channels must be repaired if they are not in good condition.

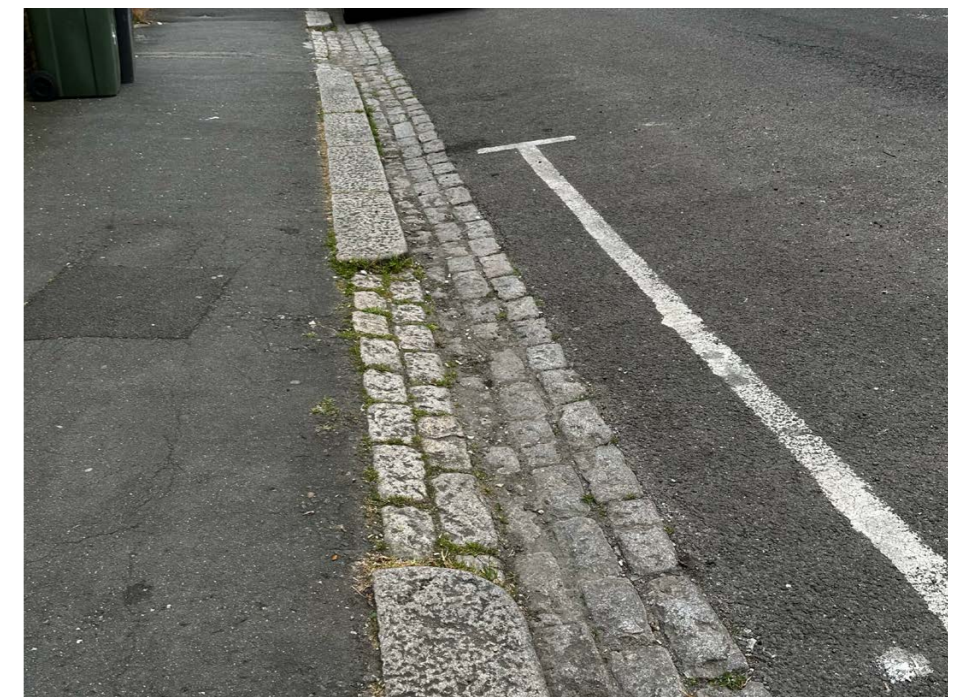
In new developments or re-designed streets, channel details are not required however could be considered, particularly in areas of high place and/or historic value, or as part of a SuDS scheme to direct surface water to a particular location.

Carriageway channels may also be necessary where the kerb height is reduced, such as at a raised table treatment, or an informal street such as a low traffic high street. This will help to ensure that collected surface water does not overspill across the footway during heavy rainfall events.



**Brockley Road/Harefield Road**

The use of contrasting silver-grey granite setts and position of the road markings help to avoid the carriageway appearing excessively wide.



**Ballina Street, Honor Oak**

Existing paved channel at the edge of the carriageway.

### 3.3.2 Kerb types and upstand

The kerblines are a vital component of streets, providing physical and visual delineation and separation between the footway and carriageway, and cycle track, if present. The kerb line also forms the upstand between the footway and carriageway, and is important for creating a safe and comfortable environment for people walking and wheeling. The kerb upstand is particularly important for people who are blind or partially sighted, as a detectable physical signal of the edge of the carriageway. A lower kerb height can also help to calm traffic within a street.

Kerbs also help to channel surface water, and are therefore key to the drainage design and flood management of our streets, directing water to drainage gullies or into SuDS features.

#### Design principles

The key design principles are therefore:

- Tactile paving must be used where the kerb upstand height is less than 60mm, to enable blind and partially sighted people to detect the edge of the footway and carriageway. This includes at crossing points (i.e. a dropped kerb) and in informal street environments.
- The kerblines must be consistent in materials and design;
- Kerbs should be cleaned and re-used wherever it is feasible to do so, both to reduce resource demand and retain the historic and characterful value they bring to the streetscape.
- All kerbs must be fine-picked silver grey granite, except where matching with existing natural stone kerbs (such as within a conservation area).
- Dropped or flush kerbs must be provided at all crossings points. An exception to this may include signalised diagonal crossings at junctions where there are signalised crossings on all arms.
- Bus stops must have a kerb upstand of 125-140mm to enable bus boarding.
- Higher kerbs may be used to discourage large vehicles from mounting the footway.

#### Carriageway level/kerb height

The kerb upstand is the vertical distance between the carriageway (where it meets the kerb) and the top of the kerb where it meets the footway. The top of the kerb must be flush with the footway.

The kerb upstand can help shape user behaviour, and is a key feature of accessible street environments, providing a detectable edge for those who are blind or visually impaired.

The table below sets out the standards for the kerb upstand in differing contexts.

Frequent and unnecessary changes in the kerb upstand should be avoided to provide a continuous and legible street environment.

Appropriate context	Kerb upstand height
Typical street	125mm
Informal street or raised table/junction	0 / 60mm*
Bus stops	125-140mm
Pedestrian crossings	0mm*
Mews or single-surface streets	0 / 60mm*
* kerb upstands of less than 60mm must provide tactile edging where traffic volumes are more than 100 vehicles per day.	



### 3.3.3 Nature-based solutions

There are many opportunities for integrating spaces for planting, trees and SuDS within Lewisham's carriageways. Planting can help to achieve better streets for movement, helping to calm traffic, highlight a crossing point or create comfortable and attractive streets to encourage more cycling and walking.

Carriageways could integrate planting and SuDS features in the following ways:

- Creating planted central reservations;
- Repurposing unused carriageway space, such as hatched areas for in-ground planting beds and rain gardens;
- Introducing junction build-outs, that can both improve accessibility for people walking, and provide spaces for tree pits, planting beds or pocket parks;
- Introducing in-ground planting beds or rain gardens to narrow the carriageway;
- Interspersing tree pits, planting beds or rain gardens between on-street parking bays;
- Using permeable surfacing for the carriageway;
- Using permeable surfacing in parking bays and areas.

#### Design principles

The key design principles are:

- Planting must not compromise the functioning of the carriageway- the space available for planting should be determined by the carriageway design and movement and kerbside functions of the street for people walking, cycling, wheeling and driving.
- Planting must not compromise the safety of road users. Designers should consider the need to provide adequate visibility, safe crossing points and ensure that planting does not hinder or discourage safe use of the street. A Road Safety Audit must be undertaken in most cases.
- Planting should consider local fauna and flora and aim to include native and wildlife-friendly species and should not include potentially invasive species (e.g. not on Wildlife and Countryside Act Schedule 9 or LISI species list or on other UK invasive list).



**Marylebone High Street**

'Baggy' space such as hatched areas and excess carriageway space could be repurposed for planting beds and SuDS features.



**Richmond Road, Leyton**

Here, excess space at a wide side road junction has been repurposed to create a pocket park, used and maintained by local residents.



**Vauxhall Walk**

Planting beds used to create cycle street conditions, calming traffic and narrowing the carriageway.



**Westerham Avenue, LB Enfield**

Here, large in-ground rain gardens provide both drainage and biodiversity benefits as well as helping to calm traffic.

### 3.3.4 Road markings and traffic signs

Road markings and traffic signs should be used to help road users better understand their intended operation. That is to say, first and foremost the design of a street should, as far as is possible, be self-explanatory.

An over-reliance on road markings and signage can result in higher vehicle speeds and lower levels of road user engagement, potentially having a negative impact on road safety. For example, a study by Transport for London that evaluated the effect of centreline removal on three A-roads found that their removal resulted in a statistically significant reduction in vehicle speeds.

The need for road markings can be further reduced through the application of blanket restrictions, such as Restricted Parking Zones.

Whilst all schemes must adhere to the mandatory standards for road markings and signage set out in TSRGD (2016); care should be taken to ensure that unnecessary additional signage is not provided, as this can detract from the streetscene, obscure views, cause confusion and overload road users with information.

The Traffic Signs Manual is a useful reference guide to help avoid the proliferation and inappropriate provision of signage. This is particularly important in historic settings and conservation areas, and people focussed places such as town centres and parks.

Supplementary guidance should be followed to ensure that the minimum amount of signage and road markings are provided, whilst meeting mandatory standards set out in TSRGD (2016).

**“Less is more’ is therefore a good adage when designing a scheme [...] Signs should only be provided where a clear need has been identified, and should be minimal and sympathetic to their environment.’**

**The Traffic Signs Manual (2018)**

#### Design principles

The key design principles are therefore:

- To use road markings sparingly to reinforce the desired road user behaviour.
- Only road markings that are required by law should be provided and to the minimums permitted using the narrowest line widths, palest colours, shortest kerb mark lengths and the fewest number of words etc. to minimise visual intrusion.
- Centre lines are generally not required and research by TfL suggest that they can increase vehicle speeds. Their use must be justified in accordance with Manual for Streets 2 section 13.5.1. and when a proven need has arisen.
- Where there are options within TSRGD (2016), the narrowest line widths, the shortest kerb mark lengths and the smallest wording possible should be used. For example, by default double yellow line markings must be 50mm wide and primrose yellow.

#### Useful guidance

[Traffic Signs, Regulations and General Directions \(TSRGD\)](#)

[The Traffic Signs Manual, 2018, Department for Transport](#)

[Streets for All, 2018, Historic England](#)



#### Sidcup

A Restricted Parking Zone (RPZ) and decluttered layout create a simple and attractive streetscape.



#### Avoid

A plethora of road traffic and information signage provides a cluttered and confusing environment outside Catford Station.

# 3.4 Bus infrastructure

## 3.4.1 Bus route infrastructure

### Bus lanes

Bus lanes enable more reliable and quicker bus journey times, where bus routes pass along streets where traffic congestion often occurs.

Where there is no dedicated cycle track infrastructure, it should be presumed that cycling will be permitted within bus lanes. In this scenario it is preferable to not permit motorcyclists and taxis to use the bus lane, as this can reduce cyclist safety.

Bus lane width must be 4m where cyclists are expected to share the space, and where there are no separate, dedicated cycle lanes or tracks. Where width is at least 4.5m, a mandatory or advisory cycle lane could be introduced within the bus lane. Bus lanes where cycling is permitted within them should avoid being within the 3.2 - 3.9m width for road safety reasons.

Where people cycling need not use the bus lane (i.e. due to there being dedicated cycle tracks on the street), a minimum bus lane width of 3.2m is recommended.

Bus lanes need not differ in surface treatment/colour to the main carriageway. Avoiding the use of colour can help prevent bus infrastructure from detracting from the streetscape, particularly in sensitive areas such as town centres or conservation areas. Bus lanes must, however, always comply with TSRDG standards to ensure they are able to be understood by motorists, and legally enforceable.

### Buses mixed with traffic

Where buses are mixed with traffic on busy streets, lanes should be a minimum of 3.2m in width. 6.4m is the preferred minimum width (on straight sections) to enable two-way bus traffic, as this allows buses to pass comfortably but at slow speeds. Designers must undertake vehicle tracking to ensure that buses can safely pass along the street, particularly at corners, where additional width may be required.

Lane widths where cyclists are also present should not be within the 3.2 - 3.9m range for road safety reasons.

Where buses are in low traffic environments, such as through residential areas, there must be a minimum of 4.5m clear width (i.e. between parked vehicles). This may involve buses straddling two lanes, as general traffic often does on low order residential streets. It is recommended to provide passing places on two-way streets, or one way streets with contra-flow cycling.

### Buses in traffic restricted areas

Buses in traffic restricted areas must have sufficient space to manoeuvre, particularly around bends and street furniture. Places with high levels of pedestrian footfall and cycling may not be suitable for bus traffic. It is recommended that a minimum of 3.2m width is provided for a bus to pass along the carriageway. If buses are infrequent, this may be sufficient for two-way movement, providing there is space at each end for buses to wait or give way to one another.

A traffic-free clear footway zone must always be provided, and this must be delineated by either a kerb with a minimum of 60mm upstand, or corduroy tactile paving to enable people who are blind or partially sighted to understand the space. It may be appropriate to use tonally contrasting surface treatments between the trafficked area and the rest of the street surface to provide further assistance to partially sighted people.

## Speed control

The speed limit on all borough streets is 20mph, and the design speed should reflect this. The aim shall always be to manage speeds through the inherent design of the street as opposed to overt traffic calming measures.

Measures to reduce speeding should firstly consider methods pertaining to environmental psychology, such as by increasing the 'friction' along the street through on-street parking and kerbside activity, tree planting or visual carriageway narrowing. The geometry of the street should also be considered e.g. where lane widths are excessively wide, narrowing or build-outs could be used; or chicanes introduced.

Vertical traffic calming should only be used where other methods are not feasible, and shall not be used on bus routes unless it is proven that there is no other practicable speed control solution. Vertical traffic calming can cause discomfort to bus passengers and cause safety concerns where passengers are standing. Where vertical traffic calming is employed, humps must be sinusoidal in profile.

TfL and bus operators must be engaged with on any scheme introducing traffic calming on existing or proposed bus routes, and this is particularly important where vertical traffic calming is proposed.

## Bus gates

Bus gates enable streets to be prioritised for sustainable modes including walking, cycling and public transport, whilst restricting general traffic from passing through.

They are particularly useful when introducing low traffic neighbourhoods (LTNs) or traffic restricted areas in town and neighbourhood centres and high streets.

Bus gates should be camera enforced and signed according to TSRGD in order to be effective and enforceable, and should as a default, permit cycling.

Bus gates work best where there is a clear change in the street

environment and geometry. This could include narrowing the space on a two-way street to a single lane, enforcing buses to pass through one-at-a-time. It may be appropriate to provide cycle bypasses where this layout is used.

## Bus priority measures

Bus priority measures seek to improve the bus service for passengers, providing quicker, more reliable bus journey times, and ensure a more efficient, resilient service.

Bus lanes and bus gates both can be considered bus priority measures.

Buses can also be prioritised at traffic signals, providing space to 'get ahead' of queueing traffic when use in conjunction with bus lanes or gates. Sensor technology can also be used to recognise buses and adjust traffic signal timings accordingly. Typically, this involves either extending the green time at signals to allow a bus through, or shortening other signal phases to reduce the wait time for the next green signal.

Engagement with TfL is mandatory for any bus priority measures.



### Bus gate in Oxford

A bus gate in Oxford retains access for people walking, cycling, using buses and taxis whilst restricting general traffic to the city centre, creating a more people friendly high street environment.



### Bus priority at traffic signals

Here a pre-signal is used to enable buses to jump ahead of the traffic queue at a junction.

### 3.4.2 Bus stops

Bus stops are an essential component of public transport infrastructure, and should be well located, accessible to all, designed according to the local context and user demands, and carefully consider the conflicts between differing modes.

Buses in London are managed by Transport for London, and services run by their partners. Engagement with TfL's Bus team must take place for any scheme impacting the design or operation of bus services and bus stops.

TfL's Accessible Bus Stop Design Guidance must be used and applied when designing schemes that affect bus stops including the relocation or removal of existing bus stops, or introduction of new bus stops.

LTN1/20 also provides useful guidance on the design of bus stop bypasses, or 'floating' bus stops to safely accommodate cycling around bus stops, which can present key conflict points and road safety risks for people cycling.

#### Design principles

In addition to the design guidance set out in TfL's Accessible Bus Stop Design Guidance, the following principles should apply to the design and location of bus stops:

- Bus stops should be well-located to serve local destinations and trip generators.
- Bus stops should be located in pairs and at an appropriate frequency to enable suitable access to public transport whilst considering the impact on bus journey times.
- Bus stops must be designed to be accessible to all, particularly considering the needs of people with disabilities.
- Bus stops should be designed according to the local user demand including bus passenger waiting numbers, and pedestrian flows along the street.
- The design of bus stops must also consider the needs of people cycling, and seek to provide protected space particularly when on designated or busy cycle routes.
- Bus stop layouts and placement should consider the surrounding context to integrate well and seek opportunities

for enhanced facilities e.g. through providing additional seating, an enhanced green verge or pocket park to create an attractive and comfortable waiting environment.

- The Pedestrian Comfort Level Analysis is a useful tool for understanding user behaviour and the impact of bus stops on the quality of the pedestrian environment.
- Integration of ecological features such as green roofs, in-ground planting beds and SuDS or pocket parks should be considered where feasible.

#### Useful guidance

Accessible Bus Stop Design Guidance, 2017, Transport for London

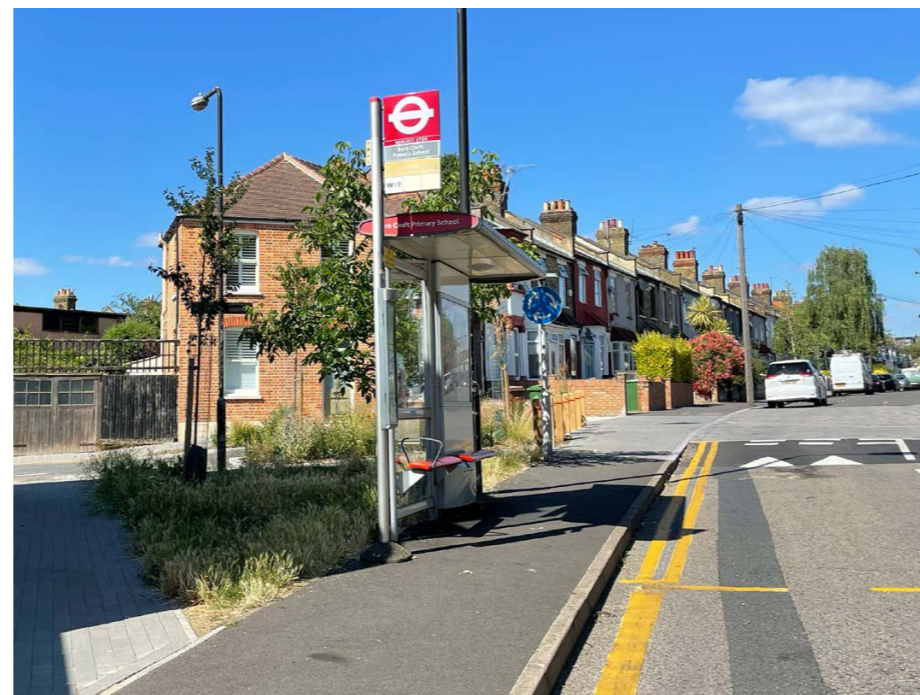
LTN1/20 Cycle Infrastructure Design, 2020, Department for Transport

Traffic Signs, Regulations and General Directions, 2016, Department for Transport

The Traffic Signs Manual, 2018, Department for Transport



**Bus route through a new development at IKEA, Greenwich**  
Here, the bus stop is well located at the entrance to a key destination, and provides a pleasant place to wait with tree planting and an additional sheltered area.



#### Bus stop in Walthamstow

This bus stop on South Access Road is well integrated with in-ground planting, and all street furniture and signage is well organised to keep the footway clear of clutter.



#### Bus stop in Manchester

This high capacity bus stop in Manchester city centre employs a green roof, bringing biodiversity and ecology benefits.

# 3.5 Junctions and crossings

## 3.5.1 Side road junctions

Junctions are places where things and people come together, and often provide places of focus and activity- an attractive building facade, a pub or corner shop, for example. Junctions are also places where streets and routes meet, and where there is a higher level of interaction between different modes. The Highway Code gives priority to pedestrians at side roads, however often the design of side roads appears to prioritise vehicles.

Creating successful side road junctions requires an appreciation of both of these movement and place functions, and an understanding of human behaviour. Our aspiration for Lewisham's side road junctions is to provide a level, step-free and seamless continuation of the footway where traffic conditions allow, reinforcing the Highway Code.

### Design principles

The key design principles for side road junctions are therefore:

- The crossing distance should be the minimum required to allow for vehicle movement. Excessively wide side road junctions should employ build-outs to reduce the crossing distance.
- Side road crossings should provide level crossings (i.e. raised tables) as a default, unless traffic conditions are unsuitable for this approach.
- Signage and road markings should be kept to a minimum, and only used where there is a legal/enforcement necessity.
- In low-traffic scenarios, side road junctions should take the form of continuous footways.
- In moderate traffic scenarios, side road junctions should provide raised tables/crossings.
- Streets where contraflow cycling is present/planned should only employ island/segregation in high or moderate traffic situations and where queuing is likely to block contraflow cycle access.
- Bollards should only be used where there is a clear or established need.
- Opportunities for tree planting, SuDS, cycle parking and seating should be explored.



### Avoid

Excessive signage, road markings and traffic islands can detract from the quality of the streetscape and place.



### Avoid

Excessively wide carriageway and corner radii encourage higher vehicle speeds and more difficult crossing conditions for people walking.



### Continuous footway

This example provides a near-seamless continuation of the footway, avoiding the use of a kerbline and continuing the surface treatment.



### Raised table treatment

This example provides a clear space for walking, contrasting with the ramp and carriageway surface materials.

### 3.5.2 Continuous footways

Continuous footways must provide a clear, unambiguous message to all road users that people walking and, where there are cycle tracks, people cycling have priority over vehicles, reinforcing the Highway Code Rule H2:

**At a junction you (i.e. drivers, motorcyclists, horse drawn vehicles, horse riders and cyclists) should give way to pedestrians crossing or waiting to cross a road into which or from which you are turning.**

**Rule H2, The Highway Code**

Continuous footways provide an unbroken footway across the mouth of the side road, requiring drivers to cross the footway, rather than people walking to cross the carriageway.

Research by Living Streets highlights the need to ensure that continuous footway treatments are carefully designed and 'true'. Compromising or straying from the below principles risks creating an ambiguous crossing treatment where priority is unclear. This is not the purpose of continuous footways. The scheme design must provide a clear, unambiguous message to all road users that people walking and wheeling have priority.

#### Design principles

Key features and design principles include:

- Continuous footways are appropriate for use on most low traffic side road junctions.
- The crossing area must be raised to footway level.
- The crossing distance must be reduced to a minimum, using build-outs to narrow the carriageway where needed. This should prevent simultaneous vehicle movements in/out of the junction and result in slow vehicle speeds.
- Where build-outs and carriageway narrowings are used, the additional space should be utilised for opportunities such as tree planting, SuDS, seating, cycle parking or other street furniture.
- The kerblines immediately inside the junction must be removed, to avoid creating an 'edge' to the crossing area, and indicating a change in environment or priority;
- The footway surfacing materials should be applied to the

crossing area, however a smaller, deeper unit size may be required to withstand vehicle movement.

- Where footways are not paved, it will be necessary to select a paving material to apply to the continuous footway crossing area and footway immediately surrounding it. The aim is to match the crossing area surfacing materials to the footway as close as possible, to indicate a continuation. The surfacing material selected must have no/minimal colour or tonal contrast between the footway and crossing area.
- A steeper, more abrupt ramp for vehicles helps enable the detectable kerb edge along the primary street to continue, supporting navigation for blind or partially sighted people. Splay kerbs could be considered on streets with low cycle flows, or steep asphalt ramps.
- Tactile paving is not required on standard continuous footway treatments.



**Real continuous footway, Clapham Old Town**

Example of a 'real' continuous footway with continuous surfacing and no tactile paving. Here, the treatment benefits from the raised carriageway surface, negating the need for a ramp.



**Avoid**

Avoid using tactile paving in place of the kerb line. This creates an ambiguous environment in terms of priority for users, and breaks the visual continuity of the footway.

### 3.5.3 Vehicle crossovers

Vehicle crossovers occur where vehicles must cross the footway in low numbers to access, for example, a driveway, serviceyard or car park. Vehicle movements should be low in such situations and therefore priority should be given to people walking and wheeling, rather than vehicles.

#### Design principles

Vehicle crossovers should give priority to pedestrians, and this should be strongly reinforced through their design, with the aim to provide a level, step-free and seamless continuation of the footway across the vehicle access point.

The key design principles for vehicle crossovers are therefore:

- Tactile paving must not be employed.
- Materials should ideally match, or correspond with the footway (where the footway is paved) and not the carriageway.
- Where an alternative material is employed to the footway, the colour and tone should match as closely as possible with the footway, avoiding high contrast and helping to create the impression of an unbroken footway.
- The kerb line should not be broken, and kerb edges should not be used within the footway to edge the crossover area.
- Road markings (e.g. single/double yellow lines), where present, must continue across the mouth of the crossover.



#### Avoid

Avoid 'breaking' the footway, by stopping footway surfacing, using a return kerb line and using tactile paving as this visually appears to prioritise vehicles over people walking.



#### Avoid

Avoid using materials that visually highlight the crossover. Though a smaller unit size may be required to cope with vehicle traffic, this should match the tone and colour of the footway.



## Surfacing materials

Where the footway is paved or treated, continuing the surfacing materials across the vehicle crossover is the best, and preferred approach, as this results in a visual continuity of the footway with no break or interruption for the crossover.

In some cases, the surfacing material may not be suitable for the vehicle crossover due to the additional load bearing required. Here, the same surfacing treatment in a smaller unit size is appropriate to minimise the visual discontinuity. This may mean using concrete slabs on the footway, and block paving on the vehicle crossover, for example.

## Ramp

The ramp provides access for vehicles, however can disrupt the footway and cause accessibility problems if too steep, or where it results in an increased crossfall over the entire footway width.

A chamfered kerb provides the best environment for walking, as the footway level is maintained throughout. The chamfered kerb may cause a problem if too steep or high, particularly for commercial or shared waste bins on wheels.

Ramped vehicle crossovers are the most commonly used in residential contexts in Lewisham and involve ramping the footway towards the carriageway level. This enables smooth transition for vehicles, however results in a crossfall for pedestrians. Severe crossfalls must not be used as these inhibit accessibility and comfort for pedestrians. Where there are many vehicle crossovers within a street, alternative designs should be used to reduce the level changes for pedestrians. Key pedestrian areas such as high streets should also avoid this design approach where possible.



**Vehicle crossover, Clapham Old Town**

Preferably, and where footway materials and construction allows, there should be no change in the footway treatment across the access point.



**Prince Thorpe Road, Sydenham**

A smaller unit size such as block paving may be appropriate where there is concern about vehicle loads on the existing footway material, in this instance, flag paving.



**Chamfered edge kerb and smaller unit size surfacing**

Employing a chamfered kerb enables a level footway to be continued through the vehicle crossover, providing better pedestrian access.

### 3.5.4 Controlled pedestrian crossings

Pedestrian crossing facilities are vital to enable people walking and wheeling to cross the live carriageway, however ensuring these are of the correct type of provision and well-located is important to ensuring they serve their purpose. This should be done on a case-by-case basis to ensure the most appropriate type of crossing is located in the right place, considering the needs of people walking and wheeling, and the local traffic conditions, site constraints and road safety issues.

#### Design principles

The key design principles are:

- Streets with a high movement function carrying greater than 8,000 vehicles a day should require formal signal-controlled crossings. For streets with between 3,000 and 8,000 vehicles a day other crossing types may be more appropriate such as zebra crossings and implied crossings.
- Crossing facilities should be provided every 100m in urban environments.
- Crossing facilities should be located on pedestrian desire lines. An analysis of existing movement patterns, key destinations and likely routes can help to identify desire lines.
- Crossing selection and design should also consider users. A wider crossing may be needed near a school or in a town centre for example, where pedestrian flows are higher.
- Crossing distances should be minimised wherever possible to maximise pedestrian safety and improve accessibility. All work involving new or existing crossings should assess the crossing distance and reduce this where possible. This could include introducing build-outs to narrow the carriageway, or introducing a refuge island where multiple lanes are to be crossed.

#### Signalised crossings

These types offer the most certainty (that traffic has stopped) to visually and audibly impaired people as they are all fitted with audio and physical cues in addition to the 'green light'. They are, however the most expensive type of crossing and the most visually intrusive.

Signalised crossings should be used on medium and high traffic streets. They have the advantage of controlling when vehicles and pedestrians must stop and go, unlike zebra crossings, which can cause traffic queues in high footfall areas.

Signalised crossings are often preferred by people with disabilities for the greater level of information about when to cross, and when to wait - as all signalised crossings are installed with a rotating cone for blind and partially sighted people to use.

Countdown facilities are preferred, particularly when part of larger junctions.

#### Zebra crossing

Zebra crossings offer the greatest advantage to pedestrians as they give them immediate (they don't have to wait for a green signal) priority over all other traffic. They are more immediately visible to drivers than signalised crossings and can be located closer to junctions, which can help to put crossings on desire lines. Zebra crossings can also be used across minor junctions close to the give way line, when it is judged desirable to provide clear pedestrian priority at this point. This could be where traffic flows are considered too high for continuous footways, or where the minor arm is part of the local vehicle route network (e.g. a connector street).

Zebra crossings should be 4m in width as a default. This could be increased where pedestrian flows are higher, though a signalised facility may be more appropriate to reduce delays to vehicles. The number of zig-zag marks may be reduced to 2, of a minimum length of 1 m, where, by reason of layout or character of the location, it will be impractical to comply with the normal requirements (Manual for Streets 2 13.6.1).



**Zebra crossing**

A zebra crossings located on the pedestrian desire lines at a side road junction.



**Honor Oak Park**

A zebra crossing with build-outs to reduce the crossing distance and calm traffic.

## Single-stage, straight-across crossings

Single stage crossings are the preferred crossing type as they offer the most convenient for pedestrians as they need only wait for one green man signal.

However, where crossing distance exceeds 12m, it is recommended to provide a refuge island. Single stage, straight-across crossings should typically be between 3.2m and 10m in crossing distance.

## Single-stage crossings with refuge island

Refuge islands enable people to cross in two stages when needed and can be particularly useful for longer crossing distances where those who take longer to cross may feel vulnerable, or to assist people using uncontrolled crossing on two-way streets. Any crossing of more than one vehicle lane may provide a refuge island for pedestrians. However single stage crossings or more than 3 vehicle lanes should provide a refuge island enabling those with a slower walking speed to cross in two stages if needed, with a safe, protected space provided.

Refuge islands for single stage crossings should remain at carriageway level (if the rest of the crossing is also at carriageway level), providing a continuous, flush crossing area.

## Two-stage, staggered crossing

Staggered crossings provide an island within the carriageway, splitting the crossing into two separate stages. They are usually employed to reduce lost time from pedestrian stages and increase junction efficiency for motor traffic. However, they can lead to convoluted crossing movements for pedestrians and so should be avoided where possible. However, a staggered crossing gives pedestrians a clear indication that they may not be able to cross in one movement.

Refuge islands may be raised to footway level, or kept flush with the crossing at carriageway level, using raised kerbs to provide a protected area within the island. Pedestrian guardrail should be avoided except where there is a legitimate road safety concern.

Refuge islands must maintain a clear footway zone width internally of at least 2m.

## Two-stage, straight-across crossing with refuge island

Two stage, staggered crossings are more inconvenient for people walking, as they must wait for the green man twice, and take an indirect route through the crossing and island.

Two stage straight across crossings with refuge island are one way of reducing the inconvenience of two stage crossings, by removing the staggered element. There are a small number of examples of these around the UK, and must be carefully designed to ensure that pedestrians don't confuse them with single stage crossings. For this reason, the central refuge island must be at least 3m in width to increase the distance between crossings, and the crossing must be a 'puffin' i.e. with the green man signal at the low level.

## All-round crossing

There are many examples of crossroad junctions with an 'all green' pedestrian phase, however often people walking wish to cross more than one arm. An all-round crossing enables this to be achieved through providing additional signalised crossing facilities with dropped kerbs, tactile paving, green man signals and push button in the diagonal position, enabling crossing in all directions.

## Diagonal crossing

Crossing diagonally often means pedestrians are required to cross a longer distance, which can increase the junction cycle time and cause delays to traffic and increased wait times for pedestrians. Diagonal crossings are a less-formalised version of the all-round crossing in that they provide a marked crossing diagonally and green man signal, but without the dropped kerb, tactile paving and push button. The green man phase may remain unchanged, however the design ensures that vulnerable people who are unlikely to have enough time to cross, are not directed to use the crossing.

Diagonal crossings may be used on both diagonals, or just one- in the case of an irregular or offset crossroad geometry, the shortest diagonal may be suitable for this treatment.



### Diagonal crossing in Clapham

Diagonal crossing reduces the crossing time for people walking, and provides a crossing point on a key desire line.

### 3.5.5 Uncontrolled pedestrian crossings

Uncontrolled pedestrian crossings do not employ signals or road markings control user behaviour, however may employ street design techniques to help encourage drivers to give way to people waiting to cross, and to provide an indication to pedestrians of where to cross the street.

#### Design principles

The key design principles are:

- Uncontrolled crossings are only appropriate when crossing no more than 2 lanes of traffic in one stage. Where the number of lanes exceeds this, a more formal facility should be considered first, or the informal crossing should incorporate a refuge island to split crossing into 2 stages.
- Uncontrolled crossing points are best used on low traffic streets where people walking needn't have to wait for gaps in traffic.
- Uncontrolled crossings may be used on moderately busy streets when supplementing controlled crossings. Crossing points should be provided every 50m where possible.
- On high traffic streets, uncontrolled crossing points are not appropriate, and all crossing should be controlled using traffic signals.

#### Dropped kerbs

A simple dropped kerb with tactile paving can provide a useful crossing facility in low traffic and low speed conditions. These crossings do little to encourage drivers to give way, however can provide the physical means to enable crossing, particularly for people with disabilities who need a flush kerb or tactile information.

#### Courtesy crossings

Courtesy crossings do not give legal priority to pedestrians, however are designed to encourage vehicles to give way to people waiting to cross. They work best in lower and slower traffic conditions and due to their use of materials, often integrate well in sensitive areas or those with a high place function such as town centres.

Courtesy crossings are appropriate where controlled crossings are not necessary or feasible, and where vehicle flows are less than 3,000vpd and the design speed is 20mph or less.

Courtesy crossings must employ materials or surface treatments that visually contrast with the carriageway. This could include high friction bauxite surfacing, or sett paving suitable for vehicle traffic.

Where possible, the carriageway should be raised at the courtesy crossings to further highlight them and encourage drivers to give way to people waiting to cross.



#### Brockley Road

Buff anti-skid surfacing helps to highlight an informal crossing at carriageway level. Build-outs and planting could further help to reduce traffic speeds and aid crossing. Bollards are not required.



#### Brockley Grove

Here, a raised crossing is provided with a refuge island, and is treated with block paving to enhance visibility.

## Informal junctions

Informal junctions covers a wide range of design approaches that may differ according to the particular context of a street and place.

Raised table junctions are the most common informal junctions, slowing traffic and providing improved pedestrian access through flush crossing points.

However in busy pedestrian areas with low traffic flows (such as in town centres), a more bespoke design approach could be taken to create an environment that supports public life and prioritised walking and cycling. This could include providing a level, or nearly level surface, with defined traffic-free footways using tactile edging or a low (60mm) kerb upstand to enable blind or partially sighted people to navigate and feel comfortable using the space.



**Taff Embankment, Cardiff**

Informal, raised junction as part of a cycle street treatment, using paving within the carriageway and planting to help define crossing areas and provide drainage and biodiversity benefits.



**Taff Embankment, Cardiff**

Here, imprint surfacing helps to mark an informal crossing point for both drivers and cyclists, as well as people walking.



**Seven Dials informal junction**

Here, the junction is not technically a roundabout, and the surface treatments and levels of activity create a pedestrian focussed space.



**Leonards Circus**

Leonard's Circus provides an example of a shared space junction design, although schemes should provide traffic-free footway zones using tactile paving or a kerb for accessibility.

### 3.5.6 Roundabouts

There are various types of roundabouts, including compact, normal, signalised and mini roundabouts. The choice of roundabout is dependent on several factors, including speed limits, levels of traffic, land-take constraints and levels of non-motorised users.

They can be useful tools for improving the efficiency of traffic movement, in comparison to some signalised junctions. They can also improve driving behaviours by requiring more of a give and take approach between drivers and other road users. There are ample good examples therefore of them being used to 'civilise' junctions and improve priority for pedestrians.

#### Design principles

The key design principles are therefore:

- As with all junctions, designs must prioritise pedestrians first and foremost, followed closely by cyclists, enabling people of all ages and abilities to walk, wheel and cycle.
- Roundabout designs must incorporate planting, trees, and SuDS where possible. Sightlines must be considered when developing planting proposals at junctions.
- To create safer environments than usually exist at junctions, cycle tracks and footways must be the dominant force through junctions, with cars subservient.
- They should be designed with their future use in mind, to both accommodate vehicle use, and the changing patterns in urban travel modes.
- Simple detailing should be applied in order to reduce visual clutter and makes priorities simpler for everyone - poles/signs, line markings and physical instructions must be kept to the absolute minimum.

#### Mini roundabouts

For mini roundabouts to work effectively, traffic flows need to be reasonably balanced between arms. Ideally, the minor arm flow shall not be lower than 10-15% of the major arm flow. Where the minor arm flow is too low, the major arm will operate under free-flow conditions. Designers must be able to demonstrate

that flows are 'reasonably balanced' where proposing a mini roundabout across at least three arms.

Double mini-roundabout designs or other junction types should be used where four or more arms exist. Single mini roundabouts with four or more arms are not good practice and should not be adopted.

The two types of mini roundabout which can be used are flush or domed. Domed variants may be preferable where traffic flows are low and/or where flows are less well balanced but remain above the 10% threshold. Doming has been shown to have a higher calming effect on speeds as well as encouraging motorists to travel around and not directly over the central island. However, it is also more likely to encourage motorists to travel anti-clockwise at the junction where excess visibility to other arms exists. 125 mm is the maximum height for a domed mini-roundabout and preferably be lower on bus routes.

Flush mini roundabouts tend to work better where traffic flows are relatively high, well balanced on all arms, and on bus routes.

#### Layout requirements

The position of the central island should be informed by a tracking assessment, using the largest likely specification of vehicle (e.g. refuse vehicle, pantehnicon and/or bus). Where domed, vehicles will need to pass around the central island; however, where a flush central island is used, large vehicles may pass over the island, but must not encroach to the other side. Tracking assessments will need to be provided to validate the safe and successful operation of mini roundabouts.

#### Pedestrians and Cyclists

Crossing facilities, formal or informal will normally be needed for pedestrians across each arm depending on the local conditions. Consideration must also be given to cyclists, especially when making a right turn.



**Roundabout at Queen Edith's Way in Cambridge**

This Dutch-style roundabout in Cambridge provides safe space for cycling and planting beds. These should be designed as SuDS and flush with the carriageway where possible.

### 3.5.7 Signalised junctions

“Traffic signals add to street clutter. Therefore, the minimum number of signal heads should be used. Designers may need to consider whether the strict application of visibility requirements is always appropriate at signalised junctions to avoid large building setbacks.”

Manual for Streets 2 9.8.7

Traffic signals can be used to support bus or cyclist priority and/or provide controlled pedestrian crossings. Equally, they can be used to prioritise and / or gate certain flows of traffic.

TfL are responsible for the design installation and maintenance of all traffic signals in London. As such, they should be consulted early in any proposals to introduce or amend traffic signals on the Boroughs street network.

#### Design principles

The key design principles for signalised junctions are:

- That they must prioritise pedestrians first and foremost in order to support the goal of getting more people walking and cycling and to reduce road casualties.
- Junction designs should incorporate planting, trees, and SuDS where possible, and be constructed from the most sustainable and ethically sourced materials possible.
- To create safer environments than usually exist at junctions, cycle tracks and footways must be the dominant force through junctions, with cars subservient.
- They should be designed with their future use in mind, to both accommodate vehicle use, and the changing patterns in urban travel modes.
- Simple detailing should be applied in order to reduce visual clutter and makes priorities simpler for everyone - poles/signs, line markings and physical instructions must be kept to the absolute minimum.
- Traffic signal equipment at crossings must be planned and constructed consistent with recommended practices as described by ‘The Design of Pedestrian Crossings

Local Transport Note 2/95’. This is particularly important in ensuring that traffic signal equipment integrates important components (audible beepers, tactile rotating cones, etc.) to respond to the needs of disabled users

- Traffic signals controllers should be sited to allow unimpeded use of the footway by pedestrians. The option to install a signal controller in a bench should be considered.
- Careful consideration should be given to vulnerable road users (such as cyclists) turning right, and protection provided where necessary.



#### Signalised junction

Signalised junction with crossing points located on the pedestrian desire line, providing a better walking and wheeling environment.

### 3.5.8 Bridges

If designed successfully, bridges can improve the quality of a journey for people walking, wheeling or cycling, whether by providing access over rivers or railway lines for example, or providing grade separation from heavily trafficked roads. They can become significant wayfinding features in their own right, and are generally cheaper than constructing underpasses.

Attractive and comfortable journeys can be achieved both by retrofitting existing bridge structures to better provide for non-motorised modes, or by delivering new walking and cycling bridges to provide key links. It is essential that bridges themselves do not become barriers to movement through gradient difficulties or anti-social behaviour.

#### Design principles

The key design principles are therefore:

- Bridges should form a part of a wider link for people walking and cycling so that they do not become standalone pieces of infrastructure which are costly but not useful.
- Bridges should meet desire lines where achievable
- It is equally important to consider the design of the space created under a new bridge as it is to consider the design of the bridge itself, so that undesirable 'leftover' space is not created.
- People walking and cycling will ideally be separated to allow them to travel at their own pace.
- Where desirable minimum widths cannot be met, a shared use approach may be required. Signage and design to encourage courteous behaviour may be required in this case.
- Where ramps are required, their gradient must be suitable for wheelchair users (typically no more than 5%)
- Lighting options should be explored to maximise personal security on new and existing bridges.
- Refer to LTN1/20 Cycle Infrastructure Design (DfT) for details on width requirements for new and existing bridges, and accessible gradients.
- Consideration should be given to integrating nature such as bat-roosting features.

#### Width requirements

Details on minimum width requirements are provided in LTN1/20 Cycle Infrastructure Design Guide (DfT). Additional width is likely to be required due to vertical features such as bridge parapets.

#### Level changes

Accessing a bridge often involves level changes for users. Ramps of suitable gradients must be provided, with awareness that they are often space-hungry.

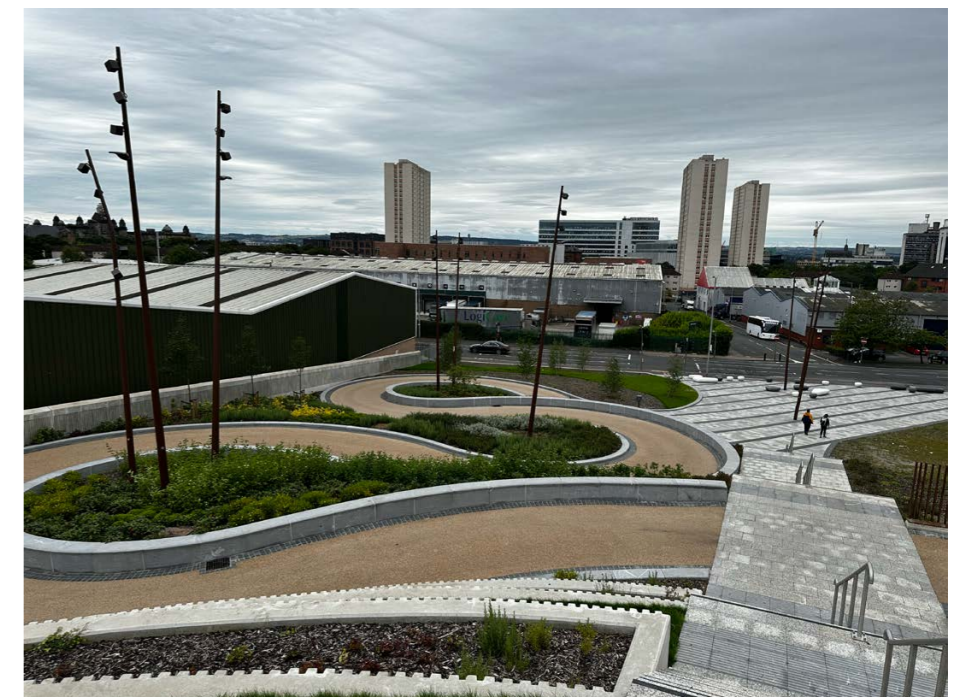
#### Personal security

Grade separation poses potential risks to personal safety by creating spaces which lack natural surveillance. Overlooking and lighting is a key consideration. Bridge parapets should not be overly tall or opaque so as to maximise visibility to and from the bridge deck. Lengths where surveillance and activity are difficult to achieve should be kept to a minimum.



#### Walking and cycling bridge

Attractive traffic-free bridge in Cardiff complements the local surroundings and provides access over a severance feature.



#### Best practice access ramps

The Sighthill Bridge in Glasgow demonstrates how a ramp can become a distinctive and playful feature, whilst improving accessibility for people walking and providing cycle access.



### 3.5.9 Underpasses

Underpasses, alleyways and tunnels can provide a good, safe environment for pedestrians and cyclists when designed with good lighting, clear sightlines, no dead ends and ideally a degree of overlooking, or possibly CCTV. Provided they are well-lit with natural surveillance, which relies on levels of use and depends on the wider urban context, they can feel safe and be safe.

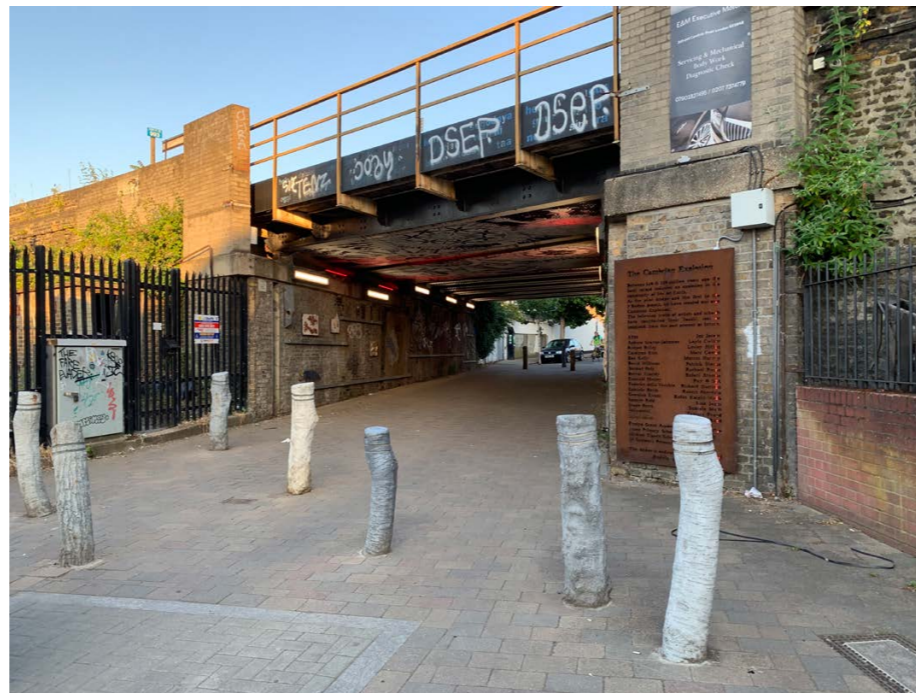
However, in most cases they will not be the preferred form of connection for pedestrians and cyclists, and so at-grade solutions should be sought.

Introducing public art and enhanced lighting within underpasses can help to create more welcoming spaces and improve personal safety. They can also present opportunities to strengthen the identity of the local area. Many of the borough's railway underpasses and bridges feature graphics, and this has proved a successful and popular intervention in many of the borough's places and town centres. This is therefore to be encouraged.

#### Design principles

The key design principles for underpasses are therefore:

- Providing suitable levels of lighting which balance safety of users with other considerations, such as ecological impacts and costs.
- Maximise natural surveillance where possible by encouraging positive use and a minimum level of activity at all times.
- Take advantage of opportunities to further enhance underpasses through art installations, utilising the surfaces, required street furniture and lighting requirements to provide both functional and distinctive features that strengthen local identity.
- Maximise sightlines either through layout or introduction of mirrors and lighting.
- Provide/improve underpasses as a last resort- prioritising at-grade crossings and connections to minimise risks to pedestrians and cyclists.



**Cambrian Explosion, Cambria Road, LB Lambeth**

This scheme introduced improved lighting and a public art scheme that combines historical and educational elements with street furniture, wall treatments and sculpture.



**Underpass in Brockley**

Painted graphics under railway bridges are seen in many places throughout the borough and help to strengthen identity.



**Fordham Park underpass, New Cross**

The Fordham Park underpass combines lighting, surfacing and public art to create a more welcoming space in a constrained underpass environment.

# 3.6 Traffic management

## 3.6.1 Traffic calming

The speed limit on all streets within LB Lewisham, including those managed by Transport for London, is 20mph, in order to reduce road danger. However, it is important that the design speed of streets also helps to reinforce this, encouraging drivers to adhere to the 20mph speed limit. Streets should be monitored where there are concerns that speeding or poor driver behaviour is a problem. Often residents and local communities are aware of such issues and can provide useful insights.

Traffic calming measures are a key tool to help reduce the design speed of streets and encourage safer driver behaviour. The type of measure employed will depend on the local context, street type and geometry.

### Design principles

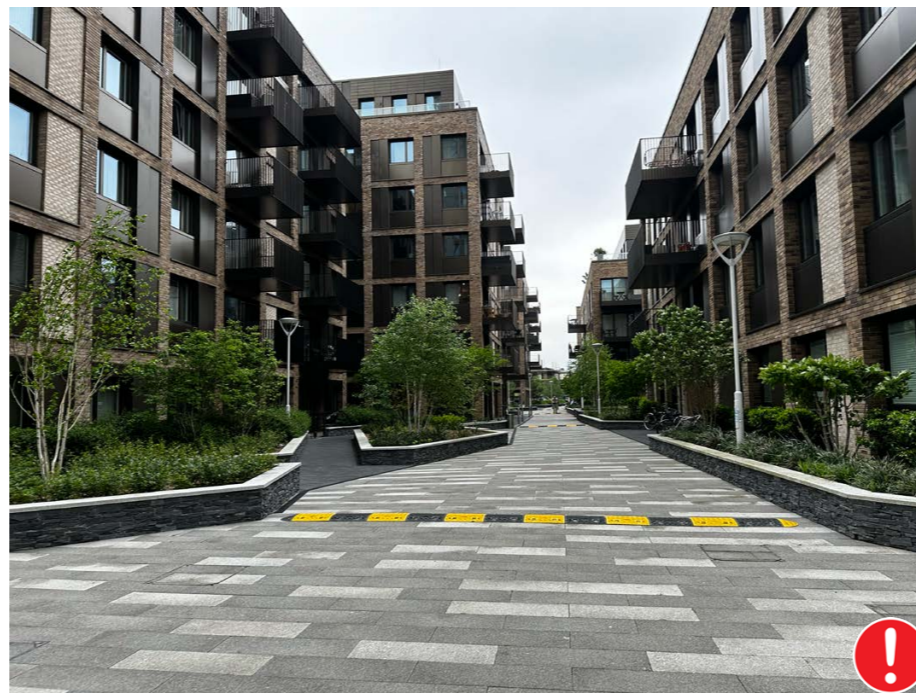
The key design principles for introducing traffic calming are:

- Speed is heavily influenced by kerbside activity and street function which can create 'friction' and encourage slower speeds. Softer measures such as seating, parking arrangements, surfacing treatments and planting can provide other benefits in addition to calming traffic, and should be considered as part of any traffic calming scheme.
- Speed is also influenced by the geometry of the street—with wider carriageways encouraging higher speeds. Consideration should be given to reducing carriageway widths where it is feasible and viable to do so.
- The spatial arrangement of streets should also be considered before any vertical traffic calming. This could include introducing chicanes or narrowings.
- Centre lines should be removed where appropriate.
- All vertical traffic calming must take the form of sinusoidal speed humps. Round top and flat top speed humps must not be used, due to the discomfort these cause.
- Speed cushions must not be used, as these pose a road safety risk, encouraging cyclists and drivers to swerve around them. Existing speed cushions should be replaced with sinusoidal speed humps through maintenance and street improvement projects.



### Avoid

Avoid the use of speed cushions, which can encourage drivers and cyclists to manoeuvre around, rather than over them.



### Avoid

Traffic calming should be integrated from the outset in new streets. Avoid retrofitting products in clashing materials/colours.

### Streetscape measures

Streetscape measures should be considered in place of, or in conjunction with 'traditional' traffic calming measures. This is particularly important where streets have a high place function or attract large numbers of people walking and cycling, such as around schools and town or neighbourhood centres.

Streetscape measures could include:

- Tree planting;
- Rain gardens and SuDS;
- Carriageway surfacing treatments (e.g. thermoplastic/paint/paving);
- Built-outs and pocket parks;
- Seating areas and street furniture.



### Coulgate Street, Brockley

Place based features including trees, planting, paving and licenced space, along with a low kerb upstand help to create a traffic-calmed environment.

## Narrowing

Narrowing the carriageway can have a significant impact on driver behaviour, however should be designed carefully.

Lane width is a key factor in ensuring cycle safety, as close-passing by vehicles poses a risk of nearside collisions. LTN1/20 guidance states that lane widths where cyclists are intended to share the space with vehicles (i.e. without additional space for cycle lanes or tracks) between 3.2 and 3.9 negatively impact the comfort and protection of cyclists. Shared lane widths within these parameters must be avoided.

Narrowing the carriageway provides many opportunities for the enhancement of streets, through footway widening, cycle lane or track creation, tree planting, SuDS creation or street furniture placement.



**Coppermill Village, Walthamstow**

Widening the footways to create a mixed use zone can be a better use of the carriageway space. Here, the school zig-zag markings have been replaced by planting beds.

## Chicanes

Creating artificial bends in the carriageway that require drivers to take care and reduce their speed.

This can be achieved through situating parking or planting beds on alternate sides of the carriageway, which can also provide additional traffic-calming 'friction' as well as other environmental benefits.

Chicanes should not be implemented using hatching and road markings (including centre lines) should be kept to a minimum. 'Keep right' bollards/signage should not be used, and the features being used to create the chicanes should be designed to be visible to drivers. It is advisable to check that street lighting is in accordance with standards and to identify and address any poorly lit areas.



**Old Ford Road, Bethnal Green**

This street has employed build-outs with planting to create chicanes along the street, to slow vehicle speeds.

## Priority chicanes

Narrowings (build-outs) placed at intervals along alternating sides of the carriageway require drivers to give way to oncoming traffic at points, and can have a significant impact on driver behaviour and speed.

It is beneficial to allow cyclists to bypass any priority chicanes to prioritise and support active travel.

Priority chicanes should be accompanied with streetscape measures such as tree planting, or surface treatments to help create a street environment that 'reads' as a space for people.

## Speed humps and speed tables

Speed humps are a form of vertical traffic calming, however can cause discomfort to drivers, bus passengers and cyclists; and should therefore only be used after considering other methods of traffic calming.

Speed humps must continue the full width of the carriageway. Where there are parking bays on each side of the street, build outs to narrow the carriageway could be introduced, with the speed hump stretching between them.

All speed humps must have a sinusoidal profile to ensure the comfort of road users. Speed bumps must never be used as these cause significant discomfort to road users.

## Low kerb upstand

Reducing the kerb upstand where appropriate can help to reduce traffic speeds. This is best applied in combination with other streetscape measures, and in locations where the place-function of streets can be maximised. This could include town, district and local centres, around schools or park entrances, or simply at junctions to create a raised table treatment.

### 3.6.2 Traffic controls and restrictions

Restricting traffic on streets can create better environments to encourage walking, cycling and wheeling.

Traffic volume is a key determinant of the type of cycle infrastructure provision suitable for most people to use, including less confident or less experienced cyclists. Reducing traffic in residential neighbourhoods, or on streets where space to provide segregated facilities is limited can therefore help to deliver a network of safe, comfortable and attractive routes for cycling.

Traffic restrictions could include introducing conditional access for certain vehicles, directional (i.e. one way) restrictions or banned movements (e.g. banned right turns at junctions). Changing traffic management and access should be carefully considered in the context of the wider street and traffic movement network, as some measures may have undesirable impacts on neighbouring streets.

#### Design principles

The key design principles are therefore:

- On non-strategic streets designers should aim to reduce traffic volumes as much as possible, and ideally to below 2,000 vpd which enables most people to cycle in mixed traffic conditions (on 20mph or less streets, and where the HGV mix is low). See LTN1/20 for further information.
- Measures to reduce traffic should consider and both the potential positive impacts (such as modal shift and traffic evaporation) and negative impacts (such as traffic displacement) on the wider network. Any unacceptable negative impacts should be addressed where appropriate.
- Designers should consider the essential access requirements e.g. loading, access and servicing.
- All modal filters must allow pedestrians and cycles to pass through, unless in exceptional circumstances. It should be considered that even on busy pedestrian streets, it may be appropriate to allow access for cycles at certain times.
- Where used, bollards must be carefully located, and the minimum required number must be used. The design of the scheme should minimise the need for bollards.

Method of control	Typical uses	Considerations
Signage only	<ul style="list-style-type: none"> <li>• 'No entry' restrictions at side road junctions;</li> <li>• Weight limits</li> <li>• Width restrictions</li> <li>• Timed vehicle access restrictions</li> <li>• Classified vehicle access restrictions/exceptions</li> <li>• Banned turns</li> </ul>	<ul style="list-style-type: none"> <li>• Lack of enforcement/punishment unless observed by a Police Officer;</li> <li>• Access for emergency services possible (where safe).</li> <li>• Lack of compliance may be an issue in the absence of enforcement/punishment.</li> </ul>
Fixed bollards	<ul style="list-style-type: none"> <li>• Modal filters (no exemptions)</li> </ul>	<ul style="list-style-type: none"> <li>• No signage required;</li> <li>• Clear to all road users;</li> <li>• No emergency service or other trusted service vehicle access possible;</li> <li>• Overuse and poor spatial layout can detract from the streetscape and create accessibility issues and obstacles for people walking and wheeling.</li> </ul>
Lockable bollards	<ul style="list-style-type: none"> <li>• Modal filters where access for emergency services and/or trusted services (e.g. refuse collection) is required.</li> </ul>	<ul style="list-style-type: none"> <li>• No signage required;</li> <li>• Clear to all road users;</li> <li>• Access for emergency services and other trusted service providers possible if provided with a key.</li> <li>• Risk of unapproved parties obtaining key and access.</li> </ul>
Planters and planting	<ul style="list-style-type: none"> <li>• Used alone for modal filters (no exemptions)</li> <li>• May be used to enhance the street environment in conjunction with other methods of control.</li> </ul>	<ul style="list-style-type: none"> <li>• No signage required;</li> <li>• Clear to all road users;</li> <li>• Used alone, no emergency service or other trusted service vehicle access possible.</li> </ul>
Automatic number plate recognition (ANPR) cameras	<ul style="list-style-type: none"> <li>• Modal filters (with exemptions)</li> <li>• Timed vehicle access restrictions</li> <li>• Classified vehicle access restrictions</li> <li>• Banned turns</li> </ul>	<ul style="list-style-type: none"> <li>• More costly to install and maintain;</li> <li>• Ability to automatically issue fines deters motorists from contravening the restrictions;</li> <li>• Require signage in order to be enforceable;</li> <li>• Can be less obvious to motorists if not designed carefully as access remains physically possible. This can lead to honest mistakes, upon first encounter.</li> </ul>

## Modal filters

Modal filters are appropriate where there is a need to prevent through-traffic and reduce traffic volumes on streets. This could be applied to a single street, or as part of a package of modal filters and traffic restrictions in a Low Traffic Neighbourhood (LTN) scheme.

Modal filters restrict vehicle traffic, allowing only people walking or cycling to pass through, however some design approaches may permit certain vehicles to pass through - such as emergency vehicles, trusted service vehicles (e.g. refuse collection) or vehicles on a 'white list' of exempt number plates.



### Diagonal modal filter with planting

Where it is desirable to prevent through-traffic at crossroads, a diagonal filter may be appropriate. Trees and planting also be integrated.



### Modal filter with planting

Modal filters present a key opportunity to integrate in-ground planting, raised planters, street trees and rain gardens.



### Temporary or trial modal filter

Planters and bollards can be used where construction budgets are low or where it would be beneficial to trial a modal filter initially.

## School Streets

School Streets are timed restrictions that prevent vehicle access to the street(s) around a school during the start and end of the school day. This helps to create low traffic conditions that create safer conditions for children, and streets that better support walking, cycling and wheeling to school. They can help to enable the street to become a place to meet people, socialise and play.

School streets are appropriate to introduce on any street with or nearby a school that does not need to provide an important vehicle thoroughfare at all times of the day.

Many residential streets are suitable for School Street schemes, though some higher order streets may also be suitable, subject to a review of the traffic network. School Streets are an appropriate tool to use when there are concerns about traffic volumes or the amount of drop-off and pick-up activity around schools, and the consequential impacts on road safety, and discouragement of walking, cycling and wheeling to school.

Careful consideration should be given to the impact of such schemes on surrounding streets, for example, if through-traffic will divert to unsuitable streets or if drop-off-and pick-up activity will be displaced rather than reduced.

School Streets provide opportunities to experiment with public realm opportunities from planting and trees, to seating, cycle parking and play. This can help to shape permanent street improvement measures and public realm improvements around schools.

Camera enforcement is usually used to control traffic in school street schemes. Exceptions to vehicle restrictions are sometimes necessary to allow vehicle access for residents, staff and businesses within the restricted area.

Lewisham Council has developed School Street branding, which can be applied to trial and permanent School Streets. This includes bollard covers, flags and banners.

## Useful guidance

[School Streets Guidance, Transport for London](#)

[School Streets Initiative](#)



### School Street with timed restrictions

Here, a timed pedestrian and cycle zone with exceptions for local residents is used to restrict traffic access during school start/end times.



### School public realm in Paris

This example in Paris shows the street closed to traffic permanently, providing an opportunity to introduce planting and play features.



### School Street with planting

School streets present an opportunity to introduce planting and play elements in the street.

## Weight and height restrictions

Weight restrictions are signed measures to restrict HGV traffic from a street or area, and are commonly found on bridges and tunnels where HGVs pose a risk to the integrity of the structure and, therefore, safety.

Weight and height restrictions are appropriate to use where there are known safe limits to a bridge or tunnel.

Weight and height restrictions require appropriate signage.

## Width restrictions

Width restrictions are self-enforcing measures to restrict access for large vehicles.

They are appropriate to use on streets where HGV through-traffic is an issue, for example residential or neighbourhood streets that serve as rat-runs.

Width restrictions can be implemented through providing build-outs to narrow the carriageway, and require appropriate signage to inform drivers. Cycle movement should be considered, either through encouraging cyclists to take the primary position, or use a cycle bypass.

Width restrictions could be accompanied with 'give and take' traffic calming on two way streets, and cycle bypasses, such as shown in the example below.

## 'No entry' and 'no exit' restrictions at side road junctions

'No entry' or 'no exit' restrictions on side road junctions must always be accompanied by exemptions for cyclists and cycle contraflow working.

Where vehicles are not permitted to enter a side road, a 'no entry' (diagram 616) sign must be used. This should be kept to a single sign located in the vicinity of the junction mouth. TSRGD does not require two 'no entry' signs to be present. As

excessive signage can create unnecessary street clutter, cause obstructions and create an eyesore, signage should be kept to an absolute minimum. Where there are concerns this is not sufficient, measures such as narrowing the junction mouth or providing visual clues must be considered first. 'No entry' road markings should never be used in side road junction scenarios.



### Width restriction with cycle bypass

Here a cycle bypass of the width restriction and uncontrolled pedestrian crossing is implemented. NB: 'keep left' signage is not required.



### Avoid

Avoid excessive signage, road marking and use of bollards and keep-left signage. Contraflow cycle facilities on low traffic streets should not require dedicated, separated contraflow facilities.

# 3.7 Parking and loading

## 3.7.1 On-street parking and loading

Providing space for parking and loading is often vital to ensure residents have access to vehicles, and businesses are able to receive and make deliveries.

Parking and loading must never result in substandard footway width. Where parking and loading will significantly compromise pedestrian comfort, or planned or existing cycle infrastructure, alternative locations should be sought, for example on nearby side roads.

### Design principles

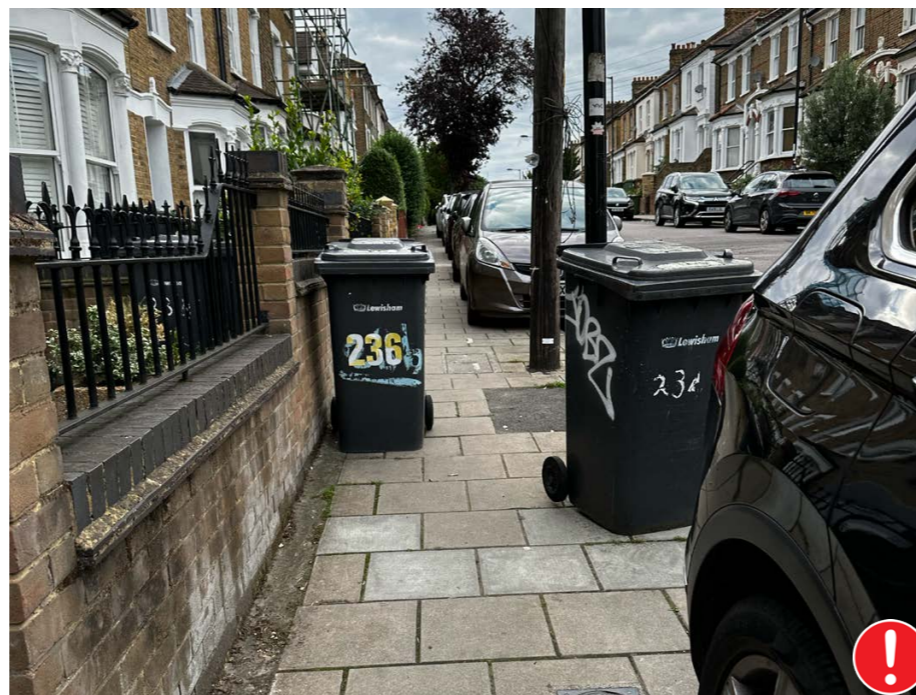
The key design principles for parking and loading are:

- Pedestrian movement must be prioritised over parking and loading space.
- Parking and loading provision must be based upon the observed needs, surveys (where appropriate) and engagement with local businesses.
- Parking and loading should be located in-carriageway, or within the Mixed Use Zone of the footway.
- 2-wheels-up parking/loading, whereby vehicles park partially on the footway and partially within the carriageway should be avoided.
- The Clear Walking Zone must never be reduced to less than 1.5m on residential streets, and 2m in high footfall areas such as high streets as a result of integrating parking and loading. Parking and loading should be relocated (e.g. to nearby side roads) or reduced where it cannot be accommodated on a street without hindering the walking environment.
- Parking and loading should not be permitted where it obstructs a cycle lane or track.
- Loading bay dimensions should be based upon local context and the types of vehicles required to use them.
- Parallel parking is most commonly used on-street, however perpendicular or echelon parking may be appropriate in some street environments where carriageway widths are large, or where being used to create traffic calming chicanes.



#### Avoid

Parking and loading provision should not be located where it hinders pedestrian movement, limiting the clear footway width.



#### Avoid

2-wheels-up parking bays may be used in exceptional circumstances, but should not create sub-standard conditions for people walking.

### Restricted Parking Zones (RPZ)

Road markings can often detract from the quality of the streetscape, particularly in sensitive locations such as conservation areas, and areas with a high place function such as high streets.

Restricted Parking Zones (RPZ) enable the use of parking restriction related road markings to be minimised, and should be considered wherever the visual impact of traditional waiting and loading restrictions (double & single yellow lines, loading plates, etc.) would be visually intrusive and/or are signifiers of vehicle priority in a pedestrian dominated area. Boundary signs, clearly stating the parking zone restrictions should be placed at all entry points to the zone. These should be complemented by occasional repeater signs located at logical points within the zone, to ensure that drivers are aware of the restrictions.

New streets and developments should avoid using double and single yellow lines wherever possible, instead designating the streets as an RPZ.

### Controlled Parking Zones (CPZ)

Controlled Parking Zones (CPZ) can be an effective way of controlling parking demand and ensure that parking for residents is prioritised. Boundary signs, clearly stating the parking zone designation should be placed at all entry points to the zone. The aim should always be to ensure that drivers are aware of the restrictions.



## Loading pads

Parking and loading pads enable the space to be used as additional footway space or licensed space when not in use and are the most preferable design choice for parallel parking and loading in high street environments. Parking and loading pads should form part of the Mixed Use Zone, and not encroach on the Clear Walking Zone. A splay kerb should be used where an upstand of more than 20mm exists.



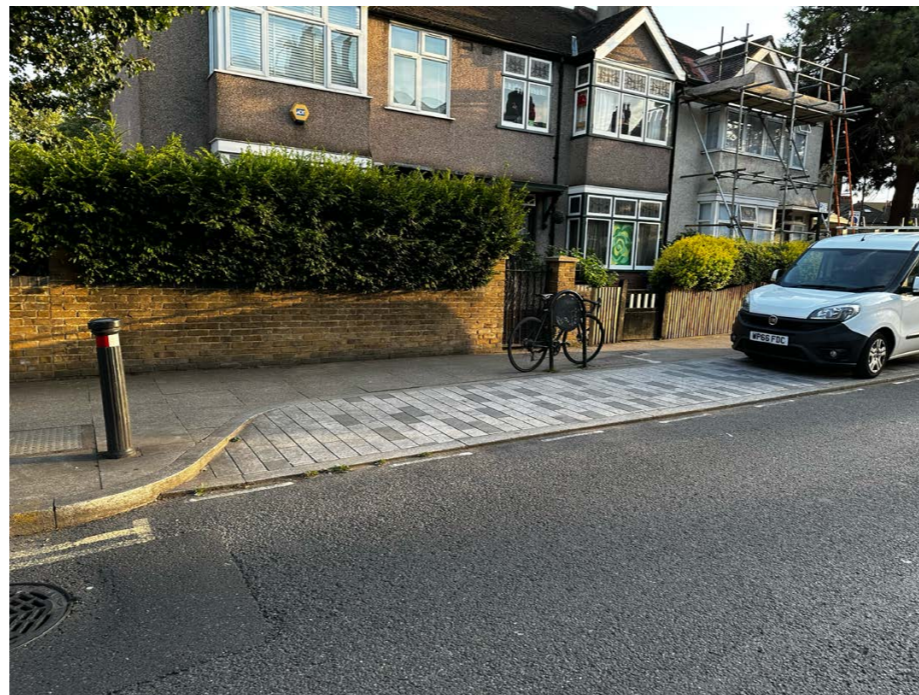
### Jermyn Street, London

This footway level disabled parking pad employs a chamfered splay kerb edge, enabling the parking pad surface to be flush and flat, improving pedestrian accessibility.



### New Bond Street, London

Loading pads lightly used through the day provide a significant and uncluttered extension to the usable footway space during the busiest times for people walking and wheeling.



### Ladywell Road, Lewisham

This radius-edged parking pad with a crossfall approach is suitable where there is sufficient width in the Clear Walking Zone and where the pad sits fully within the Mixed Use Zone.

### 3.7.2 Electric vehicle charging

The design and provision of electric vehicle (EV) charging locations and facilities is a key challenge for Lewisham to help respond to the climate emergency and improve local air quality by enabling and encouraging the shift of essential vehicle journeys from internal combustion engine (ICE) vehicles to low-emission vehicles.

Lewisham's Low Emission Vehicle Charging Strategy (2019-2022) sets out the Council's ambitions and strategy for reaching them.

EV charging provision can be any one of three types: rapid (50kw/30-40 min charge time); standards (7-22kw/3-4 hr charge time); or trickle (3kw/7-8 hr charge time). However, technological advances provide improvements to key factors including the vehicle mileage range and time taken to charge. Future changes and technological advancements should be considered and opportunities utilised where possible.

On-street EV charging points could include slow chargers (3-7kW per hour) on residential streets through retrofitting lamp columns with EV chargers. This must only be introduced where lamp columns are located at the front of the footway, to prevent trip hazards caused by cables crossing the footway.

Standalone EV charging infrastructure (such as rapid chargers) may be most suitable for 'destination' locations with on-street parking such as high streets and high roads where shoppers, visitors and commercial users can use them.

All EV chargers must always be in conjunction with a dedicated EV parking bay.

Where there is no option but to place a charging point within the footway, it must be placed at the front of the footway to prevent cable trip hazards. At least 1.8 m clear footway width must be retained (or more in high footfall areas).

### Design principles

The key design principles are:

- EV charging should be located off-street (such as in car parks) where there is opportunity to do so.
- On-street EV charging should only be provided where residents lack the means to charge off-street i.e. where there is no off-street parking such as driveways, parking courts or resident car parks.
- Lamp column chargers may be provided for residential use where existing lamp columns are at the front of the footway (450mm from the kerb edge), and where this would not impede pedestrian desire lines (e.g. where there is significant informal crossing demand such as by a school or bus stop) or other functions of the street. Lamp column chargers should be provided in clusters of at least 3 to help manage demand.
- Bollard charging infrastructure may be considered where lamp columns are not at the front of the footway, however these must be placed within the carriageway on a build-out or island, unless a mixed use zone is also present at the front of the footway.
- New EV chargers within the street should be placed within the carriageway on footway buildouts or raised islands in order to minimise their impact on the pedestrian environment.



#### Farnan Avenue, Walthamstow

New EV charging equipment should be placed within the carriageway on an island or within a protected space. The placement of the feeder pillar/cabinet should also be considered.

### 3.7.3 Cycle parking

Bike Life, the UK's biggest assessment of cycling in 12 cities and towns, suggests a lack of cycle storage or facilities at home or work is one of the major barriers to cycling. To encourage greater uptake of sustainable travel, there needs to be safe and convenient provision at the start and end of all trips by wheeling and cycling. This means also prioritising the location of cycle and scooter parking over the parking of private cars - for example, converting car parking bays closest to shops and other amenities.

All streets should be considered for cycle parking where there is a known or predicted demand, with different types of provision suitable for different locations, as detailed in the section rule.

#### Design principles

As a general rule cycle and scooter parking should:

- Be provided in prominent locations with good levels of lighting and natural surveillance.
- Be accessible and always include at least one option for a non-standard cycle.
- Be well-located – convenient, accessible, as close as possible to destinations, and preferably sheltered. Ideally the location of stands will be priorities over the parking of private vehicles.
- Be accommodated within the carriageway where possible, with reallocation of footway or other pedestrian space minimised.
- Meet recommended space requirements but use space efficiently.
- Be integrated well with other uses of a street or public or private space.
- Respond to the character of the area, such as using appropriate parking for commercial areas and for residential areas.
- Stands must have a strong visual contrast with the surrounding environment. Use of visibility bands in a contrasting colour is generally a good approach (white on black or black on stainless steel for example). A tapping rail

is also recommended for the end cycle stand, so that an empty stand can be identified by anyone using a cane.

- Cycle stands should be 'off-the-shelf' to minimise maintenance burdens, however bespoke stands can be used with approval.

Planning and design of cycle parking needs to take into account the different types and sizes of cycle that exist – including, for example, handcycles, upright and recumbent tricycles, tandems and solo cycles with adaptations to suit the rider's specific needs. This is important for ensuring that any cycle user with a physical, sensory or cognitive impairment can enjoy access to good quality cycle parking. For further detail, please follow guidance in Section 8 of the London Cycling Design Standards.

An inclusive approach to cycle parking is recommended and includes:

- Step-free access, which may require provision of shallow ramps or lifts large enough to carry all types of cycle.
- Signing to accessible facilities at locations where the type of cycle parking is difficult or impossible for all to use.
- At least one stand in any group should be placed to allow for a larger cycle (cargo, tricycle etc.) to be parked – this is usually a matter of leaving enough clear space at the end of the run.

#### Layout

The Cambridge cycle parking guide (2008) and Cambridge cycle parking guide for new residential developments (2010) are good sources for further guidance on the range of different types of stand and on space requirements for standard cycles. Some key dimensions and recommendations are as follows:

- At least 1.4 square metres should be allowed for per space if using Sheffield stands that accommodate two cycles per stand.
- A standard bike is approximately 1.8 long therefore a space of 2m should be provided as a minimum to accommodate its length.
- There should be at least 600mm clearance between a stand and any another object higher than the kerb face.
- Stands should be placed so that the clearance between the

kerb edge and any cycle parked on any stand is at least 450mm to the carriageway or cycle track.

- Placement of cycle stands on the footway should not lead to a reduction in pedestrian amenity below Pedestrian Comfort Level C – in most cases, this means retaining a minimum of 2 metres clear width for pedestrians.
- Cycle stands should be set at either 45 or 90 degrees to the kerb – in this arrangement they occupy a smaller area for a greater number of stands (note that, where stands are angled, spacing is measured using the perpendicular distance between stands).
- The visual impact of cycle stands can be reduced if they are placed between other items of street furniture, especially tree planting within an organised street furniture zone on-footway.
- De-mountable stands might be considered to aid maintenance at locations where cycles and stands are subject to vandalism.
- Cycle stands should be placed in line and in short runs to help minimize clutter with a minimum of 1.2 m between each stand.

While the above represents good practice, innovative approaches to overcoming space constraints are often required and should be considered on a case-by-case basis.

#### Safety + Security

Users need to feel safe when locking up their cycle, and that their cycle will be safe where it is parked. A wide range of cycle parking products are available, but the key requirement for parking design and location is to allow the frame and both wheels of the cycle to be secured, and provide support for any type of cycle without damaging it. To achieve this, locking points should be approximately 600mm apart and 500mm above ground. The stand shape should provide locking within 100mm of these points to facilitate the use of two 'D' locks, ie a range of 400-800mm in width and 400-600mm above ground. It should be noted that stands thicker than 75mm will stop the use of a 'D' lock.

## Public cycle parking

Public parking provision can encompass both covered and uncovered spaces. The choice of provision should reflect likely users based on local amenities. For example, near train stations where users are likely to be away from their cycles for the full working day, increased security and a longer-term parking style might be appropriate. Outside a smaller super market where a user is likely to do a quick 'top-up' shop, simple uncovered stands might suffice. Ideally all stands would have some sort of cover, in order to keep both the cycle and user dry.

The Sheffield stand type (in black or stainless steel depending on location) is preferred but the post / column fixed hoop type will also be necessary where space is limited. An alternative to the Sheffield stand is the M-profile stand, which has been designed specifically to facilitate double locking. Other tubular cycle parking designs are available on the market, and may be suitable in many locations. While it is important to take a flexible approach to the design of cycle parking stands, they should always fulfil the main function of allowing for two-point frame and wheel locking.



### Cycle parking within the Mixed Use Zone

Here, cycle parking is located within the Mixed Use Zone and integrated within the street planting.



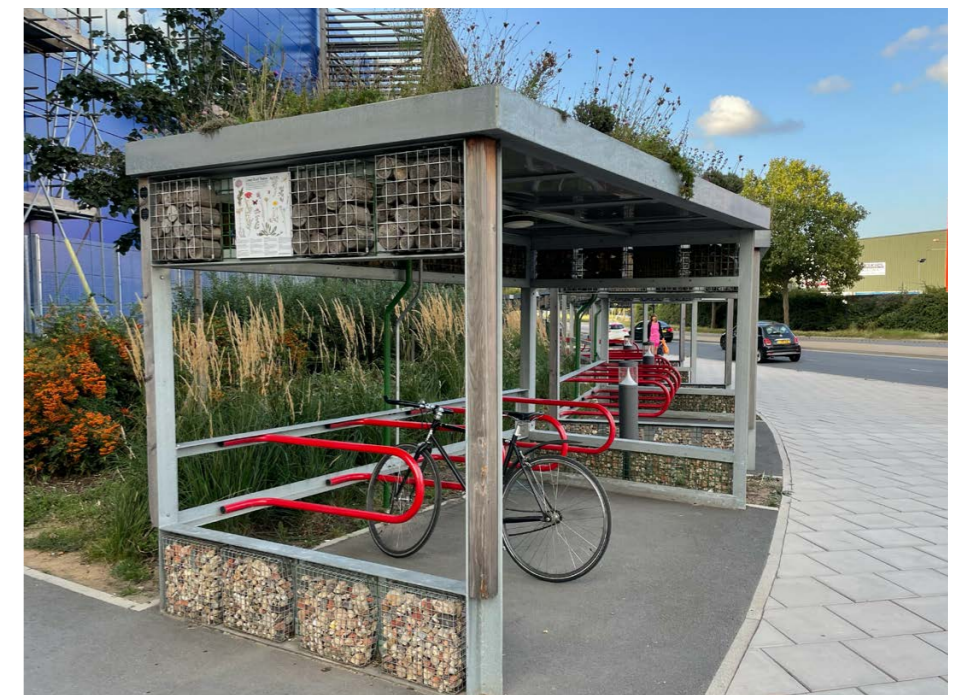
### Cargo and adapted cycle parking

Providing places to store non-standard cycles such as cargo-bikes and adapted cycles is important to ensuring our town centres and destinations are functional and accessible.



### Cycle parking

Sheffield cycle stand in black with tap rail allows two-point frame and wheel locking.



### Public cycle parking at IKEA, Greenwich

Covered cycle parking protects cycles from the weather, and provides opportunities for integrating ecological features such as green roofs and bug hotels.

## Residential cycle hangars

Flats, maisonettes and terraced houses generally fail to provide step-free space for cycle storage, if at all. This creates a significant deterrent for cycle ownership and use. Cycle hangars provide secure, communal on-street cycle storage for residents.

Cycle hangars should be placed within the carriageway parallel to the kerb as a default, usually taking the place of a parking bay. The hanger should open from the footway side and must always be placed in open and visible locations within the street. They should not be placed in areas lacking adequate lighting or natural surveillance.

The decision to introduce a cycle hanger should be determined by the local demand and housing types within the immediate area. Cycle hangars should be maintained as per the manufacturer's specification, or by the manufacturer themselves where a contract is in place.

## Residential/employment cycle lockers and stores

New developments should seek to integrate secure cycle parking within new developments specifically for residents and employees.

Cycle parking must always be located in an accessible, convenient location with plenty of natural surveillance and visibility.

Cycle parking may be integrated within the building, or provided as a separate cycle storage facility. This must provide covered and secure cycle parking accessible only by specified users i.e. residents, or employees. Opportunities to provide ecological benefits should also be explored, for example providing green roofs and insect hotels etc.



### Secure residential cycle parking

Secure residential cycle lock-up with green roof and timber detailing, providing biodiversity benefits.



### Cycle hangar

The FalcoPod Bike Hangar is the borough's standard secure on-street residential cycle parking. 6 standard cycles are able to be stored. These should usually be placed within the carriageway.

### 3.7.4 Shared mobility

#### Car clubs

Our growing populations in cities will increasingly rely on access to shared mobility options such as car clubs if car dependency is to be reduced and avoided in the future. The opportunity for car club bays should be considered as part of any scheme. To encourage operators to deploy ultra-low emission vehicles (ULEVs), bays should, as a minimum, provide passive provision for electric vehicle charging. Bays for car clubs should replace existing car parking spaces and not encroach on the pedestrian realm.

#### Hire Cycle and E-Cycles

In a street environment, cycle stands should be in space taken from the carriageway wherever possible, inset or with island protection as necessary. This requires a Traffic Order and needs careful planning and consultation in relation to potential loss of car parking or carriageway space, but it is the best way to avoid taking up footway space and creating conditions that cause obstacles for visually impaired people.

Footway build-outs can serve a similar function without reducing footway space, although impacts on users of the carriageway need to be assessed. Cycle parking and marked e-scooter parking areas on, or inset into, segregating islands for cycle infrastructure is also recommended.

Where there are no other alternatives, footway cycle parking and marked e-scooter parking areas should be located in an identified street furniture zone adjacent to the carriageway, in order to leave clear space for pedestrians – 2 metres is recommended wherever possible.

#### Design principles

The key design principles for shared mobility interventions are:

- Locating interventions in high demand areas where they will be most useful based on current and untapped demand.
- Deliver shared mobility options without infringing on the footway, using carriageway space where possible.

- Ensure accessible design, creating shared mobility parking spots which are level with the footway or providing dropped kerbs into the carriageway.
- Consider emerging and future advances in technology and shared mobility services.



**Shared e-bike docking station**

Shared e-bike docking stations should be provided within the carriageway, or in the mixed use zone where there is sufficient space. Cycle stands help to keep cycles upright and organised.



**Car club bay, St John's**

Marked car club bays should be introduced to provide dedicated space for car club vehicles.



**E-scooter dock**

Marked space for e-scooter parking.

### 3.7.5 Nature-based solutions

Parking, loading and shared mobility provide excellent opportunities to integrate nature into the street.

This could be through:

- Introducing a planted or permeable strip in the footway, alongside the parking.
- 'Bookending' parking bays and shared mobility docks with in-ground planting or tree pits - preferably SuDS.
- Surfacing or re-surfacing parking areas with permeable paving.

#### Design principles

The key design principles for shared mobility interventions are:

- Planting beds must never be situated within the clear walking zone of the footway.
- Personal security issues should be considered when providing dense planting above waist-height.
- Planting should avoid blocking street lighting or creating hiding places.
- Access to parked vehicles should be considered, particularly for disabled parking bays. Appropriate surfacing should be provided where required.
- All on-street parking bays in new developments must employ permeable surfacing such as grasscrete or permeable block paving.
- Parking should be interspersed with tree planting where there is no space for in-ground planting on the footway, whilst retaining suitable clear footway width.
- Planting beds should be designed as SuDS where appropriate. Beds within the carriageway should be at carriageway level. Kerb upstands against planting beds should be avoided to allow water to drain into them. Boulders may be used to protect planting beds from vehicle overrun.



**Keileweg, Rotterdam**

Wide paving joints and grasscrete products provide ecology and surface water management benefits, as well as creating a greener, more attractive streetscape.



**Crofton Park in Lewisham**

Tree pits or planting beds frame parking and loading pads to provide aesthetic, biodiversity and ecology benefits whilst providing an organised and clear footway.



**Binfield Road, LB Lambeth**

A self-binding gravel strip alongside the parking area provides a permeable surface and space for planting, whilst providing access to parked vehicles.



**Richborne Terrace, LB Lambeth**

Hedgerows alongside parking bays help to create a greener streetscape and provide opportunities for SuDS and ecology benefits. Here, a paved access strip is provided.

# 3.8 Trees and planting

## 3.8.1 Street trees and tree pits

Trees have multiple benefits in all streets particularly in the fight against climate change but also in monetary and amenity value uplifts. The [Valuing London's Urban Forest \(2015\)](#) report outlines the many benefits of trees, including: providing shade and shelter; reducing energy use within buildings; improving air quality; managing surface water; improving mental health, wellbeing and recovery; reducing crime and improving social cohesion; storing carbon; improving the human experience of streets; and supporting wildlife and biodiversity. When these effects are monetised, London's trees were found to provide £132.7m in benefits per year.

Trees should be considered first when determining the general arrangement as they are sensitive to underground utilities in a way that other components (footways, cycle lanes, carriageways etc.) are not. Obtaining utilities and other constraints information will help inform the planting scheme, and enable tree planting within schemes to be feasible from the outset, and not removed from proposals due to unexpected utility constraints late in the design or construction process.

It will generally be impossible to plant 'too many trees' due to the numerous obstacles that will prevent this from happening. To this end, all projects should seek to include 'as many trees as possible' where feasible and appropriate.

All trees which are a standard size or above will need to be pit planted. A tree pit is the hole into which the tree is planted and is distinct from the rooting zone which abuts the pit. It must provide the right conditions to support the tree through its initial establishment and keep it upright ongoing, e.g. through underground guying, or staking.

### Design principles

The key design principles are:

- Trees should be considered very early on as they are sensitive to underground utilities.
- Trees should be planted into a 'pit' at least 150mm wider than the root system of the tree. Typically, this will never

be smaller than 0.6m<sup>3</sup> although 0.9m<sup>3</sup> is the suggested minimum. The tree, however, must have access to a much larger rootzone if they are to survive and flourish.

- Trees should be located where they will not have a negative impact on comfort levels for people walking.
- Direction of sunlight and shade considerations must form part of location choice.
- Trees must not impact sightlines required for safe movement, such as at pedestrian crossing points.
- Generally each tree pit (in hard areas) should have its own watering pipe unless it has been designed to collect sufficient surface water run-off.
- Generally each tree pit (in hard areas) should be installed with an aeration pipe.
- Tree pits should be designed to be free draining.
- Modified tree pits and rooting zones can be used to support water retention. Care must be taken that the pits and rooting zones do not become waterlogged for prolonged periods of time, as anaerobic conditions will kill the tree.



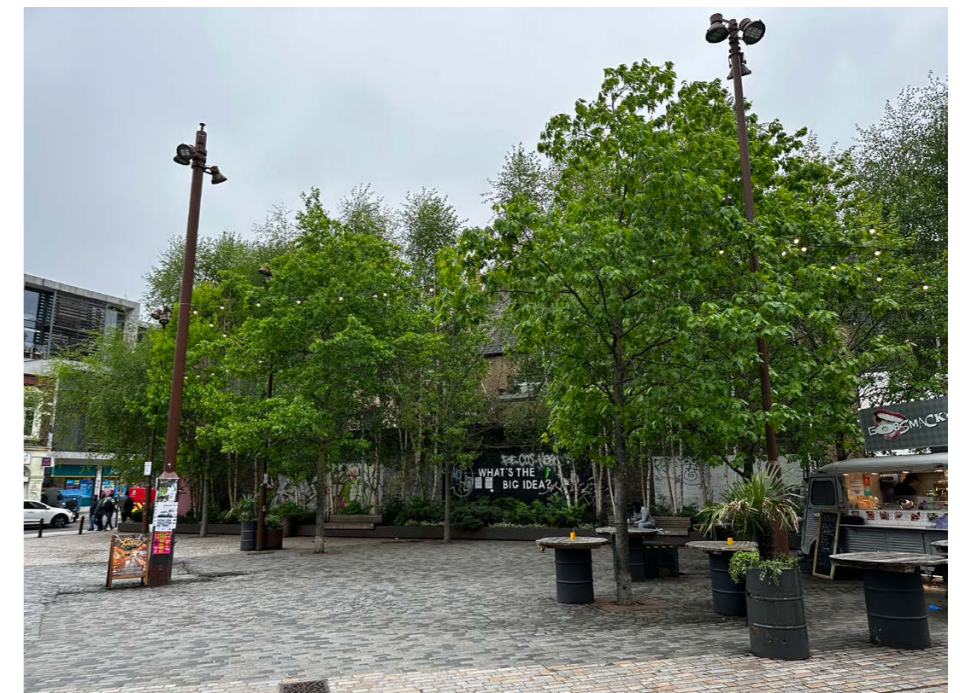
**Ivy Road/Ladywell Road junction**

Mature, large canopied street trees can help to fill large open spaces within streets.



**Wickham Road, Crofton Park**

An example of the striking impact of trees, framing views along the street and providing a sense of scale and enclosure.



**Deptford Market Yard**

Trees soften and provide a sense of enclosure to an otherwise hard urban public space.



## Species selection

Large canopied deciduous forest climax trees that are native or naturalised to the southeast of England should be favoured over small ornamental species.

**Street Trees for Living** provides excellent guidance on species selection and planting. Species selection should be based upon many factors including the space available, local soil and ecological conditions and morphology of the street. Larger canopied trees are generally preferred on wider streets or those with taller buildings to better reflect and relate to the scale of these spaces.

Please contact the Council's Tree Officer for further details of Lewisham Council's detailed tree species list, which is subject to frequent updates. All tree species selected for planting will be subject to the approval of the Council's Tree Officer.

## Tree spacing

To help trees to mitigate the worst effects of climate change they must be planted in large numbers following the principles of 'right tree right place'. The following target spacings must be achieved, unless underground conditions and spatial requirements can be proven to prevent this, in mixed species informal avenues.

- Narrow streets <16m wide: small species trees at 6-8m centres;
- Medium streets 16 – 18m width: medium sized trees at 8-10m centres;
- Wide streets and highstreets 18m+ width: large species trees at 10-12m centres.

All street trees must be supplied as clear stemmed semi-mature, at a minimum of 18-20cm girth.

## Surface finishes around tree

The surface of the exposed pit must be big enough to accommodate the mature girth of the tree, generally no less than 600mm square and will exclude all tree grilles. The exposed pit should be surfaced in any of the London Tree Officer Association approved finishes in permeable bound granular materials such

as firmed earth, self-binding gravel, recycle rubber or resin bound gravel. All must be finished level with the surrounding paving to avoid trip hazards.

## Root barriers

Where potentially vulnerable (generally old) pipes and ducts are close to the proposed tree, a root barrier should be considered. These should never fully enclose the tree pit as they just need to be placed against the utility. In new developments utilities should be placed in protected ducts so barriers should not be required.

## Guying and staking

All trees must be secured to stop them falling over with either an underground guying system or 2no tall timber stakes secured with ties at the top and bottom. 4 no stakes with cross braces can be used in lieu of tree guards.

## Watering

Perforated rootball watering pips must be installed with every tree with a minimum length of 5 m and fed by a minimum 80-litre irrigation bag.

## Guards

Tree guards are not often necessary although they may be needed to prevent accidental damage (by vehicles for example) or wilful damage and in these instances, they must be sufficiently robustly detailed and coordinated with the street furniture palette.



**Example tree pit**

Large in-ground tree pit with flush metal edging.

## New Developments

All new developments will require new trees to be planted both in adopted and un-adopted streets, public spaces and private gardens.

The [London Plan](#) seeks to increase tree canopy cover in London by 10% by 2050. Furthermore, the [NPPF](#) sets out key policies for implementing trees within streets that are part of new developments:

*Trees make an important contribution to the character and quality of urban environments, and can also help mitigate and adapt to climate change. Planning policies and decisions should ensure that new streets are tree-lined, that opportunities are taken to incorporate trees elsewhere in developments (such as parks and community orchards), that appropriate measures are in place to secure the long-term maintenance of newly-planted trees, and that existing trees are retained wherever possible.*

NPPF, para 136

The type and number of trees should be discussed with the development control officer and the tree officer jointly. Trees provided within the existing public highway, i.e. subject to a Section 278 agreement, will be planted by the council at the developer's cost. Trees provided within areas to be adopted in the future, i.e. subject to a Section 38 agreement, will be implemented by the developer's contractor, and supervised by the Council. The developer must maintain all trees for five years unless an agreement is reached with the tree officer.

Trees must be planted in new streets at a size and density appropriate to the scale and type of development. It is expected that these will typically be planted along both sides of the street in informal mixed species avenues at between 6 and 12m centres. Where avenues are not appropriate a minimum density of 1 tree per 16m<sup>2</sup> of street space must be achieved.

## Existing trees

There is a general presumption that all trees will be retained unless they have been identified by the tree officer for removal or have a condition rating of C or D. Trees being retained must be protected in accordance with BS 5837:2012 'Trees in relation to design, demolition and construction'.

Trees that need to be removed to facilitate development shall be valued using the council's methodology and replaced locally all at the developers cost.

Unsuitable trees that need to be removed should be replaced with an approved species appropriate to the site.

## Placement of trees on the footway

On the footway, small trees (with an assumed mature trunk diameter of approximately 300 mm) must be set at back at least 600 mm from the kerb to ensure the tree never encroaches within 450 mm of the kerb whilst preserving at least 1200 mm of useable footway. Trees should not therefore be placed on footways less than 1950 mm wide.

## New trees in existing streets

All street refurbishment and upgrade projects must seek to retain existing trees. New trees should be at least considered for inclusion in all major and minor projects including footway widening, resurfacing, cycling infrastructure, modal filters, traffic speed management, and drainage works etc.

### 3.8.2 Street planting beds

Planting beds are a crucial tool in bringing greater biodiversity, water retention, urban cooling effects, improved air quality and visual amenity to our streets. They can be delivered at various scales depending on their location, at footway level or as a raised entity. Options to allow people to interact with the greenery should always be considered, such as seating within the planting area or paths running through. This can create a feeling of relaxation or playfulness.

#### Design principles

The key design principles are:

- Planting beds must not compromise desire lines for people walking, wheeling or cycling.
- Generally low shrubs, grasses and ground covers are the most suitable plants in the public realm as these can maintain all necessary sight-lines.
- Hedges can also be used to better delineate public space and deflect or trap airborne pollution.
- Species should be chosen for their biodiversity value as well as their aesthetic qualities, and will need to be hardy and relatively easy to maintain unless third-party maintenance agreements are in place. Invasive species must be avoided.
- Edge protection should be considered to make beds easily detectable for the visually impaired.
- Generally shrubs can be planted directly on top of utilities if sufficient growing medium depth can be achieved as they do not create loading or root damage issues and render the utility more easily accessible than they are in hard paved areas.
- Where beds are raised or borders provided, these should provide opportunities for sitting, with backs and armrests to improve accessibility.

#### In-ground planting beds

Planting beds should be arranged to create a point of interest in the street without compromising the comfort of those walking and cycling. They can in fact be used to provide protection for people walking and cycling from traffic, by creating a buffer adjacent to traffic lanes.

Most planting beds that are in the ground and flush with the surrounding paving can be designed to receive surface water runoff and are consequently easier to maintain as they require less watering. As such they can also contribute to local water management. The maximum area that can be drained this way is determined by local conditions and the size of the shrub bed, and should be modelled in the design phase.

Generally planting beds should be at least 0.5m wide and around 600mm deep. This includes: 100mm minimum crushed stone drainage layer (if required); a 400mm growing medium (modified as-dug or imported soil); 80mm mulch; and a 20mm freeboard.



**Billancourt Rives de Seine, Paris**

Large in-ground planting beds form a key feature of the redesign of the Rue Nationale junction, and help to create a green and attractive public space with benefits for nature and ecology.

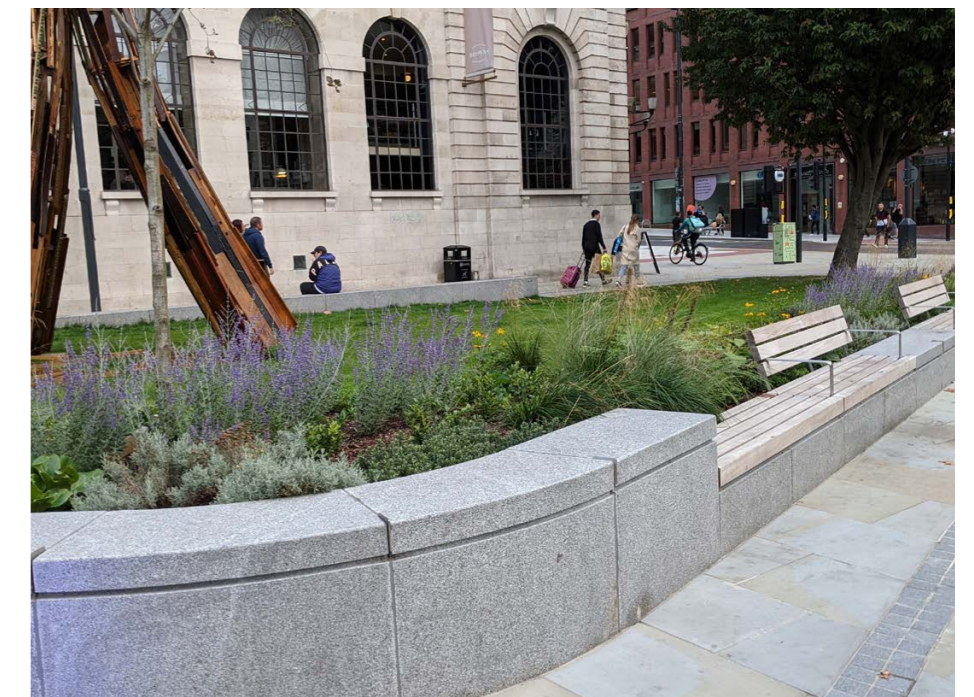
#### Raised beds

Raised beds allow greenery to be established in areas which have shallow underground constraints such as utilities and structures. The bed retaining edges should generally be suitably wide and flat to sit on. This requires walls which are about 450mm high and 450mm deep, but they can be as low and narrow as 300mm and up to 600mm high.

Ideally the base will be open to the subsoil to allow for natural draining into the ground water.

Where beds are delivered atop a structure, such as a rail tunnel or carpark, they may have to be 'sealed' to prevent water ingress and the walls detailed with weep holes. If the soil profile can be domed slightly to increase depth, trees might also be included.

Suitably designed and located raised beds can form part of HVM measures, and the specifics of this should be explored as part of the design process.



**Raised planting bed**

Raised planting bed in Leeds providing amenity green space and seating, as well as contributing to street greening

### 3.8.3 Verges

Soft verges can help to provide ecology and biodiversity benefits, and create more attractive streets and public spaces. Verges can take a multitude of forms, from typical grass verges, wildflower meadow verges, hoggin, hedges and low growing shrubs and herbaceous plants. Verges are also particularly useful at accommodating trees, lamp columns and signposts etc.

#### Design principles

The key design principles are:

- Verges should be designed with a minimum width of 600mm and a minimum soil depth of 250mm, except for hedges which require a soil depth of 400mm.
- Verges should be delivered with minimum maintenance requirements in mind.
- Verges can be used to create buffer space between different transport modes, such as between people walking on a footway and the adjacent carriageway.
- Footfall must be considered and suitable plants used in response. Verges which cross desire lines are likely to be quickly damaged.
- Verges should allow people to cross them at regular intervals. Sometimes it might be appropriate for people to cross over the verge on foot. Otherwise a break in the greenery might be needed by laying a path.

#### Grass verges

Grass verges are increasingly infrequent in urban environments due to their maintenance requirements, (usually 12 cuts per year), wear and tear and general pressure on space. Whilst wild flower verges are preferred for aesthetic, ecological and maintenance reasons, narrow grass verges are remarkably effective at visually softening urban streets and should be considered where wild flower verges might not be achievable. They are particularly useful at accommodating trees, lamp columns and signposts etc.

#### Wild flower verges

In suitable locations wildflowers and meadow grasses should be considered as they require much less maintenance than mown grass verges, 1 cut per year for example, and have a greater visual interest and habitat value.

#### Hoggin verges

Hoggin verges are useful for accommodating trees and items of street furniture. Their permeability allows some water and oxygen into the rooting zone and there are cost savings to be made by planting Hoggin rather than paving the full footway width.

#### Hedges in the street

Hedges in street have a proven positive impact on controlling air circulation and locally improving air quality. Care must be taken so as not to obstruct necessary sight lines at junctions and crossing.



**Grass verge, Brixton**

A simple grass verge can help to structure the footway, support drainage and provide a space for signage, street furniture and tree planting. Access to parking bays can be retained.



**Planted verge around a school in Walthamstow**

A planted verge provides separation from the carriageway outside schools, as well as air quality, biodiversity and surface water management benefits.



**Herbaceous verge, Brighton**

A herbaceous verge can provide a highly attractive feature, and more substantial separation between the carriageway and footway.

### 3.8.4 Temporary planters

Planters provide a flexible way to introduce greening to the urban environment. They are particularly useful where space below ground is compromised, or to test out an intervention (e.g. a modal filter) prior to a permanent scheme. They can also be useful to help demarcate space, or as part of Hostile Vehicle Mitigation (HVM) measures.

Where appropriate, planters should have a sit-able edge detail, or built in seating, and sized or grouped to create a presence and visual identity of the street. The planter design should complement the materiality of the street, or help to create a visual identity e.g. through bringing colour into the public realm.

Natural surveillance must be considered to minimise antisocial behaviour. Planters require regular maintenance, especially watering and litter removal. They should therefore be designed and installed with minimum maintenance requirements in mind.

For additional benefits, planters can be adapted to rain garden planters. These can be designed to manage rainwater runoff from domestic, commercial and industrial roofs. With both bio-retention and additional internal storage, these planters are an innovative and less costly solution to retrofitting SuDS.

#### Design principles

The key design principles are:

- To locate planters where they will not negatively impact pedestrian comfort levels.
- Planters should have a minimum volume of 1m<sup>3</sup>, minimum bed width of 600mm and minimum soil depth of 400mm.
- Bring a multitude of benefits, including greening, water retention, seating, and visual improvements.
- To install planters of a reasonable size, and group them together if required, to establish a strong presence.
- Where appropriate, use planters temporarily to test the location for planting beds, which are easier to maintain longer term.
- Avoid tree planting in planters - though some small specimens may be suitable.



**Oil drum planters, The Cut**

Upcycling items such as oil drums can provide an interesting and characterful solution to integrating planting with the streetscene.



**Timber planters, Baylis Road**

Timber planters can be used to create a temporary or trial modal filter, or public space enhancement. Herbaceous and shrub planting is generally most suited to planters, rather than trees.



**Raised planters, Pritchard's Road, Hackney**

Branded raised planters can be used to create a cohesive look and feel to streets. Here, planters are used to create a bus gate, with signage mounted within the planter, reducing street clutter.



**Raised planter, central London**

Here, a mixed use zone is better defined by the integration of raised planting beds. Trees in planters are generally discouraged though some small specimens may be suitable.

### 3.8.5 Pocket parks

'Pocket parks' covers a number of environments but broadly includes small, incidental green spaces. This includes modal filters and road closures; community doorstep parks; SLOAP (space left over after planning – typically wide verges too small to be developed); parklets; planters and verges. They may form part of other street types such as Pedestrian Priority spaces and Home Zones / Play Streets and contain streetscape features such as seats; play features; raingardens, trees and other planting; street lighting and cycle parking amongst others.

Not only can they provide amenity green space and seating, but they can also be created as mitigation measures for poor air quality, water runoff or undesirable local micro-climate conditions.

In new residential neighbourhoods this type of amenity should be designed into the fabric of the street to supplement the more formal play and open space network of LAPS, LEAPS and NEAPS. In new industrial areas they can provide recreational break out spaces for workers. They should also be considered for existing streets wherever they can bring benefits to local people and/ or wildlife without having any detrimental impacts to immediate neighbours. They can be just as beneficial in town centre retail, commercial and industrial areas as they are in residential districts.

#### Design principles

The key design principles are:

- Pocket parks should be open and accessible, with good intervisibility to ensure that they are well used and don't present opportunities for antisocial behaviour.
- They should create new habitat and increase biodiversity as well as becoming assets of amenity and social value.
- Design and maintenance should be carefully considered so that they do not over burden the Council.
- Pocket parks should always contribute positively to local water management. Please refer to section 3.10 for more on Drainage and SuDS.
- New pocket parks should be designed with appreciation

for the needs of local people and how well this is currently provided for. They may be able to provide a missing link in local green space or play amenity.

- Pocket parks can be delivered in many ways, from grass or wildflower verges, to hedges and planters, interspersed with street furniture where suitable and addressing a multitude of needs.



**Salop Road/Essex Road pocket park, Walthamstow**

This existing modal filter was upgraded to provide a new pocket park and SuDS feature with planting and informal play, working with local residents during the design and construction process.



**Pocket park within Lewisham borough.**

Seating and planters provide a space for communities to shape, use and care for, supporting people to connect with nature and spend time outdoors.



**Richmond Road pocket park, Leyton**

This residential junction was excessively wide, providing an opportunity to substantially narrow the carriageway and introduce raised planting beds which are maintained by local residents.

# 3.9 Drainage and SuDS

## 3.9.1 SUDs

'Sustainable Drainage or SuDS is a way of managing rainfall that minimises the negative impacts on the quantity and quality of runoff whilst maximising the benefits of amenity and biodiversity for people and the environment' (CIRIA, 2015)

When flooding occurs in urban areas, it is often linked to surface water flows exceeding the capacity of the drainage system. A history of industrialisation and extensive use of pipes in the UK has created the problematic present situation of flooding and pollution issues for our waterways. Pipe drainage manages water away from where it rains, as quickly as possible, contributing to increased likelihood of flooding and water contamination, whilst also minimising the amenity benefit of that water for local people. The capacity of our drainage system is being put under more pressure, and the consequence of flood events is becoming more significant due to several factors, including urbanisation and climate change. The impact of climate change and the consequence of flooding is more significant around our towns and cities for a number of reasons:

- The air can be warmer, due to the heat that we generate from traveling around, manufacturing goods or heating our homes. This is referred to as the Urban Heat Island effect and results in more frequent higher intensity storms.
- Paving or building over areas which previously absorbed water means that rainfall runs off the surfaces much more quickly and enters the drainage system over a much shorter period of time. These human-made surfaces are also often dark in colour and absorb heat, again adding to the Urban Heat Island effect.
- The presence of people living or working in an area increases the potential for harm or damage to property as a result of flooding.

SuDS are generally made up of a sequence of components that manage the quantity and quality of water which runs off hard and human-made surfaces. Ideally the water should be managed from its source (the point where the rain lands on the surface) to the point at which it is discharged to the receiving watercourse or sewer. Managing the water from source to receptor will normally require a number of SuDS components to work in sequence to

collect, store, convey and treat the water.

### Design principles

The key design considerations are:

- SuDS must be included in any planned changes to the existing public realm or new developments in order to better manage surface water in the borough as well as provide much needed amenity and biodiversity.
- Whilst SuDS should primarily intercept rainwater where it falls, they are also essential in creating micro-habitats throughout the area.
- They can be used to connect habitats, helping fauna and flora to move through the borough, for example along linear infrastructure such as road, rail, canal and river corridors.
- Multiple SuDS components should be favoured over single swale or attenuation ponds, as this is often more effective and attractive, with greater opportunity for pollution removal.
- Raingardens should be considered in all areas where shrubs, grasses, or lawns are proposed in the 'valleys' of local surface water catchment areas and where underground conditions allow. All of these should also be considered for supplementary tree planting.
- Opportunities to retrofit SuDS components into existing public spaces and streets should be investigated regularly, with 'baggy' spaces - spaces which are not delivering the value they need to be - being retrofitted.

### Useful guidance

Lewisham has existing detailed guidance on the design of SuDS in the public realm, which should be referred to for further details:

- Sustainable Drainage Design and Evaluation Guide
- The SuDS Manual, CIRIA;
- SuDS in London - A Guide, 2016;
- Designing Rain Gardens: A Practical Guide (2018), Urban Design London.





**SuDS scheme, Vauxhall**

SuDS rain garden bed with flush kerbs and boulders to protect the edges.



**SuDS scheme, LB Enfield**

Footway planting bed flush with the footway surface provides greenery and ecology benefits using excess space.



**SuDS scheme, LB Enfield**

Here, surface water from the carriageway is drained into a swale at the back of the footway.



**SuDS rain garden with bridge, Cardiff**

SuDS rain garden with bridge in Cardiff alongside on-street parallel parking bays.



**SuDS and cycling scheme, LB Enfield**

SuDS provided in the form of on-street rain gardens, improving the streetscape whilst delivering environmental, water management and biodiversity benefits.



**SuDS scheme, LB Enfield**

SuDS planting beds used to create a narrowing in the street as a traffic calming feature. A kerb flush with the carriageway is preferred, using boulders to protect from vehicles.



# 3.10 Play and parklets

## 3.10.1 Play Streets Programme

Child-friendly urban planning is essential to create places where people want to spend their lives, from childhood, through adulthood and into old age. Incorporating play, entertainment, enjoyment, and humour into the public realm is hugely important to making public spaces inclusive, as well as creating a relaxing and inviting environment for people of all ages and all backgrounds.

Play streets are a way to temporarily convert carriageway space to play space by closing the road to general traffic. They are neighbour-led short road closures, creating a safe space for children to play freely together on their doorstep and for neighbours to meet together.

Whilst temporary in principle, they can be used to test out more permanent changes. They should also be used to inspire the design of new streets, avoiding the often-typical assumption that streets are for the movement and storage of private vehicles and looking towards more streets which facilitate both formal and informal play and social interaction.

### Design and delivery principles

Approval must be sought from the Council via an online form. Key design and delivery principles are as follows:

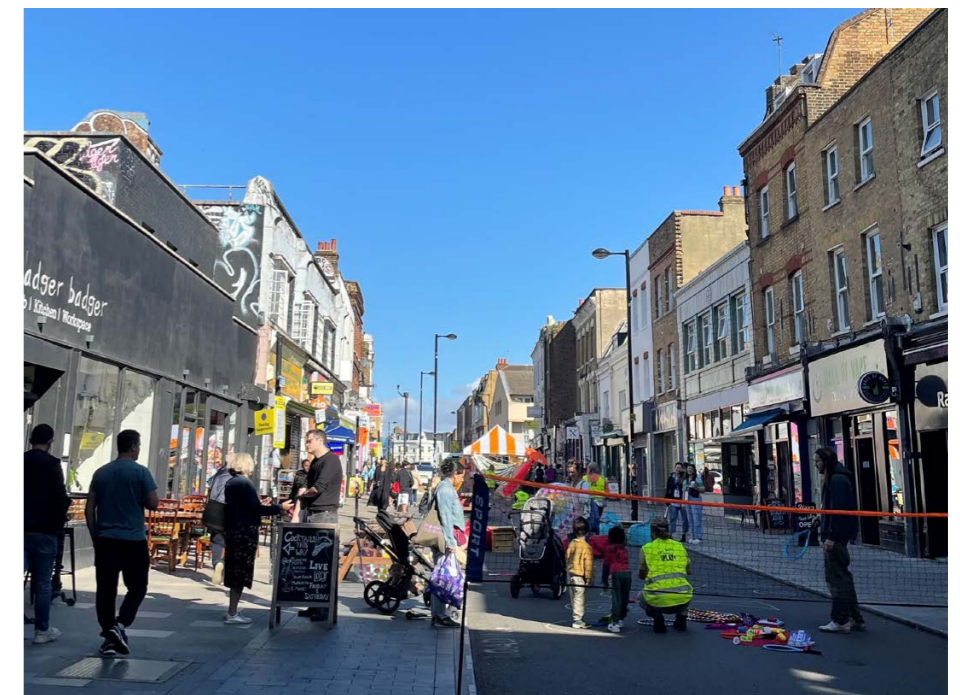
- Delivery of play streets should ideally be on roads that will not cause delays to bus journeys or to emergency services. Further consideration will be required for delivery of play streets on bus routes.
- Any street furniture or play equipment must be of a temporary nature, able to be easily removed and stored off-carriageway at the end of the closure.
- Neighbours should be consulted beforehand.
- Each closure point should be staffed/managed at all times during the closure by the marshals. Any resident wishing to gain vehicular access through the closure must be accompanied by a marshal, walking ahead of the vehicle warning children and parents. The maximum speed in a closure area is 5mph.
- The closure area should be left clean and tidy.



**Play Street in Lewisham**  
Residential street closed to traffic.



**Car Free Day in Lewisham**  
Car Free Day enables streets and public spaces to be reimagined and used for play, socialising and events.



**Play street in Lewisham**  
Street closed to traffic to enable play.

### 3.10.2 Permanent play in streets

Play and physical activity is a vital part of childhood, and research shows that children who play outdoors have better attention spans, less anxious and feel happier than those who play indoors.

Our streets present a key opportunity to make outdoor play an everyday activity that can be weaved into the trip to school, walk to the shops or time spent at home and in the local neighbourhood.

Road safety is a key consideration for any play scheme within the street, and the conditions

Many streets have the capacity to facilitate play. Play could be integrated by:

- Expanding a modal filter to create a traffic-free area in an existing or proposed street;
- Introducing play features to existing or proposed streets with very low traffic flows such as mews streets;
- Utilising a wide expanse of footway to provide an informal play space;
- Integrating play with planting and SuDS schemes, such as by providing stepping stones or balancing beams through a planting bed;
- Providing playful items of street furniture such as an imaginative and climbable bench or planter;
- Providing a landmark feature such as a tower/climbing frame or playful water fountain;
- Experimenting with level changes to provide exciting spaces to run, climb and skate around;
- Creating informal play areas in traffic-free or very low traffic public spaces.

#### Design and delivery principles

The key design principles for introducing play into our streets include:

- Play should be inclusive wherever possible, enabling children with differing physical abilities to participate, and considering those with specific mental health needs or

conditions.

- Play should consider different age groups, and consider how older children and teenagers could be encouraged to play outdoors, e.g. through providing basketball hoops, table tennis equipment or informal spaces for skating and skateboarding.



#### Permanent play street with modal filter/pocket park

As part of a new residential development, a modal filter was introduced on Murrain Road, enabling the creation of an informal play space.



#### Play for older children

Play should also consider older children, such as this scheme at Van Gogh Walk, where a basketball hoop is provided in the street, as well as play features aimed at younger children.



#### Play on the way

Example of 'on the way' play using natural materials such as logs and boulders.

### 3.10.3 Parklets

Parklets offer an opportunity to convert existing parking spaces in the street into smaller pieces of public realm. Ideally they provide a use-able green space rather than simply a rain garden, creating spaces for resting or restaurant furniture.

These features tend to be the width of a parking space, 2m, and usually comprise of at least seats and planting. They are not `built in` to the fabric of the street and can be easily moved if required, making them a useful way to trial public realm schemes. Their location adjacent to the kerbline creates a wider public realm whilst reducing the dominance of a carriageway or car park.

One approach to creating incidental public spaces is the `parklet`, whereby an existing car parking space is converted into a new small public space, usually comprising seating and planting. They are not `built in` to the fabric of the street and can be easily moved if required, making them a useful way to trial public realm schemes. Their location adjacent to the kerbline creates a wider public realm whilst reducing the dominance of a carriageway or car park.

#### Design principles

The key design principles are:

- Parklets should be open and accessible, with good intervisibility to ensure that they are well used and don't present opportunities for antisocial behaviour.
- They should create new habitat and increase biodiversity as well as becoming assets of amenity and social value.
- Maintenance should be carefully considered so that their design and ongoing maintenance does not over burden the Council.



#### Informal parklet

Community-led parklet on a residential street provides space for planting and seating.



#### Calvert Avenue

This parklet provides space for seating, supporting local businesses and enabling public life within a constrained street where there is no suitable licencing space on the footway.

# 4. Hard and soft landscape guide

The following section sets out the key places in Lewisham and the materials, surfaces, finishes and street furniture that should be applied in order to retain their character and identity.

# 4.1 Materials strategy

## 4.1.1 Introduction

One of the principal aims of this document is to improve the visual quality of Lewisham's public realm. This will take place over the long-term by repairing, preserving and enhancing areas of (historic and contemporary) high-quality public realm and by upgrading and / or replacing areas of low quality. It is expected that any new development and new public realm projects, which correctly adhere to this guide will create a high-quality public realm. To ensure that the materials and furniture is fit for purpose and do not proliferate four basic palettes can be used to select from: standard, enhanced and prestige and conservation which relate to a roughly ascending scale of budget, with the enhanced and conservation palettes being the most expensive and the standard the least.

It is not necessary to choose all materials from one palette, but the project designer must use complementary materials and colours in keeping with the overall prevailing character of the place. In conservation areas this must involve discussion and approval from the conservation officer and in all other areas with the approval of the borough's urban design officer. Where proprietary materials are listed these are to be assumed to be 'similar approved' and agreement to diverge from the palettes must be agreed with the Highways, Urban Design and/or Conservation Officers. It can be assumed that all items in the palette have implicitly been approved by LBL but colour, size and juxtapositions, that make up a whole streetscape 'mood board' will still require approval of the planning, urban design, highways and/or conservation officer.

A greater degree of choice has been introduced into the footway and cycle lane surface elements of the palette as this often has the greatest impact and tends to be the most visually conspicuous part of the ground plane. To allow a greater degree of choice and to allow subtle differences in local character to be picked up a clay product option has been introduced along with variations in new and existing residential, commercial and industrial areas.

The aim all projects, with the possible exception of new developments within green and brownfield sites, is to reuse all suitable materials on site and only mix these with new imported

material where necessary. This helps to avoid a stark / soulless aesthetic developing and minimising the amount of brand-new imported materials that are potentially non-contextual. Even in new developments locally salvaged second-hand materials and furniture must be considered as part of the palette.

### Using the palettes

Before developing a new palette, however, an inventory and condition survey of existing materials and furniture must be undertaken to determine which can be retained in situ, which can be repaired and which can be lifted for re-use. For example, stone kerbs and slabs must always be considered for re-use and never discarded. The same approach also applies to concrete and clay paving that is in a salvageable condition, although they might not be suitable for re-use within the project and should be stored in a council depot for re-use on other projects. The inventory should also include prosaic items such as traffic signs and posts as the ones that are still needed can be reused.

Street furniture can often be repaired and repainted and reused almost 'as new' depending on its location and the sensitivities of the place.

New complementary materials and furniture, to make up the shortfalls, can be chosen from the palettes for use on the project.

### Designer's checklist

1. Carry out an inventory of existing materials and furniture on site.
2. Determine their condition and whether they are fit for purpose and can be re-used.
3. Develop a material and furniture strategy for the project reusing as much as possible.
4. Choose new materials and furniture from the palettes to complement the existing townscape.
5. Seek approval of the materials and furniture 'mood-board' for each project.



## 4.1.2 Materials and street furniture palettes overview

The materials palettes are divided into different collections, to be applied according to the local context and type of scheme. These are described below.

### Standard palette

This collection of materials and furniture has been developed for projects with a modest budget and has a more utilitarian feel with a neutral aesthetic with pre-cast concrete paving and silver, grey granite kerbs. It can be used in industrial and retail areas but is still appropriate for use in residential areas when project budgets are relatively modest.

### Enhanced palette

This palette introduces pre-cast concrete slabs and setts that have an 'enhanced' stone aggregate surface finishes, ground smooth or textured, and can be used in any areas of the borough as there are multiple colour options to respond to local character. Given that these products are more expensive they will tend to be used in areas with higher footfall such as highstreets, retail precincts and also in new residential developments.

### Prestige palette

This palette uses predominantly new stone products in various combinations and given its relative expense will feature most commonly in town centre environments and in areas of cultural and / or historic significance. Care must be taken not to overuse stone that is essentially alien to the locality (only a small selection of granites and sandstones have traditionally been imported into London) as this will visually 'jar' with prevailing vernacular architecture and existing street-scenes except in very contemporary settings.

### The Conservation palette

Features predominantly reclaimed historic stone paving and kerbing elements to allow the existing public realm character to be preserved and enhanced especially in conservation areas and around historic features and listed buildings. Where reclaimed stone is not available, matching new stone can be used instead from the Prestige palette.

### Clay alternative palette

In some areas clay paving may be appropriate and a limited range been included within the palettes. Clay bricks or pavers will most like be used in industrial areas or where an historic precedent has been set or where co-ordination with local brick is considered important. They may prove a useful long-term material for surfacing cycle lanes as they can have a more human scale than raw asphalt and come with permeable options. Clay pavers have traditionally been the go-to option for cycling infrastructure in Europe for many years.

# 4.2 Materials and street furniture

The following tables set out the materials and street furniture products appropriate to the the different types of street environment and scheme. This should be used to help select surfacing and street furniture products.

Footways					
Component	Standard	Enhanced	Prestige	Conservation areas	Notes
Forecourt parking	Self binding Breedon gravel	Seeded grasscrete	Permeable paving	Not permitted	Usually in private ownership
Private forecourt surface available as footway	PC concrete slabs 600 x 900 x 63mm	Charcon Ultrapave 600 x (450 - 750) x 63mm	Stone slabs 600mm x (random lengths)	NA	Usually in private ownership
Extent of public footway delineation	PCC flat top edging 50 x 150 also acceptable	Brass studs 25mm dia @ 0.5m ctrs	Threshold drains (within private ownership only)	Stone sett edging 100 x 200 x 100mm	
Footway surface - established residential areas	PC concrete slabs 600 x 900 x 63mm	Charcon Ultrapave 600 x (450 - 750) x 63mm	Stone slabs 600mm x (random lengths)	Reclaimed yorktone slabs 600mm guage	Butt jointed
Footway surface - new residential areas	Charcon Ultrapave 600 x (450 - 750) x 63mm	PCC Tegula setts 160 x 240 x 80mm	Tobermore Citipave 150 x 300 x 100mm	Reclaimed yorktone slabs 600mm guage	
Footway surface - high streets	Charcon Ultrapave 600 x (450 - 750) x 63mm	Stone slabs 600mm x (random lengths)	Stone setts or planks 100 - 300 x 300 - 900mm*	Reclaimed yorktone slabs 600mm guage	*Depths in accordance with BS - stock items only
Footway surface - clay option	Class B engineering brick	Clay pavoirs 105 x 210 x 65mm	Dutch pavoirs 100 x 300 x 65mm (Weinerberger)	To match existing	
Footway surface - industrial areas	Asphalt	Poured insitu concrete	PC concrete slabs 600 x 900 x 63mm	Reclaimed yorktone slabs 600mm guage	
Furniture zone	To match footway	Self binding Breedon gravel	Resin bound permeable gravel	Self binding Breedon gravel	Consider SuDs, raingardens and trees also
Kerb zone	To match footway	Self binding Breedon gravel	Resin bound permeable gravel	To match footway	If greater than 600mm consider planting also
Verges	Mown grass	Self binding Breedon gravel	Wild flowers up to 0.6m high	Mown grass	Consider SuDs, raingardens and trees also
Parking & loading pads	PC concrete slabs 400 x 400 x 63mm	PCC Tegula setts 160 x 240 x 80mm	Reclaimed granite setts	Reclaimed stone setts	Asphalt can also be considered
Footways over existing tree roots	Self binding Breedon gravel	Recycled permeable bound rubber crumb	Resin bound permeable gravel	Self binding Breedon gravel	To be approved by tree officer
Drainage channels	PC concrete slabs flat channel 400 x 400 x 63mm	Charcon Ultrapave flat channel 400 x 400 x 63mm	Stone flat channel to match footway paving	Stone flat channel to match footway paving	Avoid channel drains

Footway crossovers and side roads					
Component	Standard	Enhanced	Prestige	Conservation areas	Notes
Crossovers (light traffic)	To match footway	To match footway	To match footway	To match footway	Colour & bond to match adjacent footway
Crossovers (heavy traffic)	PC concrete slabs 400 x 400 x 80mm	Charcon Ultrapave 450 x 450 x 63mm	Stone slabs 400mm x (random lengths)	E	Colour & bond to match adjacent footway
Side road - light traffic	PC concrete slabs 600 x 450 - 600 x 63mm	Charcon Ultrapave 600 x 450 x 63mm	Stone slabs 600mm x (random lengths)	Stone slabs 600mm x (random lengths)	Colour & bond to match adjacent footway
Side road - moderate traffic	PC concrete slabs 400 x 400 x 80mm	Charcon Ultrapave 450 x 450 x 63mm	Stone slabs 400mm x (random lengths)	Stone slabs 400mm x (random lengths)	Colour & bond to match adjacent footway
Side road - heavy traffic	PCC Tegula 160 x 240 x 80mm	Tobermore Citipave 150 x 300 x 100mm	Stone setts 100 x 200 x 100mm	Stone setts 100 x 200 x 100mm	Colour & bond to match adjacent footway
Crossings					
Component	Standard	Enhanced	Prestige	Conservation areas	Notes
Raised tables junctions (tops)	PCC Tegula setts 160 x 240 x 80mm	Tobermore Citipave VS5	Stone setts	Stone setts	
Raised toucans (tops)	PCC Tegula setts 160 x 240 x 80mm	Tobermore Citipave VS5	Stone setts	Stone setts	
Raised Zebra crossings (tops)	Asphalt with painted stripes	Tobermore Citipave VS5, striped*	Stone setts, striped*	Stone setts, striped*	*Use dark and light colours to create stripe
Raised Courtesy crossings (tops)	Antiskid surface dressing to asphalt	Tobermore Citipave VS5	Stone setts	Stone setts	
Ramps	Asphalt	Tobermore Citipave VS5	Stone setts	Stone setts	Gradient max 1:12, sinusoidal profile
Pedestrian priority spaces					
Component	Standard	Enhanced	Prestige	Conservation areas	Notes
Pedestrian only surfaces	PCC Tegula setts 160 x 240 x 80mm	Tobermore Citipave VS5	Stone setts or planks 100 - 300 x 300 - 900mm*	Stone setts	*Depths in accordance with BS - stock items only
Vehicle movement surfaces	PCC Tegula setts 160 x 240 x 80mm	Tobermore Citipave VS5	Stone setts 100 x 200mm*	Stone setts	*Depths in accordance with BS - stock items only
Tactile paving					
Component	Standard	Enhanced	Prestige	Conservation areas	Notes
Tactile paving blister formal crossing	PCC 400 x 400 x 63mm	PCC 400 x 400 x 63mm	Stone 400 x 400mm	Stone to match footway	Pink / red as guidance
Tactile paving blister informal crossing	PCC 400 x 400 x 63mm	PCC 400 x 400 x 63mm	Stone 400 x 400mm	Stone to match footway	Colour & contrast as guidance
Tactile corduroy	PCC 400 x 400 x 63mm	PCC 400 x 400 x 63mm	Stone 400 x 400mm	Stone to match footway	Colour & contrast as guidance



Kerbs and edging					
Component	Standard	Enhanced	Prestige	Conservation areas	Notes
Highway boundary demarcation	Brass studs 25mm dia @ 0.5m ctrs	Granite sett edging 100 x 200 x 100mm	Threshold drains (within private ownership)	Brass studs 25mm dia @ 0.5m ctrs	PCC flat top edging 50 x 150 also acceptable
Carriageway kerbs & edgings	Tobermore Fusion PCC kerb 145mm	Granite 150 x 300mm laid upright or PCC*	Granite 300 x 150mm laid flat*	Recalimed stone to match existing	Must have a fine picked finish. * to tie in only
Bus stop high access kerbs	PCC HAK	Granite 300 x 200mm	Granite 300 x 200mm	Stone to match existing	With 140mm check (100 minimum)
Containment kerbs	PCC Trieff 380 x 415mm	Granite Trieff 380 x 415mm	Granite Trieff 380 x 415mm	Not permitted	
Footway / cycle lane splay kerb	PCC 45 deg splay 60mm check	PCC 45 deg splay 60mm check	Granite 45 deg splay 60mm check	Stone to match existing	Chamfer to create 60mm check
Footway / cycle lane delineator	PCC raised profile 150 wide	PCC raised profile 150mm wide	Granite raised profile 150 to 225mm wide	Stone to match existing	Refer to tactile paving guidance
Flush edgings	Steel edge 'Kinley Urban' 6m x 100 - 300 mm	PCC flat top edging 50 x 150 - 200 mm	Granite sett 100 x 200 x 100mm	Stone to match existing	
Wide flush edging	PCC BS cornerstone unit CS1 255 x 125mm	Granite 150 x 150mm	Granite 300 x 150mm laid flat	Stone to match existing	
Dutch ramp / entrance kerbs	PCC 700 x 500mm by charcon	PCC 700 x 500mm by charcon	PCC 700 x 500mm by charcon	Not permitted	Only use on footways wider than 2.5m
Raised edgings	Corten steel 6-8 x 150 - 300mm	Granite 150 x 300mm laid upright	Granite 300 x 150mm laid flat	Stone to match existing kerbs and edgings	Maximum height 200mm - avoid if possible
Carriageways					
Component	Standard	Enhanced	Prestige	Conservation areas	Notes
Carriageway surface running lane	Asphalt	Tobermore Citipave VS5 150 x 300 x 100mm	Stone Sett 100 x 200 x 100mm	Stone Sett 100 x 200 x 100mm or asphalt	PCC Tegula can also be considered
Bus cages	Asphalt to match carriageway	PCC Tegula setts 160 x 240 x 80mm	Tobermore Citipave VS5 150 x 300 x 100mm	Stone Sett 100 x 200 x 100mm or asphalt	
Carriageway channel	Asphalt to match carriageway	Reclaimed granite setts 100 x 200 x 100mm*	Granite cubes 100 x 100 x 100mm*	To match existing	*Use only to marry with existing
Carriageway gully	Cast iron 400 x 400mm	Cast iron 400 x 400mm	Cast iron 400 x 400mm	To match existing	To LBL highways standard spec.
Central medians - flush for visual narrowing	Asphalt with stone chip rolled in	Asphalt with crushed stone dressing	Antiskid surface dressing	To match existing	
Carriageway over run areas	PCC Tegula setts 160 x 240 x 80mm	Tobermore Citipave VS5 150 x 300 x 100mm	Reclaimed granite setts 100 x 200 x 100mm*	Stone Sett 100 x 200 x 100mm or asphalt	
Parallel parking bays on carriageway	Asphalt (managed decline - no resurfacing)	Punctured surface	Grasscrete	Stone Sett 100 x 200 x 100mm or asphalt	Infiltration tests required

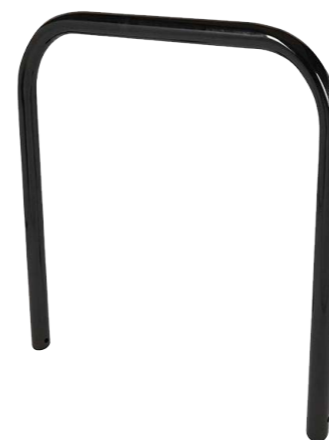
Carriageways					
Component	Standard	Enhanced	Prestige	Conservation areas	Notes
Cycle lanes on carriageway	Asphalt with stone chip rolled in	Asphalt with crushed stone dressing	Anti-skid dressing	Anti-skid dressing - colour to match footway	Colours to co-ordinate with footway
Delineation/ buffer	Painted white line	Painted white lines & Orcas / wands	Raised granite kerb	Anti-skid dressing - colour to match footway	Buffer > 0.6m to be planted
Cycle tracks adjacent to carriageway	Asphalt with crushed stone dressing	PCC Tegula setts 160 x 240 x 80mm	Dutch pavoirs 100 x 300 x 65mm (Weinerberger)	To match footways	Colours to co-ordinate with footway
Buffer	Asphalt with stone chip rolled in (lane extension)	Planted / SuDs verge (if wider than 0.6m)	Multifunction verge (SuDS, seats, cycle stands)	Planted / SuDs verge (if wider than 0.6m)	Buffer > 0.6m to be planted
Bi-directional cycle tracks remote	Asphalt with crushed stone dressing	PCC Tegula setts 160 x 240 x 80mm	Dutch pavoirs 100 x 300 x 65mm (Weinerberger)	To match footways	Colours to complement context
Tactile paving ladder and tramline	PCC standard units	PCC standard units	Stone	Stone to match footway	Laid in accordance with national guidance
Cycle lanes and tracks					
Component	Standard	Enhanced	Prestige	Conservation areas	Notes
Cycle lanes on carriageway	Asphalt with stone chip rolled in	Asphalt with crushed stone dressing	Anti-skid dressing	Anti-skid dressing - colour to match footway	Colours to co-ordinate with footway
Delineation/ buffer	Painted white line	Painted white lines & Orcas / wands	Raised granite kerb	Anti-skid dressing - colour to match footway	Buffer > 0.6m to be planted
Cycle tracks adjacent to carriageway	Asphalt with crushed stone dressing	PCC Tegula setts 160 x 240 x 80mm	Dutch pavoirs 100 x 300 x 65mm (Weinerberger)	To match footways	Colours to co-ordinate with footway
Buffer	Asphalt with stone chip rolled in (lane extension)	Planted / SuDs verge (if wider than 0.6m)	Multifunction verge (SuDS, seats, cycle stands)	Planted / SuDs verge (if wider than 0.6m)	Buffer > 0.6m to be planted
Bi-directional cycle tracks remote	Asphalt with crushed stone dressing	PCC Tegula setts 160 x 240 x 80mm	Dutch pavoirs 100 x 300 x 65mm (Weinerberger)	To match footways	Colours to complement context
Tactile paving ladder and tramline	PCC standard units	PCC standard units	Stone	Stone to match footway	Laid in accordance with national guidance
Traffic calming and pocket parks					
Component	Standard	Enhanced	Prestige	Conservation areas	Notes
Modal filters (road closure)	Rounded river boulder / street furniture		Tree in raingarden / shrub bed		
Buildouts (narrowing's)	Rounded river boulder / street furniture		Tree in raingarden / shrub bed		
Gapped / wide jointed paving	Wide jointed slabs	Wide jointed setts	Hit an dmiss planks with ground covers	Not permitted	Low traffic areas only

Green infrastructure					
Component	Standard	Enhanced	Prestige	Conservation areas	Notes
Street trees	See LBL species lists	See LBL species lists	See LBL species lists	See LBL species lists	
Tree pits surface finish	Firmed earth	Self binding Breedon gravel	Bound permeable granular materials*	Self binding Breedon gravel	*resin bound gravel, recycled rubber crumb etc.
Tree pit edge	None / self supporting	Granite setts 100 x 200 x 100mm	Steel edge	None / self supporting	To be approved by LBL tree officer
Tree support	Tall single stake	Tall double stake double tie	Underground guying	Underground guying	To be approved by LBL tree officer
Tree irrigation	Irrigator bag	Rootball perforated rootball pipe	Irrigator bag + perforated rootball pipe	Rootball perforated rootball pipe	To be approved by LBL tree officer
Shrubs and climbers	See species lists	See species lists	See species lists	See species lists	All planting designs to be LBL approved
Shrub bed edge	Corten steel 5mm set flush	PCC flat top flush edging 50 x 150 - 200 mm	Granite 150 x 300mm laid flush	Local stone 150 x 300mm laid flush	
Raised planting beds	Low local brick wall	Granite 300 x 150mm min	Corten steel 5mm	Local stone / brick as per CA Appraisal	Maximum height 450mm
Raingarden plants	See LBL species lists	See LBL species lists	See species lists	See species lists	To be approved by LBL tree officer
Raingarden edge (to traffic side)	PCC BS cornerstone CS1 255 x 125	Carriageway kerb laid flush or gapped	Rough hewn stone plinths raised with gaps	Local stone as per CA Appraisal	Locally sourced stone
Raingarden protection (to traffic side)	Rounded river boulder	Rough hewn stone plinths / boulders	Bespoke stone blocks	Local stone rounded boulders	Locally sourced stone
Raingarden seat/play edge (to footway side)	'Floating' timber balance beam edge seat	Reclaimed granite kerbs	Flat topped plinths / boulder	Local stone flats	Locally sourced stone

Street furniture					
Component	Standard	Enhanced	Prestige	Conservation areas	Notes
Handrails on steep footways	Galvanised tubular steel	Stainless Steel	English hardwood	Black painted steel	
Bench seats (3 person)	Cast iron & timber slats	Citysquared basic with arms	Wales & Wales Chico - three seater oak	Hardwood / to match existing	Must be fixed 'flat' - use base plinth on sloping ground
Single seats	Cast iron & timber slats	Citysquared basic with arms	Wales & Wales Chico - single seat oak	Hardwood / to match existing	Must be fixed 'flat' - use base plinth on sloping ground
Cycle stands	Sheffield narrow galvanised	Sheffield narrow stainless steel	Single fixing point stand TBA (MMCITE hoop?)	Sheffield type, black painted steel	
Cycle hoops to posts / columns	Attach to existing posts	Attach to new posts	Attach to new traffic sign posts	On non-heritage columns only, black finish	
Cycle hangars					
Water drinking / bottle fill fountains			Atlántida by Santa and Cole	Renovated historic features	
Street lighting columns	LBL standard	LBL standard	LBL standard	In line with Conservation Area Appraisal	
Lighting columns	Landmark Strato Timber column 3 - 4m	Thorn Plurio 3 - 4m columns	Selux Lif 3-5m columns	In line with Conservation Area Appraisal	Supplementary to street lighting
Lighting bollards	Woodscape hardwood	English hardwood timber	Corten slot bollard	Hardwood / to match existing	Supplementary to street lighting
Litter bins	Glasdon Topsy	Glasdon Topsy	Glasdon Topsy Royale	Derby E (black)	Alternative TBA with LBL min 100 litres capacity
Re-cycle bins	NA?	NA?	NA?	NA?	NA?
Flat topped bollard / seats	English hardwood short bollard 300 - 600 dia	Bailey Streetscene Lifford Bench 600 dia	Bespoke stone bollard 300 - 900 dia.	English hardwood short bollard 300 - 600 dia	Consider first over standard bollards
Bollards	Hexham by Furnitubes	English hardwood short bollard 200 - 300 dia	Woodscape hardwood 150 - 300 dia.	English hardwood short bollard 200 - 300 dia	
De-mountable bollards	Stainless steel removable / hinged bollard	English hardwood removable / hinged bollard	Sliding / rising bollard	English hardwood removable / hinged bollard	
Corner / edge protection	Cast iron bell bollard Furnitubes 1100	Rounded river boulder	Bespoke stone oversized quadrant	Local stone oversized quadrant	No taller than 600mm
Wayfinding	Legible London	Legible London	Legible London	In line with Conservation area statement	Strategy TBA with LBL
Picnic tables	English hardwood six seater TBA		Marilyn Table LAB 23		
Play features*	Raised stone walkable edge, min 300 mm width	'Floating' English hardwood balance beam/seat	Gapped / hit & miss edge stepping stones	Raised local stone edge, min 300 mm width	*functional pieces that allow playful interaction

## 4.2.1 Standard palette

The Standard Palette has more utilitarian feel with pre-cast concrete paving and silver, grey granite kerbs and can be used in industrial and retail areas but is still appropriate for use in residential areas when project budgets are relatively modest. In some areas it may be appropriate to use clay materials such as blue engineering brick pavers.

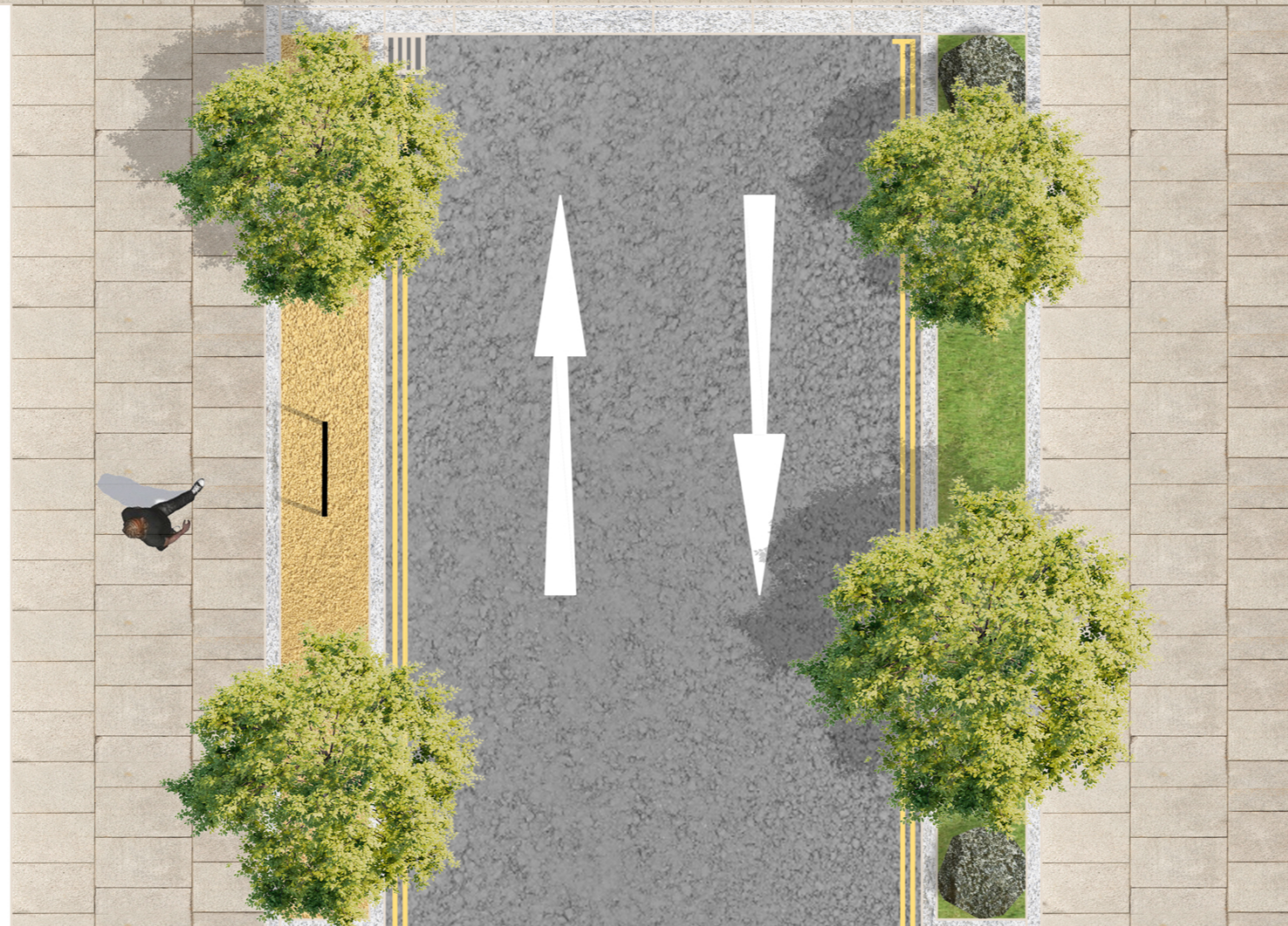
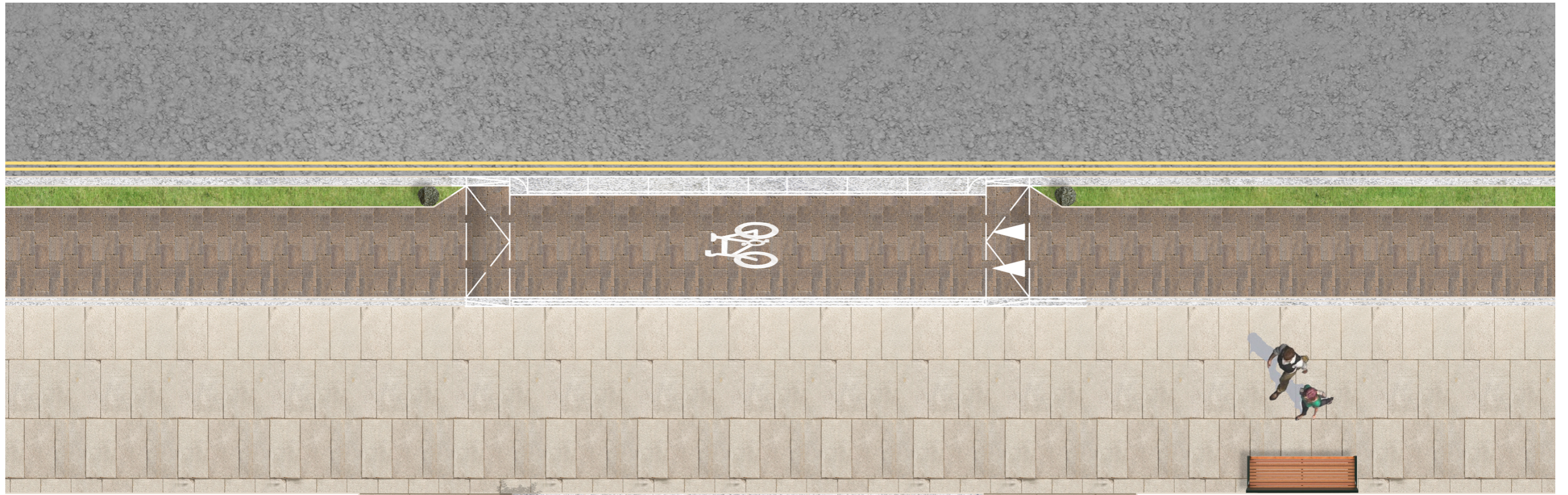




## 4.2.2 Enhanced palette

The Enhanced Palette introduces pre-cast concrete slabs and sets that have an 'enhanced' stone aggregate surface finish and can be used in any areas of the borough as there are sufficient colour options to respond to local character. Given that these products are more expensive they will tend to be used in projects with higher footfall.







### 4.2.3 Conservation area palette

The Conservation Palette features historic stone products to allow the existing public realm character to be preserved and enhanced especially in conservation areas and around historic features and listed buildings. Where reclaimed stone is not available, matching new stone (or clay) can be used instead.

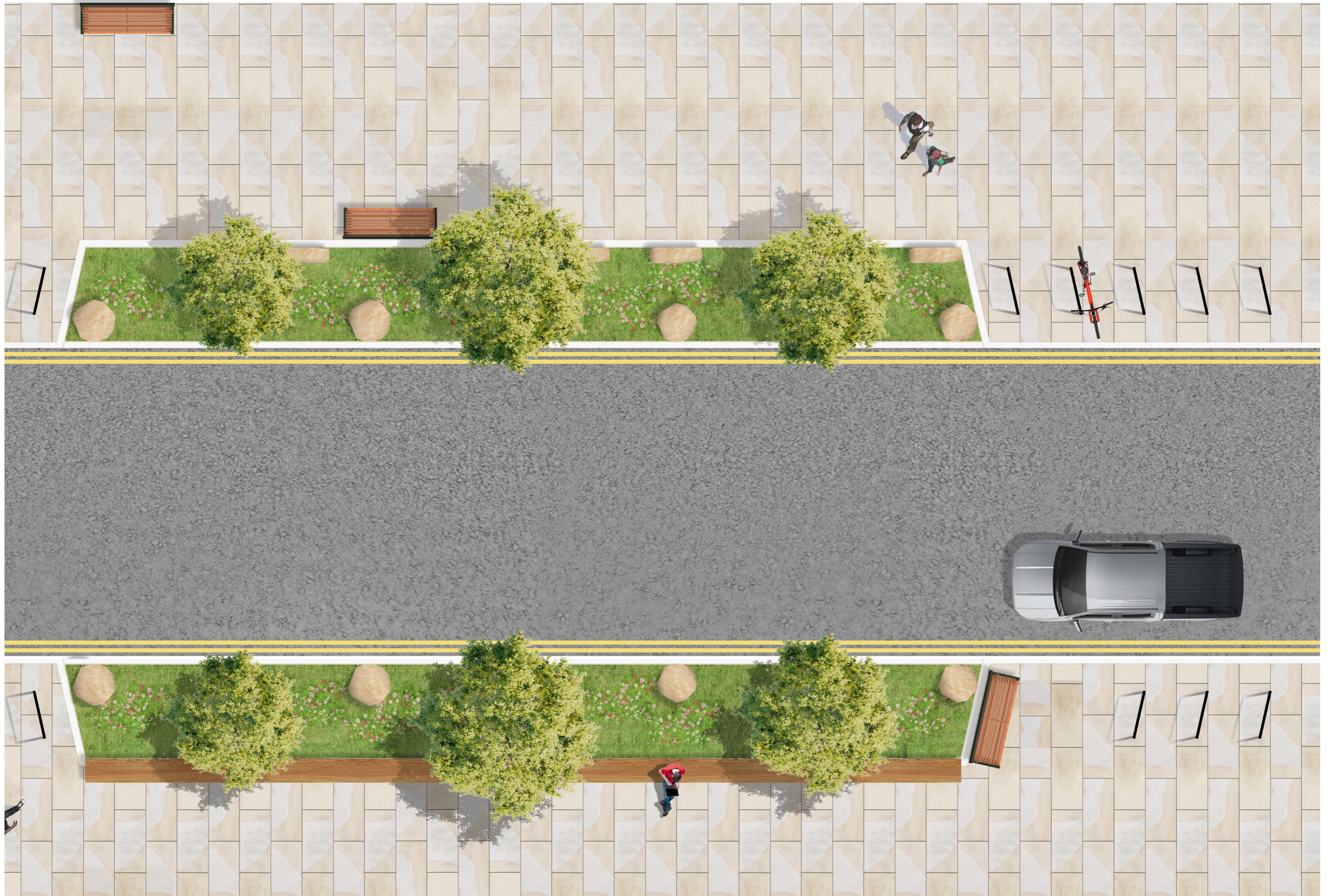




#### 4.2.4 Prestige palette

The Prestige Palette uses predominantly stone products and given it's relative expense will feature most commonly in town centre environments and in areas of cultural and / or historic significance.





# 4.3 Street furniture

## 4.3.1 Litter bins

The Lewisham Litter Bin Strategy sets out the strategic vision and plan for the management, replacement and introduction of new litter bins throughout the borough.

Litter bins should be provided in a sufficient number and well-located to cope with the demand for disposing of litter, in order to keep the borough's streets and public space clean. Litter bins should be placed within the Mixed Use Zone of the footway, and be easily accessible to people walking and wheeling.

The litter bin products shown here should be used on the borough's streets. These should be used in new and existing streets where they are to be managed by the Council.



Metal litter bins



Glasdon Topsy and Topsy Royale composite litter bins

### 4.3.2 Bollards

Bollards are typically employed to restrict vehicle access or encroachment. This includes preventing footway parking, driving across the footway or within a pedestrian-only space or as part of traffic filtering and access restrictions. Lockable bollards may be employed in this instance, where access for emergency services or other permitted vehicles is required.

However, bollards can detract from the streetscape visually, if they create clutter or are poorly laid out or specified; or impede walking, wheeling and/or cycling and accessibility where they create obstacles or provide insufficient space between them.

Bollards must not impede the clear walking zone and should be arranged carefully with even spaces between them. The same style bollard product must be used where multiple bollards are required in a space to provide a consistent and uniform streetscape.

Bell bollards may be used to protect areas of footway or islands from vehicle encroachment.

Bollard products should be either metal or timber. Black is the standard colour for metal bollards in the borough, though other finishes may be considered in key locations. The colour/material selected however should complement and reflect the colours and finishes of other street furniture products that form part of the scheme.

Bollards must be placed a minimum of 450mm from the kerb face when on the edge of the footway. A minimum gap of 1.5m between bollards should be provided, to enable access for non-standard cycles, buggies, wheelchair users and mobility scooter users.



Tapered cannon style bollard



Ferrocast 'Hackney' bollard



Bell bollard



Timber bollard

### 4.3.3 Cycle parking

Cycle parking must be considered as part of street and public space design schemes.

Sheffield cycle stands in black are the standard cycle stand used in the borough. This may include a tapping rail. Sheffield stands may be arranged to enable non-standard cycles and cargo-bikes to be securely stored.

Cycle stands should be located within the mixed use zone of the footway, or within the parking area of the carriageway. When in the carriageway, it is beneficial to provide some protection from vehicle impacts e.g. by providing an island to bookend a bank of cycle stands. Cycle stands should be located in areas with good natural surveillance and lighting, to discourage theft and provide good personal security for users.

Chapter 8 of the [London Cycling Design Standards](#) (TfL, 2014) provides appropriate detail on the provision and placement of cycle stands.

On-street secure residential cycle parking is key to enabling people to own a cycle and take up cycling in their everyday lives. Bike hangars should be considered on streets with residential uses. These typically should be situated within the on-street parking area of the carriageway, though are permissible on the footway where there is sufficient space and no alternative.

The FalcoPod bike hangar is the standard product used throughout Lewisham. Bike hangar products to aid the storage of non-standard cycles and cargo-bikes may also be appropriate.



Sheffield cycle stand



Sheffield cycle stand with tapping rail



FalcoPod bike hangar

### 4.3.4 Seating

Seating is a vital component of all streets and public spaces, both enabling people to spend time in Lewisham's places and providing rest points for people with limited physical mobility. Provision of seats is therefore key to ensuring the borough's streets and places are accessible to all.

Seats with backrests and armrests provide the best provision, providing additional support when seated and assistance to aid getting up and sitting down, particularly for elderly or disabled people. Seating with backrests and armrests should form part of the seating provision on all streets, though seats without these features, or less formal provision such as walls, logs and perches could also form part of the seating mix.

The main points of contact - the seat and backrest - should be constructed from timber. This should preferably be an english hardwood. Engagement with the urban design and/or conservation officer (where appropriate) must be undertaken when selecting seating products.

Seating should be provided every 50m to provide regular resting points. On streets with a high place function such as town centres, the frequency of seating should be increased. It is recommended to place seating around key destinations or decision points such as at junctions, near key building or park entrances and around schools.

Seating should be located within the mixed use zone of the footway and not where it impedes the clear walking zone. Seating may also be situated immediately inside, or along the edge of planting beds.

Seats with their backs to the carriageway should be offset from the kerb edge by 1000mm, and no less than 450mm. Seats facing the carriageway should be offset from the kerb edge by a minimum of 2000mm.



**Conservation**  
Simple timber and cast iron bench with backrest.



**Standard / enhanced**  
City squared seat with backrest and armrests

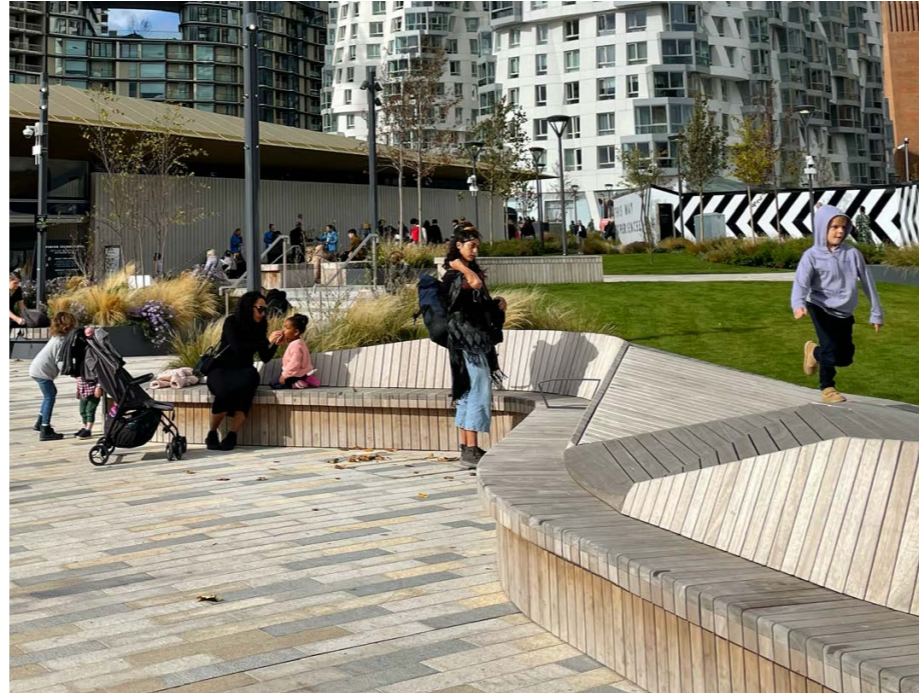


**Conservation**  
Cast iron bench with backrest and armrests.





**Prestige**  
Chico bench by Wales and Wales.



**Bespoke bench**  
In key public spaces such as town centres, or focal areas within parks bespoke seating may be appropriate to



**Prestige**  
Chico seat by Wales and Wales.



**Informal perch**  
Logs, stumps, boulders and edges can all be pleasant places to sit, climb and perch. These features must be secondary to formal seating with backrests and armrests.

# 4.4 Lighting

## 4.4.1 Standard street lighting

Lighting is a vital component of all streets and public spaces within the borough. Lighting should ensure sufficient illumination of streets and public spaces to enable pedestrian, cyclist and driver road safety, and to deter crime and support personal security.

Where lighting is to be maintained by the Council, or its term contractor, this must follow the local design standards set out in the Croydon and Lewisham Street Lighting Standard Development Specification. This sets out the Specific Lighting Design Standards, and the product specifications for standard lighting components within typical streets and conservation areas.

### Design principles

The key design considerations are:

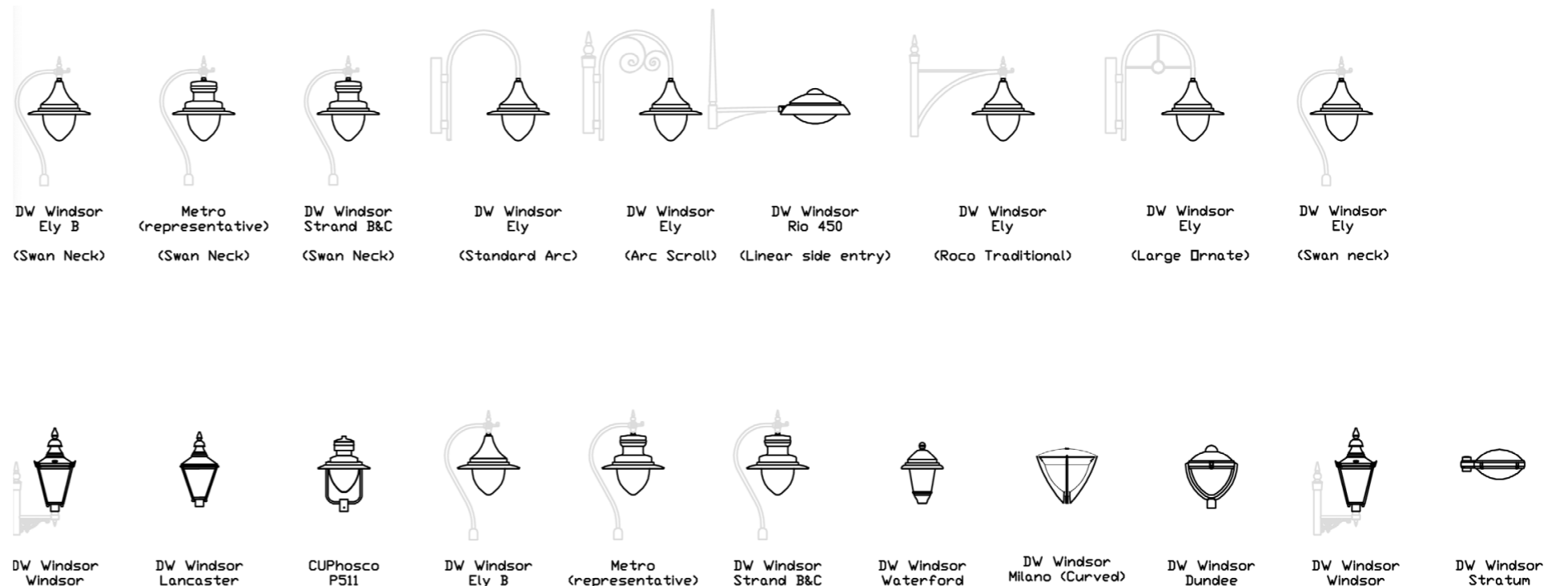
- Lighting should be located within the mixed use zone wherever possible on existing streets. This may be at the back or front of the footway.
- Vertical lighting components (e.g. illuminated bollards and lighting columns) must be located within a well-defined mixed-use zone within all new streets.
- Lighting may be wall-mounted where appropriate, though this must be agreed with the street lighting officer when within existing streets or those planned for adoption.
- Lighting should be wildlife friendly wherever possible, through providing the minimum necessary lighting, making use of LEDs and avoiding blue light, and considering dimming lights at certain times.
- Lighting should provide even illumination throughout the street, avoiding dark spots. Designers should consider the presence of trees or other features that may block light and cause dark spots.
- Lighting schemes must ensure that key areas of activity or conflict are sufficiently illuminated, e.g. around junctions.
- Light spill should be carefully controlled to avoid light pollution onto buildings and windows and other unintended areas and surfaces. Light should be directed to the area requiring illumination. Lighting, such as uplighters, are often

inappropriate and their use should be minimised.

- All standard street lighting columns and lamphead components must be black in colour. Lighting components must be consistent in style and colour throughout a street or place.
- All lighting schemes within the existing highway, or on new streets to be adopted and/or maintained by Lewisham Council (or their term contractor) must be agreed with the borough street lighting officer.
- The maintenance of lighting components must be considered from the outset of any lighting scheme. Components with a high maintenance burden or at higher risk of failure (e.g. in-ground uplighters) should be discouraged where not justified.
- Where possible, lighting columns should be employed to mount street signage, bus stop flags and timetables (with TfL approval), CCTV, crossing controls and traffic signals. This will help to reduce street clutter.



**Left: conservation area lighting; right: standard lighting**  
Examples of existing standard and conservation area street lighting around the borough.



## 4.4.2 Non-standard lighting

In some cases, other kinds of lighting component may be appropriate. This could be due to the physical environment (e.g. an underpass), or due to the higher place function and character, e.g. in a town centre or evening economy area.

Non-standard lighting could include underbridge lighting or use of alternative lighting products and components in public squares, or low level illumination such as bollard lighting along paths and within planting beds.

Where part of unadopted streets and spaces within private developments, lighting must be agreed through the planning process in discussion with the urban design officer.

Where within the public highway, lighting design must be agreed with the Council's street lighting team and term contractor to ensure maintainability.

- Lighting must always have a clear purpose, and schemes should not employ excessive or overuse of lighting, as this is inappropriate use of resources, risks creating street clutter, and risks creating overlit areas or light pollution.
- The lighting design of key public spaces should consider a range of components. This could include wall-mounted fixtures, non-standard lighting columns and lampheads, low level lighting (e.g. bollards) and suspended or catenary lighting.
- Lighting should be located within the mixed use zone wherever possible, and must not create undue clutter within the street or public space, or reduce the clear walking zone to below preferred minimums. In-ground planting beds provide opportunities to locate lighting within them, enabling the usable footway space for walking or activity to be maximised and clutter-free.
- Lighting components must be consistent in style, finish and colour throughout a street or place. Where non-standard lighting products are employed alongside standard, these should be specified to complement the standard lighting components in style, colour and finish.
- Lighting components must be carefully located and specified to avoid unwanted light spill and light pollution,

particularly in sensitive areas around residential building windows, or areas important for local wildlife.

- Lighting should provide even illumination throughout the street, avoiding dark spots. Designers should consider the presence of trees or other features that may block light and cause dark spots.
- Lighting schemes must ensure that key areas of activity or conflict are sufficiently illuminated, e.g. around junctions.



**Queen Elizabeth Olympic Park**

Overhead lighting can create a more intimate human-scale to a space. Here, lighting creates a dappled effect on the path below.



**Light at the End of the Tunnel project, Tanner Street**

Range of lighting highlights the railway underpass and provides a high level of illumination within. Wall-mounted fixtures reduce street clutter.

# 5. Template designs

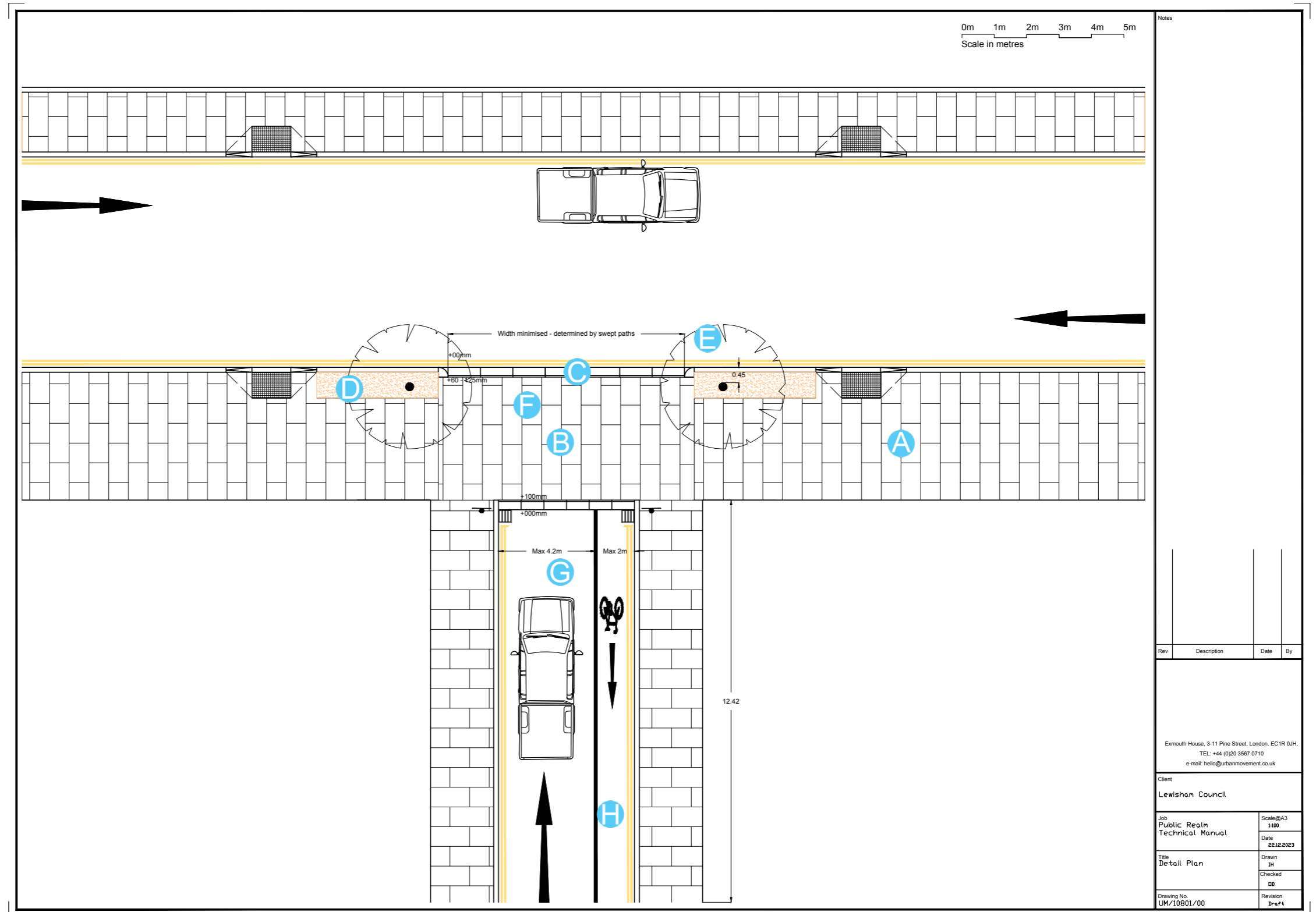
These template layouts illustrate how best to deal with most situations found in the public realm in line with the vision and principals set out throughout this guide. In most situations it will be possible, and usually necessary, to combine elements from different templates when developing the scheme designs. These templates are available as .dwg AutoCAD files from the highways officer and can amended as necessary to respond to specific site conditions.

# 5.1 Continuous footways

## Real continuous footway on a one-way exit street - splay kerbs with slab paving

Creates a pronounced 'bump' up to footway level which may be problematic to cycles if the adjacent kerbs are relatively high at 100 -125mm and works best where kerbs are <100mm. Requires a minimum 300mm wide stone special splay / chamfered kerb to achieve a gradient that is safe and accessible for cycle

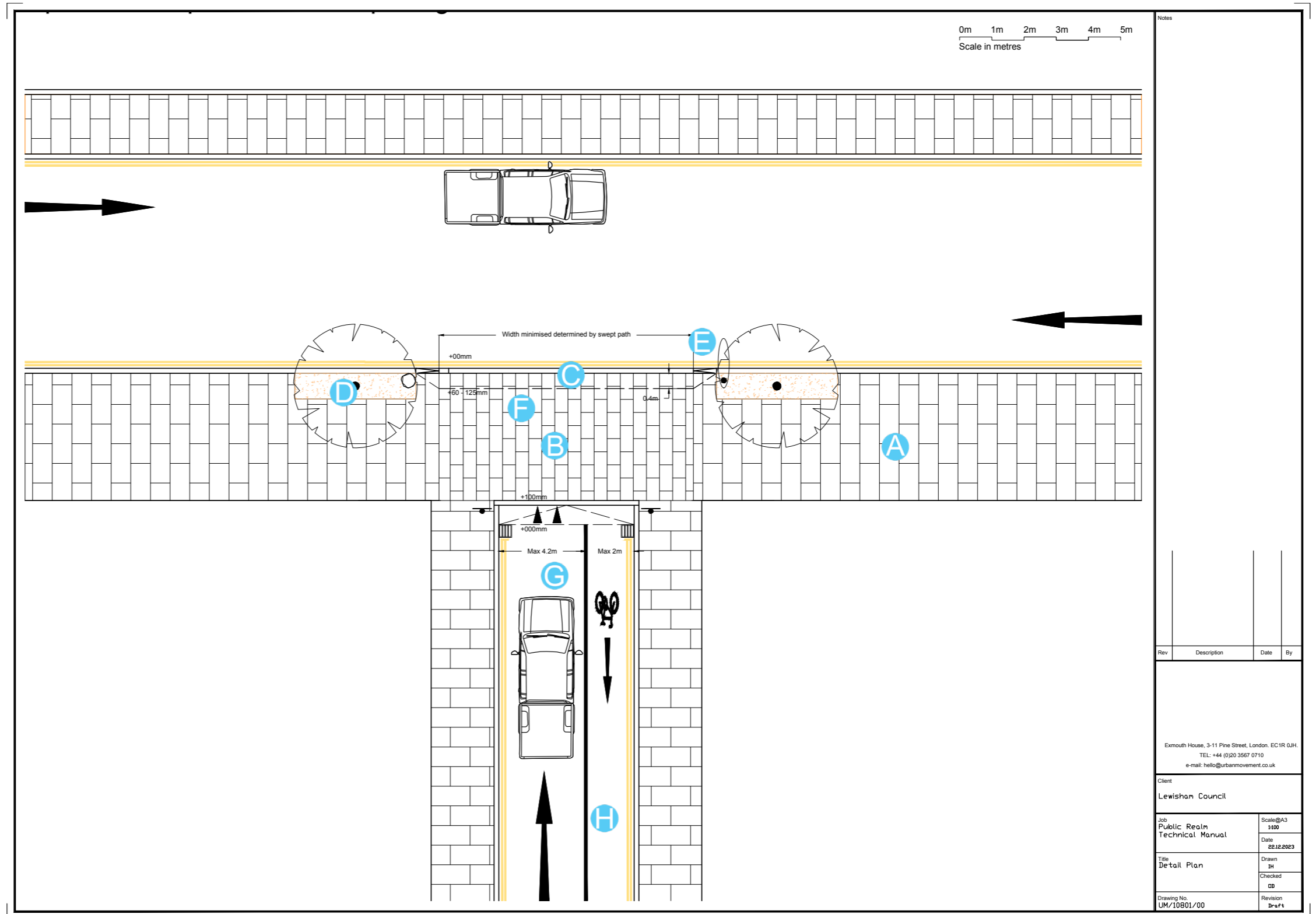
- A. Footway.
- B. Footway crossover - match footway slabs on reinforced base.
- C. Splay / chamfered kerb, 1:2 to 1:3 gradient.
- D. Trees to create visual narrowing.
- E. Quadrant kerb / bell bollard to protect corner.
- F. Opening width minimised to accommodate swept paths.
- G. Side road narrowed to minimum to accommodate swept paths.
- H. Contra flow cycle lane, 2 to 2.5m.



## Real continuous footway on a one-way exit street - ramp kerbs with slab paving

Cheaper alternative to the splay detail and can work with narrow 150 / 125mm kerbs and creates less of pronounced 'bump up' as gradients will be around 1:4 on the ramp.

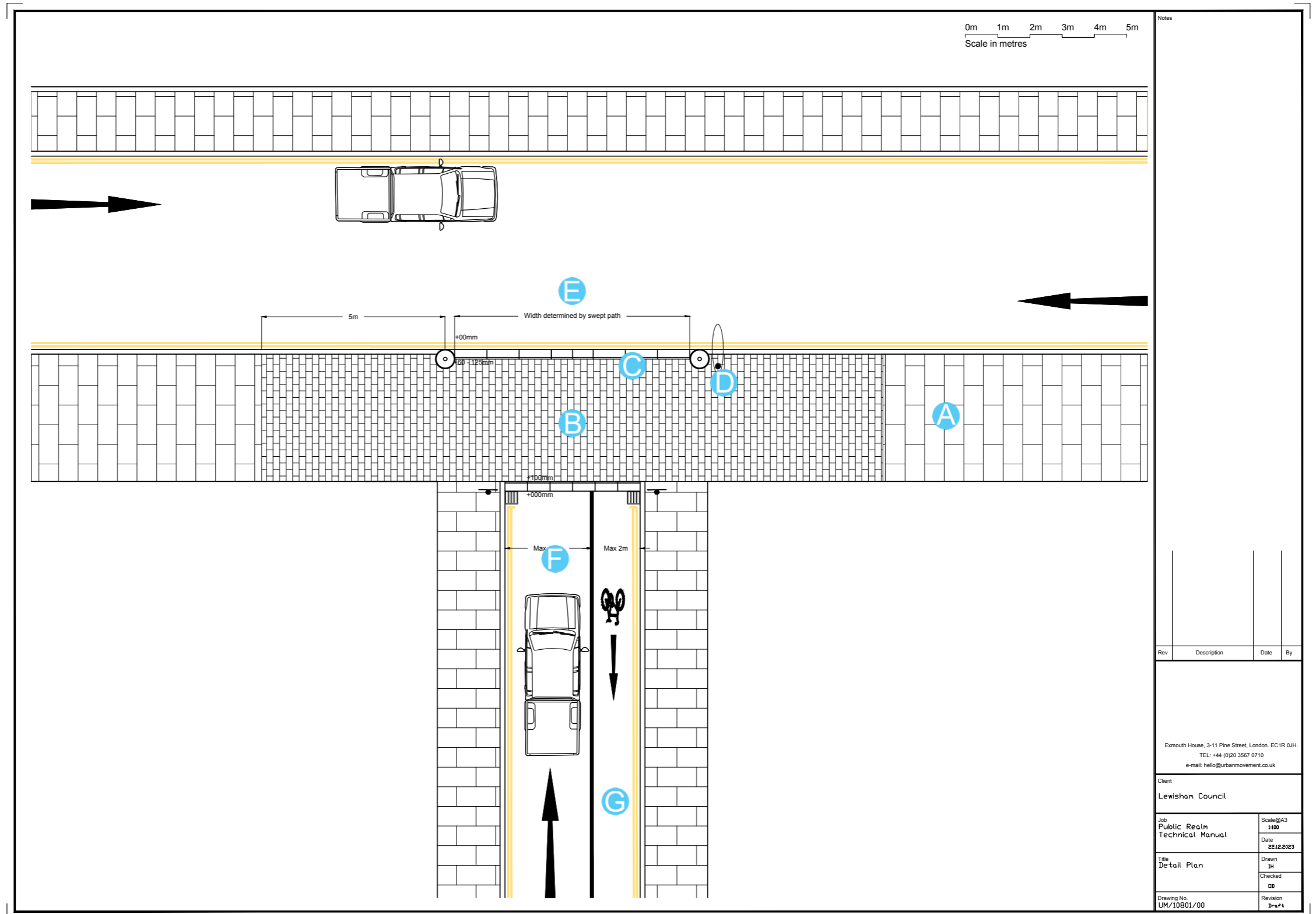
- A. Footway,
- B. Footway crossover - match footway slabs on reinforced base. Dropped kerbs.
- C. Ramp, max gradient 1:3, max depth 400mm.
- D. Trees to create visual narrowing.
- E. Rounded boulder / bell bollard to define ramp.
- F. Opening width minimised accommodate swept paths.
- G. Side road narrowed to minimum accommodate swept paths.
- H. Contra flow cycle lane, 2 to 2.5m.



## Real continuous footway on a one-way exit street - splay kerb with small element paving

Where there is a strong chance of damage caused by vehicle loadings and/or numbers of large vehicles crossing the footway, smaller element paving (plank, setts or pavers) can be used instead of slabs and will work equally well with the splay kerb or ramp detail.

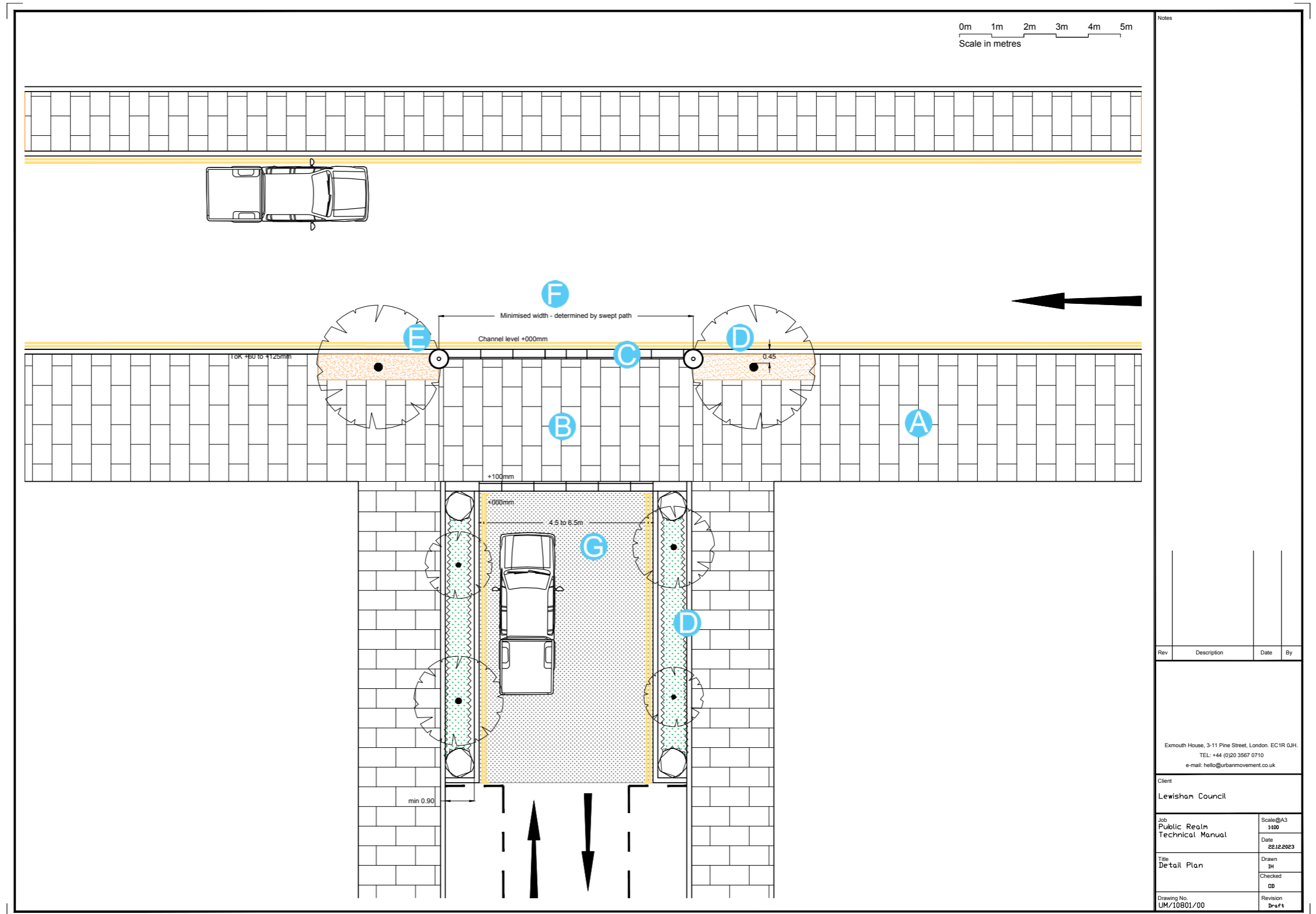
- A. Footway.
- B. Footway, at vehicle crossover – setts or pavers to match footway.
- C. Splay/chamfered kerb 1:2 to 1:3 gradient.
- D. Rounded boulder / bell bollard to protect corner.
- E. Opening width minimised according to swept paths.
- F. Side road narrowed to minimum accommodate swept paths.
- G. Contra flow cycle lane, 2 to 2.5m.



## Real continuous footway on a two-way street - splay/chamfered kerb with slab paving

Creates a pronounced 'bump up' to footway level which may be problematic to cycles if the adjacent kerbs are relatively high at 100 -125mm and works best where kerbs are <100mm. Requires a minimum 300mm wide stone special splay / chamfered kerb to achieve a gradient that is safe and accessible for cycles

- A. Footway.
- B. Footway, at vehicle crossover – setts or pavers to match footway.
- C. Splay / chamfered kerb, 1:2 to 1:3 gradient.
- D. Trees to create visual narrowing.
- E. Quadrant kerb / bell bollard to protect corner.
- F. Opening width minimised to accommodate swept paths.
- G. Side road narrowed to minimum to accommodate swept paths.

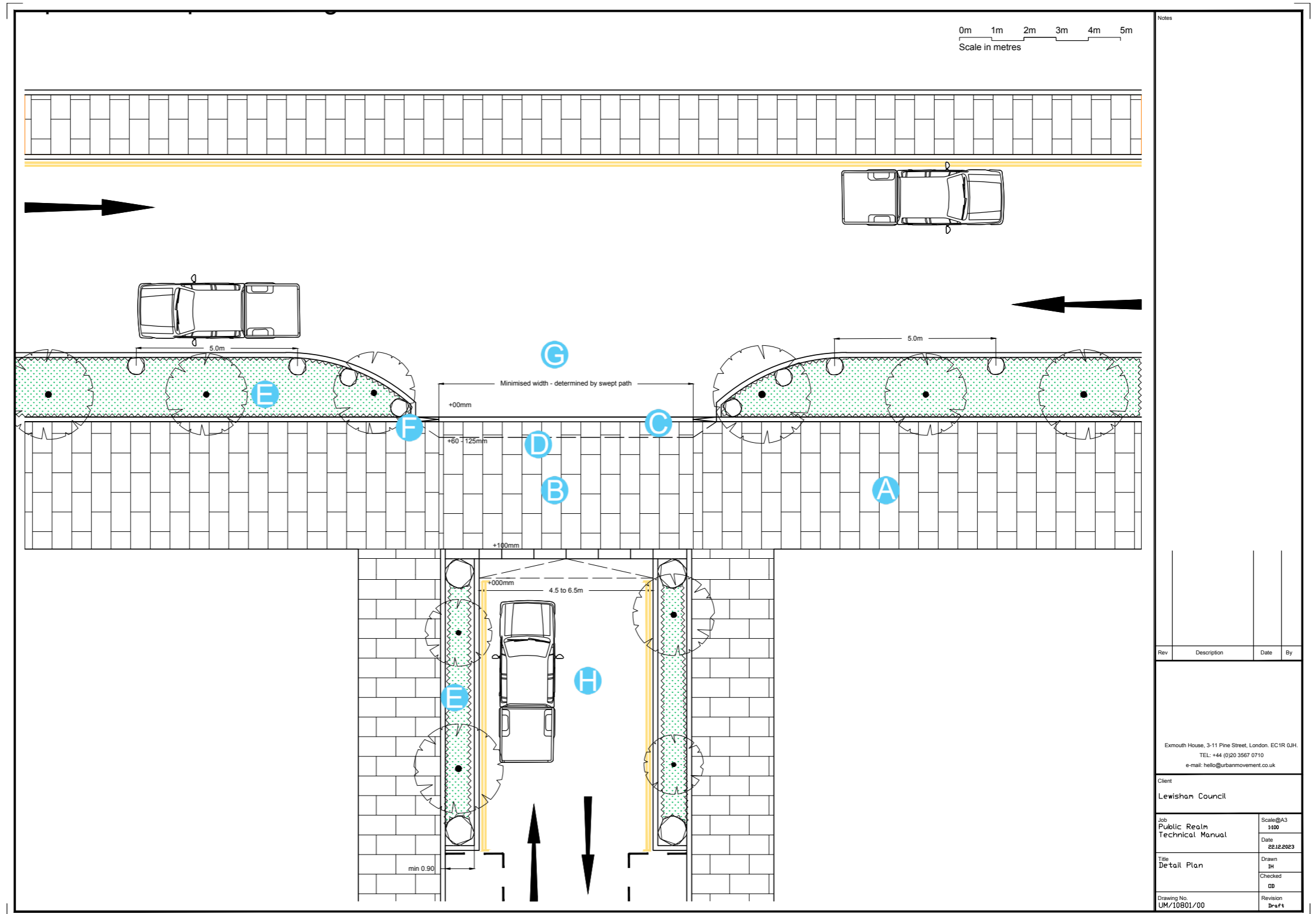




## Real continuous footway on a two-way street - ramp kerbs with slab paving

This is a cheaper alternative to the splay detail and can work with narrow 150 / 125mm kerbs and creates less of pronounced 'bump up' as gradients will be around 1:4 on the ramp.

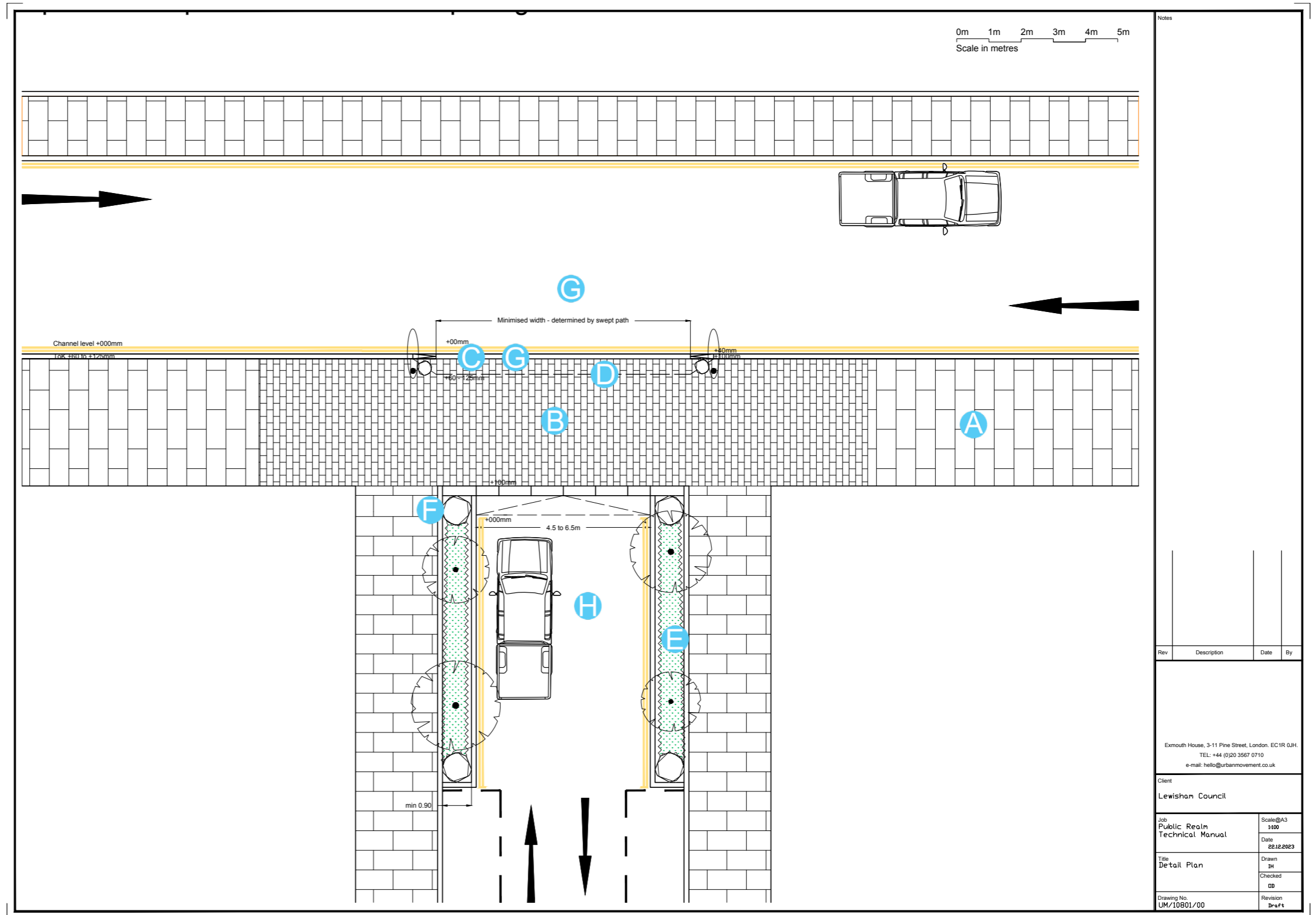
- A. Footway.
- B. Footway, at vehicle crossover – setts or pavers to match footway.
- C. Dropped kerbs.
- D. Ramp, max gradient 1:3, max depth 400mm.
- E. Trees in raingardens to create visual narrowing.
- F. Rounded boulder to define ramp extents.
- G. Opening width minimised accommodate swept paths.
- H. Side road narrowed to minimum accommodate swept paths.



## Real continuous footway on a two-way street - dropped kerbs with small element paving

Where there is a strong chance of damage caused by vehicle loadings and/or numbers of large vehicle crossing the footway, smaller element paving can be used instead of slabs and will work equally well with the splay kerb or ramp detail.

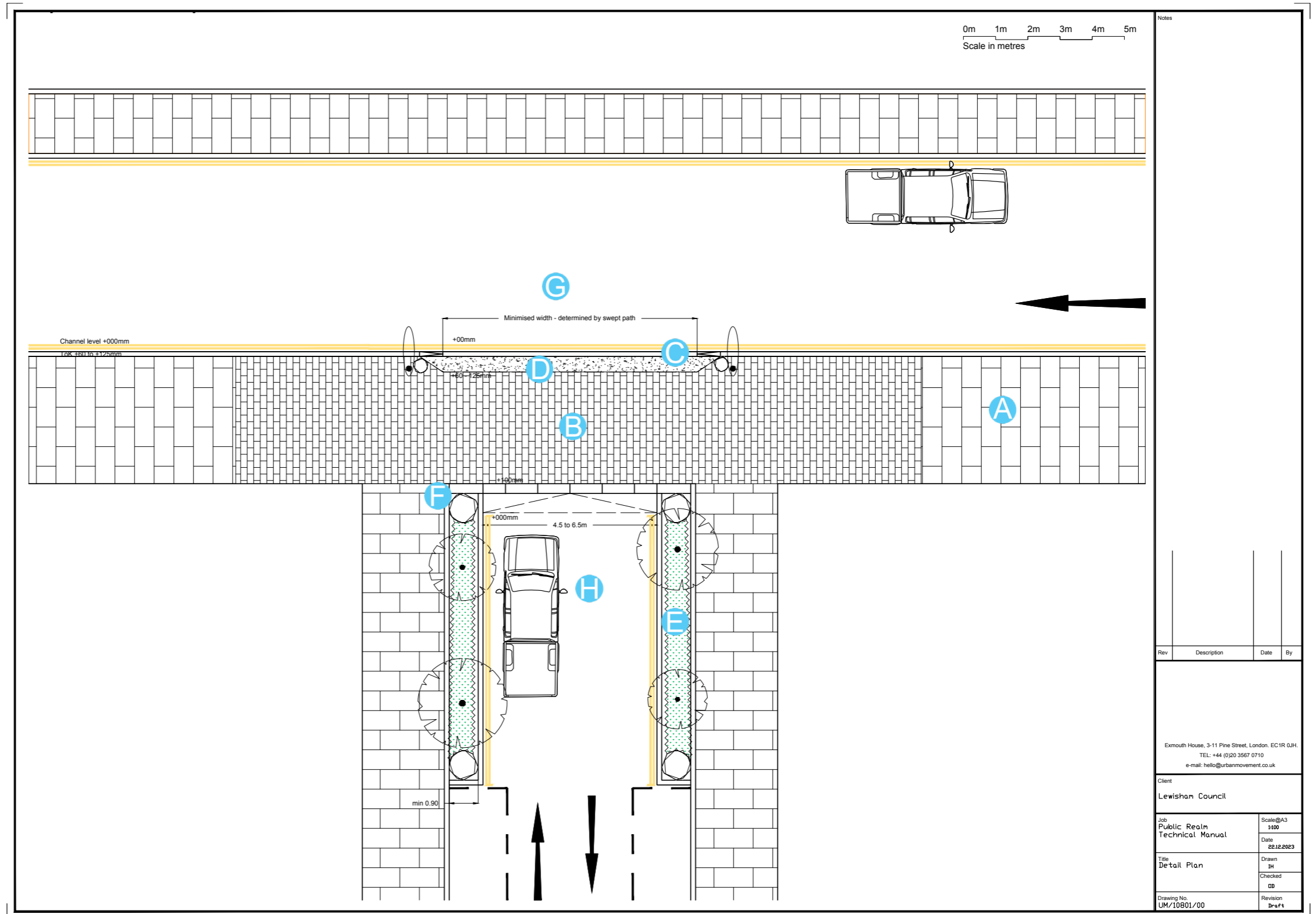
- A. Footway.
- B. Footway, at vehicle crossover – setts or pavers to match footway.
- C. Dropped kerbs.
- D. Ramp, max gradient 25 degrees, max depth 400mm.
- E. Trees to create visual narrowing.
- F. Rounded boulder / bell bollard to protect corner.
- G. Opening width minimised according to swept paths.
- H. Side road narrowed to minimum accommodate swept paths.



## Real continuous footway on a two-way street - small element paving in-situ concrete ramp

Alternative detail to option 3 with a cast insitu concrete ramp for extra strength.

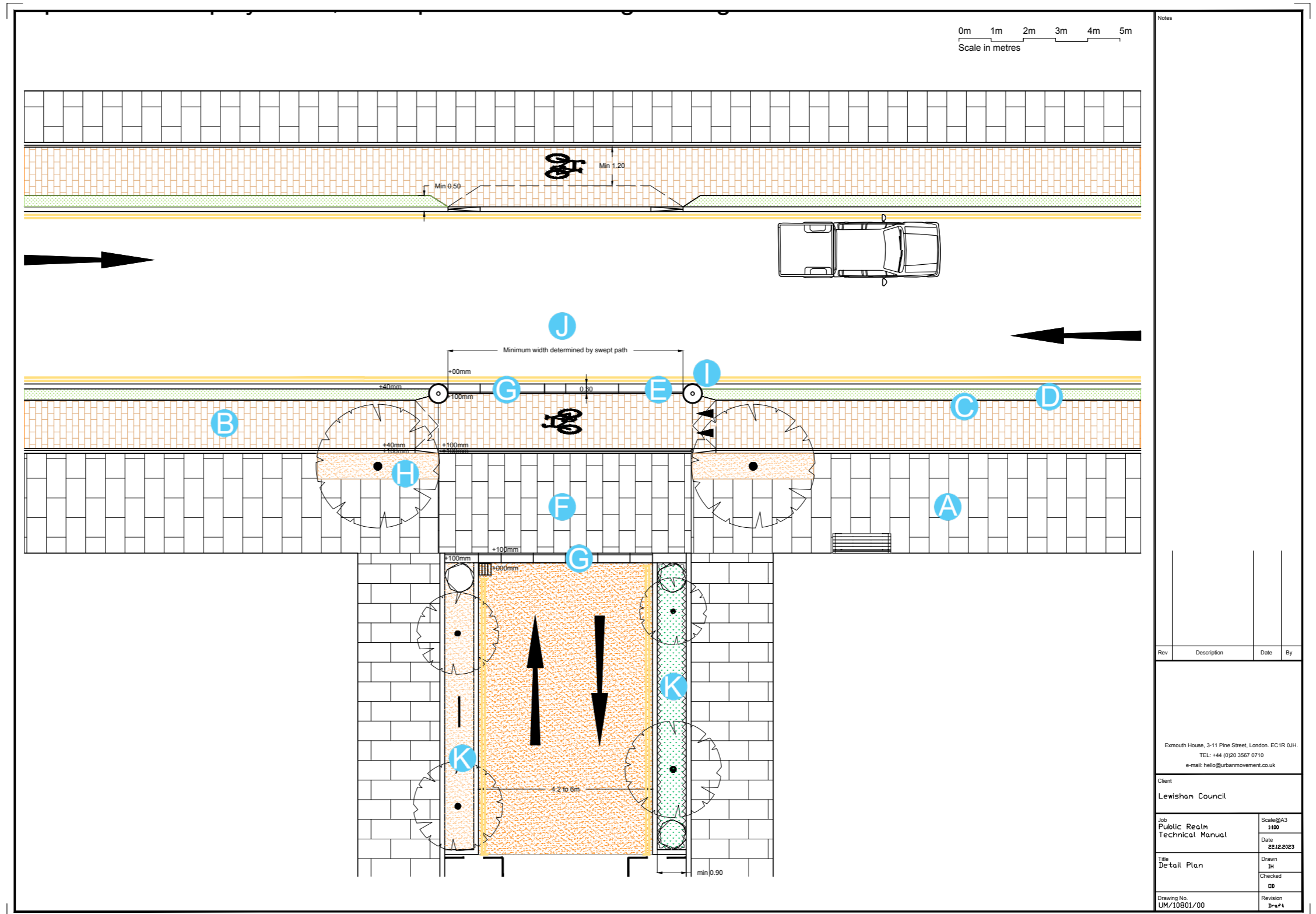
- A. Footway.
- B. Footway at vehicle crossover – setts or pavers to match footway.
- C. Dropped kerbs.
- D. Ramp, max gradient 25 degrees, max depth 400mm.
- E. Trees to create visual narrowing.
- F. Rounded boulder / low bollard to protect corner.
- G. Opening width minimised accommodate vehicle swept paths.
- H. Side road narrowed with raingardens to accommodate vehicle swept paths.



## Real continuous footway and cycle lane on two-way side street - splay kerbs over with-flow lanes

Creates a pronounced 'bump' up to footway level. Requires a minimum 300mm wide stone special splay / chamfered kerb to achieve a gradient that is safe and accessible for cycles.

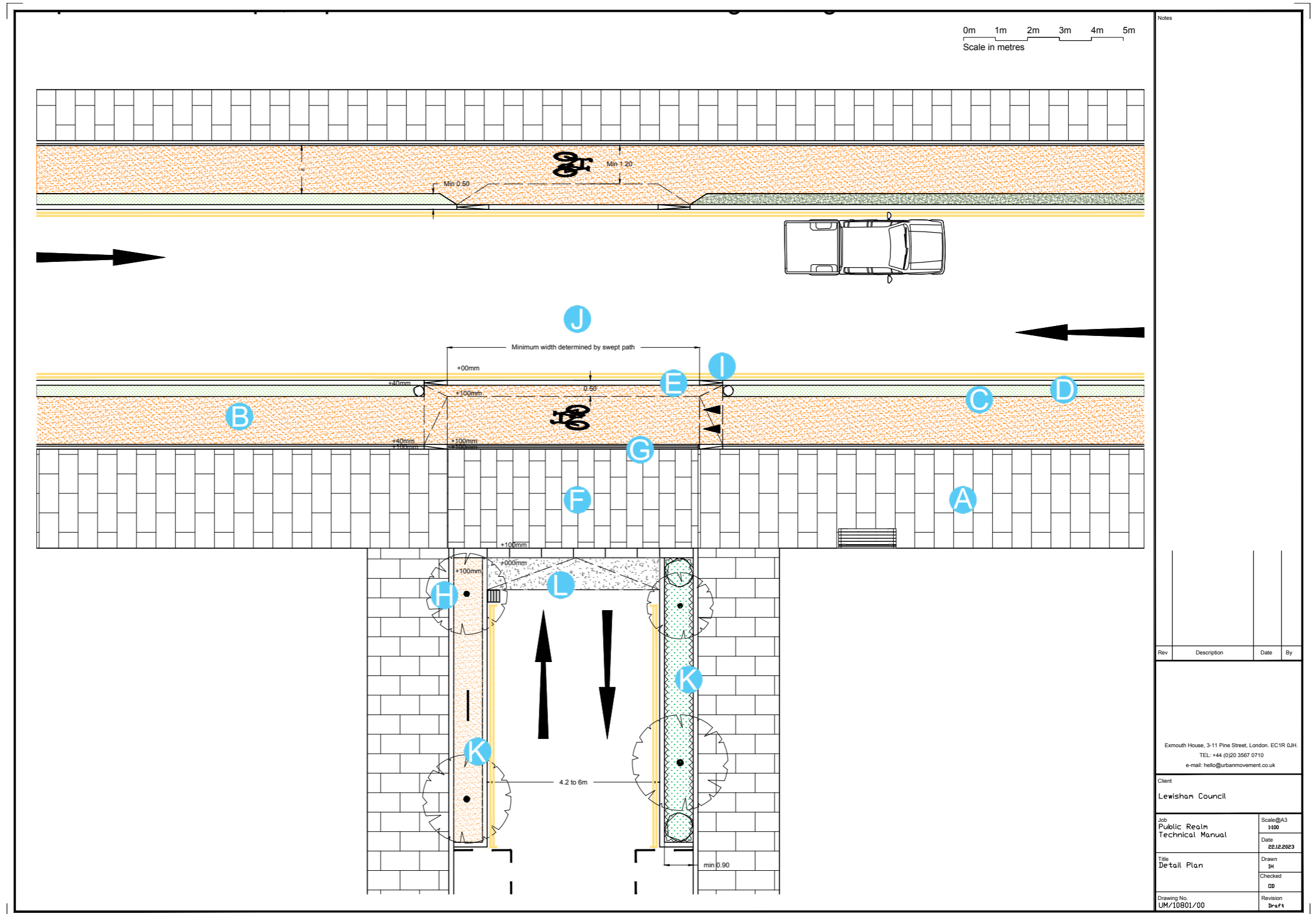
- A. Footway.
- B. Cycle lane (pavers or surface dressed asphalt) minimum 1.5m wide.
- C. Steel edge.
- D. Buffer strip formed of gravel/grass verge minimum 0.5m wide.
- E. Ramp or splay kerb access / egress to cycle lane.
- F. Footway crossover - match footway slabs on reinforced base.
- G. Splay / chamfered kerb, 1:6 gradient.
- H. Trees to create visual narrowing.
- I. Quadrant kerb / bell bollard to define vehicle route.
- J. Ramp extents determined by vehicle swept paths.
- K. Side road narrowed by raingardens or street furniture; width determined by vehicle swept paths.



## Real continuous footway and cycle lane on two-way side street - ramp kerbs over with-flow lanes

This is a cheaper alternative to the splay detail and can work with narrow 150 / 125mm kerbs.

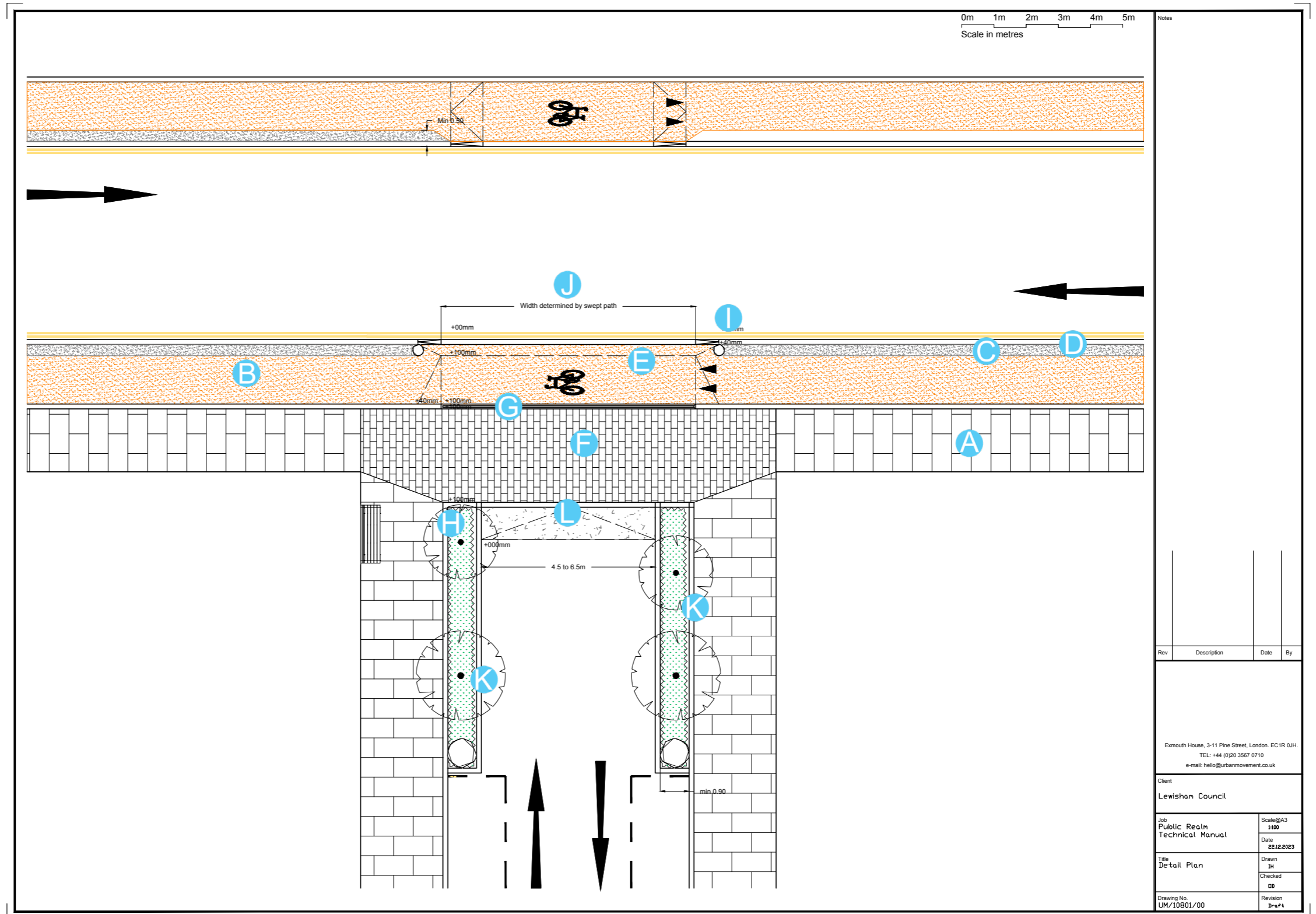
- A. Footway.
- B. Cycle lane (pavers or surface dressed asphalt) minimum 1.5m wide.
- C. Steel edge.
- D. Buffer strip formed of gravel/grass verge minimum 0.5m wide.
- E. Ramp or splay kerb access / egress to cycle lane.
- F. Footway crossover - match footway slabs on reinforced base.
- G. Splay / chamfered kerb, 1:6 gradient.
- H. Trees to create visual narrowing.
- I. Quadrant kerb / bell bollard to define vehicle route.
- J. Ramp extents determined by vehicle swept paths.
- K. Side road narrowed by raingardens or street furniture; width determined by vehicle swept paths.
- L. Asphalt ramp



## Real continuous footway and cycle lane on two-way side street - ramps with small element paving on footway

Where there is a strong chance of damage caused by vehicle loadings and/or numbers of large vehicle crossing the footway, smaller element paving can be used instead of slabs and will work equally well with the splay kerb or ramp detail.

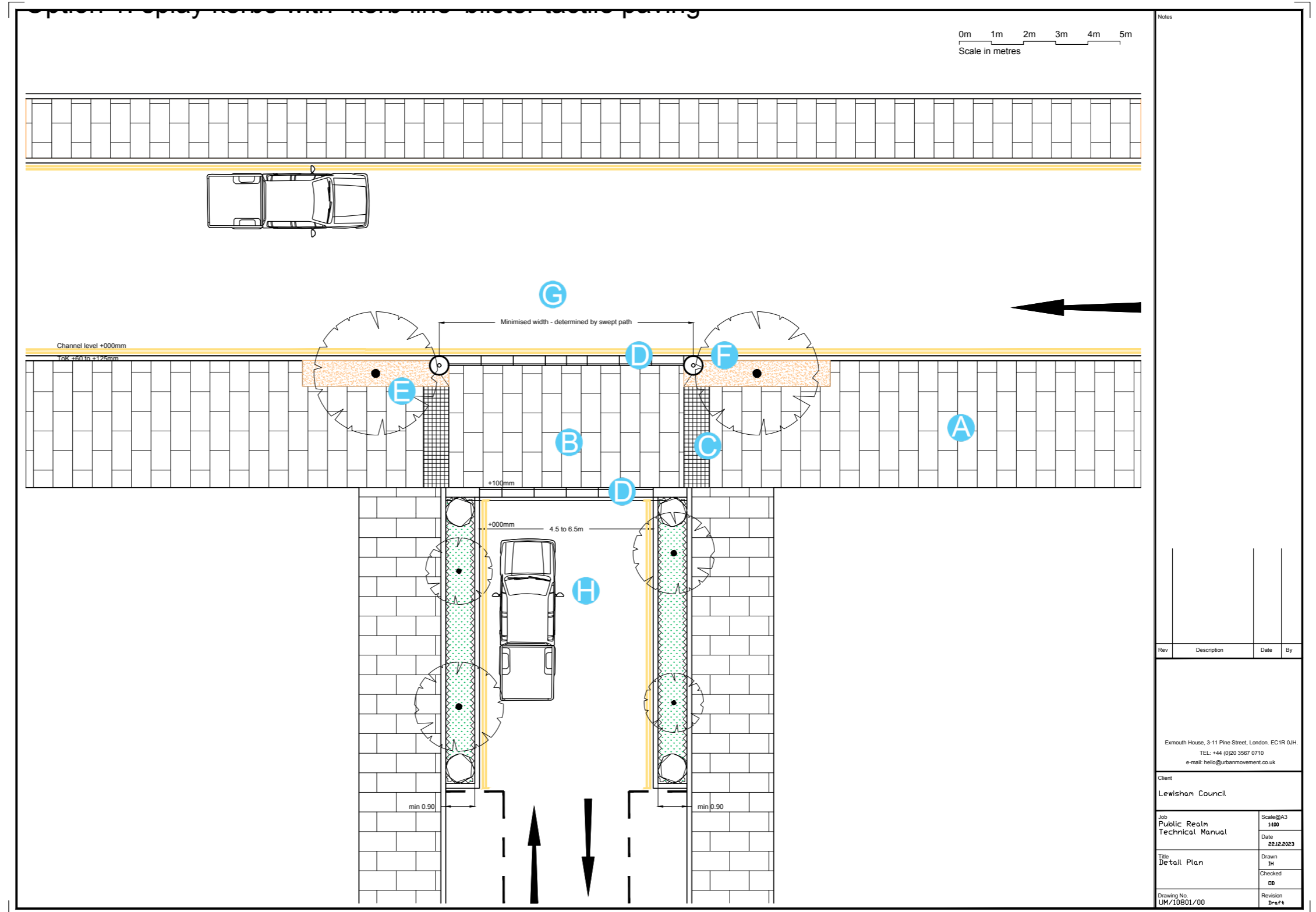
- A. Footway.
- B. Cycle lane (pavers or surface dressed asphalt) minimum 1.5m wide.
- C. Steel edge.
- D. Buffer strip formed of gravel/grass verge minimum 0.5m wide.
- E. Ramp or splay kerb access / egress to cycle lane.
- F. Footway crossover - match footway slabs on reinforced base.
- G. Splay / chamfered kerb, 1:6 gradient.
- H. Trees to create visual narrowing.
- I. Quadrant kerb / bell bollard to define vehicle route.
- J. Ramp extents determined by vehicle swept paths.
- K. Side road narrowed by raingardens or street furniture; width determined by vehicle swept paths.
- L. Asphalt ramp.



**Continuous footway with tactile paving - splay kerbs with blister paving at the edge of the vehicle route.**

To be used when the local visually impaired group have a stated a preference for tactile blister paving.

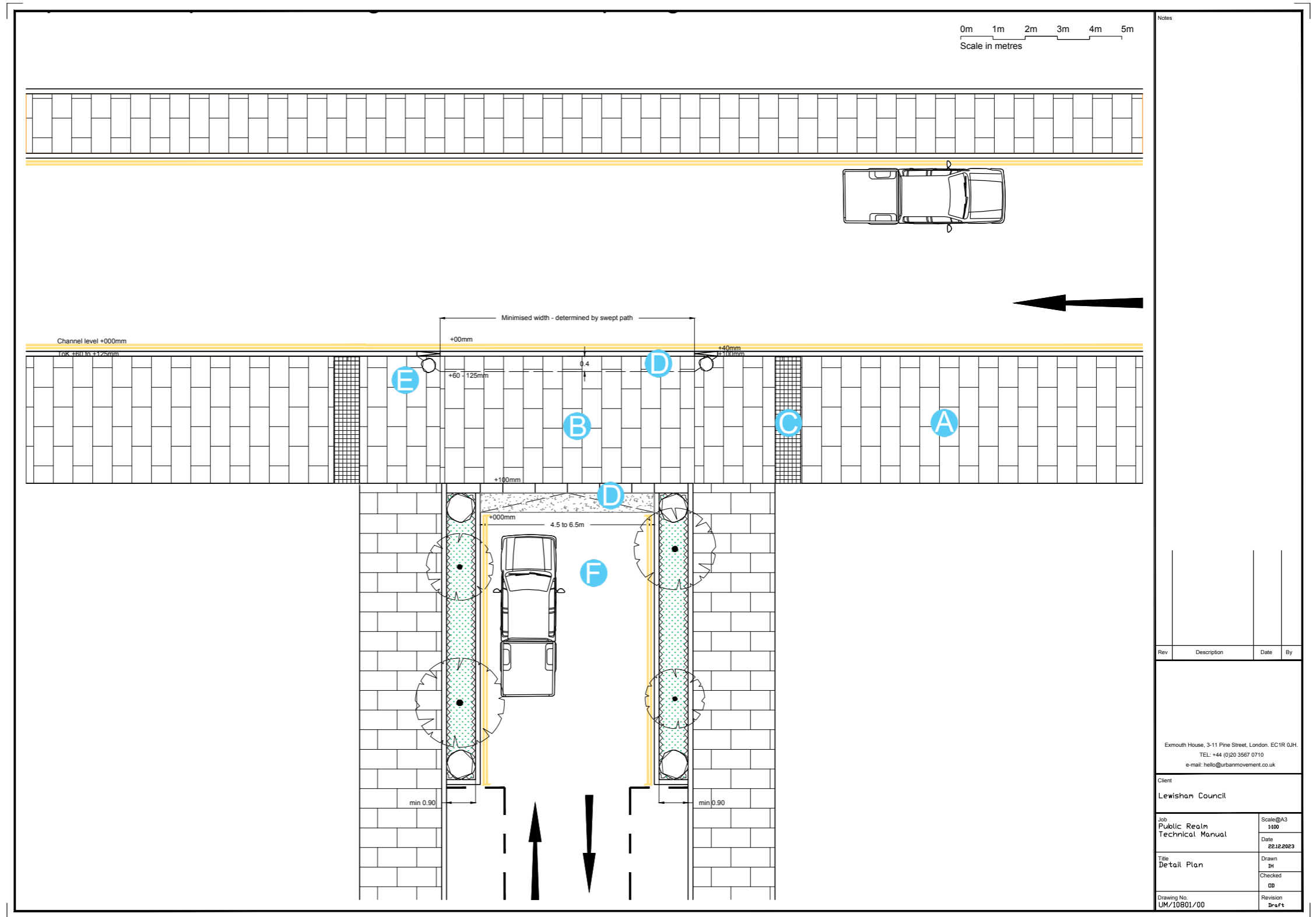
- A. Footway.
- B. Footway, at vehicle crossover - material to match footway on reinforced base and/ or with a reduced unit size.
- C. Blister paving 800mm deep.
- D. Splay / chamfered kerb.
- E. Trees to create visual narrowing.
- F. Quadrant kerb / bell bollard to define vehicle route.
- G. Ramp extents determined by vehicle swept paths.
- H. Side road narrowed by raingardens or street furniture, determined by vehicle swept paths.



### Continuous footway with tactile paving - blister paving set back to the building line.

To be used when the local visually impaired group have a stated a preference for tactile blister paving.

- A. Footway.
- B. Footway, at vehicle crossover - material to match footway on reinforced base and/ or with a reduced unit size.
- C. Blister paving 800mm deep.
- D. Ramp.
- E. Round boulder / bell bollard to define vehicle route width determined by vehicle swept paths.
- F. Side road narrowed by raingardens or street furniture, determined by vehicle swept paths.

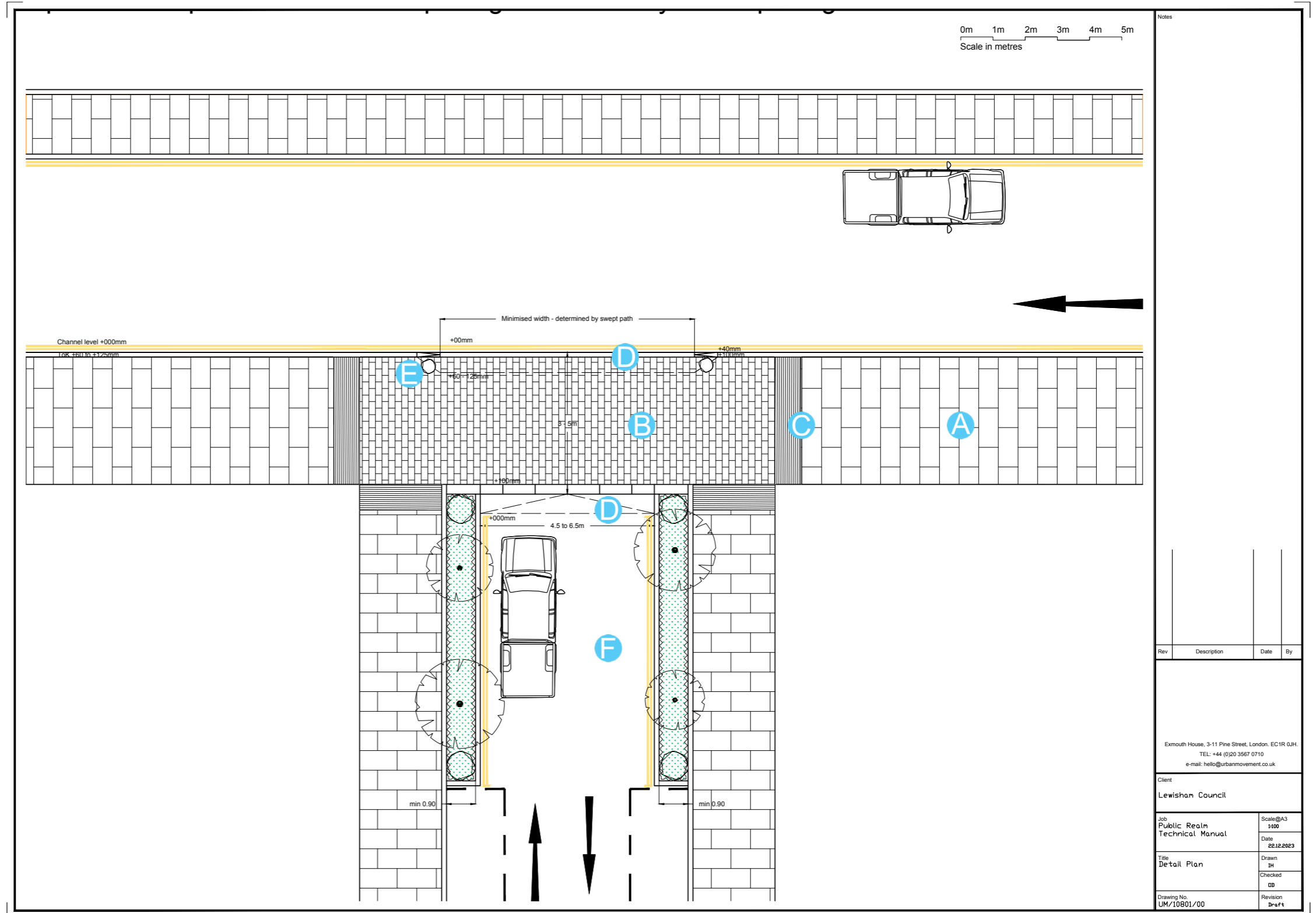




## Continuous footway with tactile paving - corduroy

To be used when the local visually impaired group have a stated a preference for tactile blister paving.

- A. Footway.
- B. Footway, at vehicle crossover - material to match footway on reinforced base and/or with a reduced unit size.
- C. Corduroy paving 800mm deep.
- D. Ramp.
- E. Round boulder / bell bollard to define vehicle route width determined by vehicle swept paths.
- F. Side road narrowed by raingardens or street furniture, determined by vehicle swept paths.



# 5.2 Vehicle crossovers

## Access to private land and driveways

On a standard domestic crossover full sized slabs can be used (to match the footway) and placed on a concrete base to cope with the vehicle loadings. In most locations ramps with dropped kerbs will be the most appropriate detail as these simpler to construct. All of these details will also be applicable on footways surfaced in small element paving.

### Option 1 - splay / chamfered kerb

- A. Splay / chamfered kerb on a slab footway.
- B. Quadrant transition kerb to tie back to existing.

### Option 2 - dropped kerbs

- A. Ramp, gradient 1:4 on a slab footway.
- B. Transition / dropper kerb.
- C. Dropped kerbs.

### Option 3 - dropped kerbs and concrete ramp.

- a. Ramp, gradient 1:4 cast insitu concrete on a slab footway.
- A. Transition / dropper kerb.
- B. Dropped kerbs.

### Option 4 - splay / chamfered kerb on asphalt footway

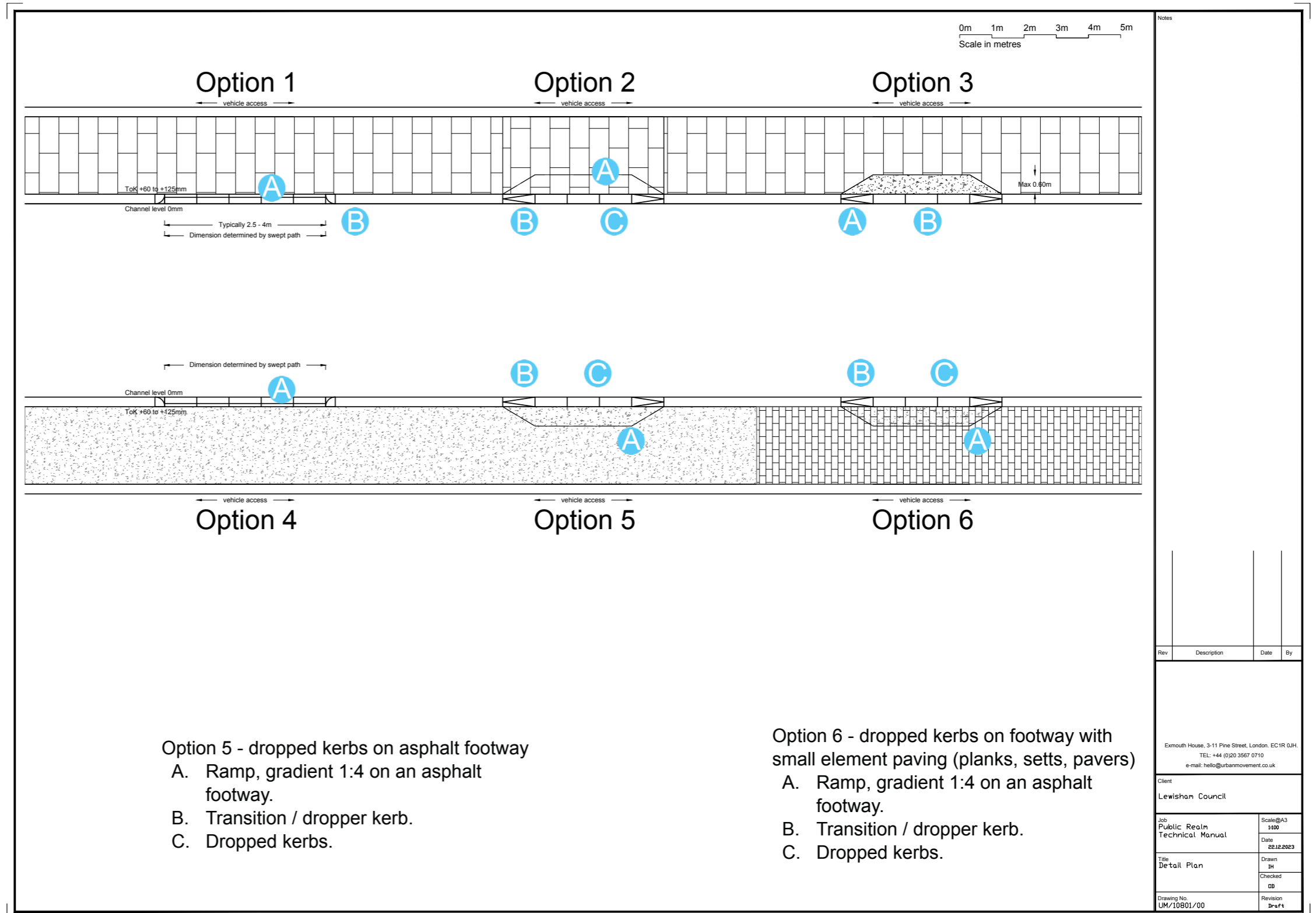
- A. Splay / chamfered kerb on an asphalt footway.
- B. Transition / dropper kerb.
- C. Dropped kerbs.

### Option 5 - dropped kerbs on asphalt footway

- A. Ramp, gradient 1:4 on an asphalt footway.
- B. Transition / dropper kerb.
- C. Dropped kerbs.

### Option 6 - dropped kerbs on footway with small element paving (planks, setts, pavers)

- A. Ramp, gradient 1:4 on an asphalt footway.
- B. Transition / dropper kerb.
- C. Dropped kerbs.



# 5.3 Footway loading and parking pads

## Footway loading and parking pads

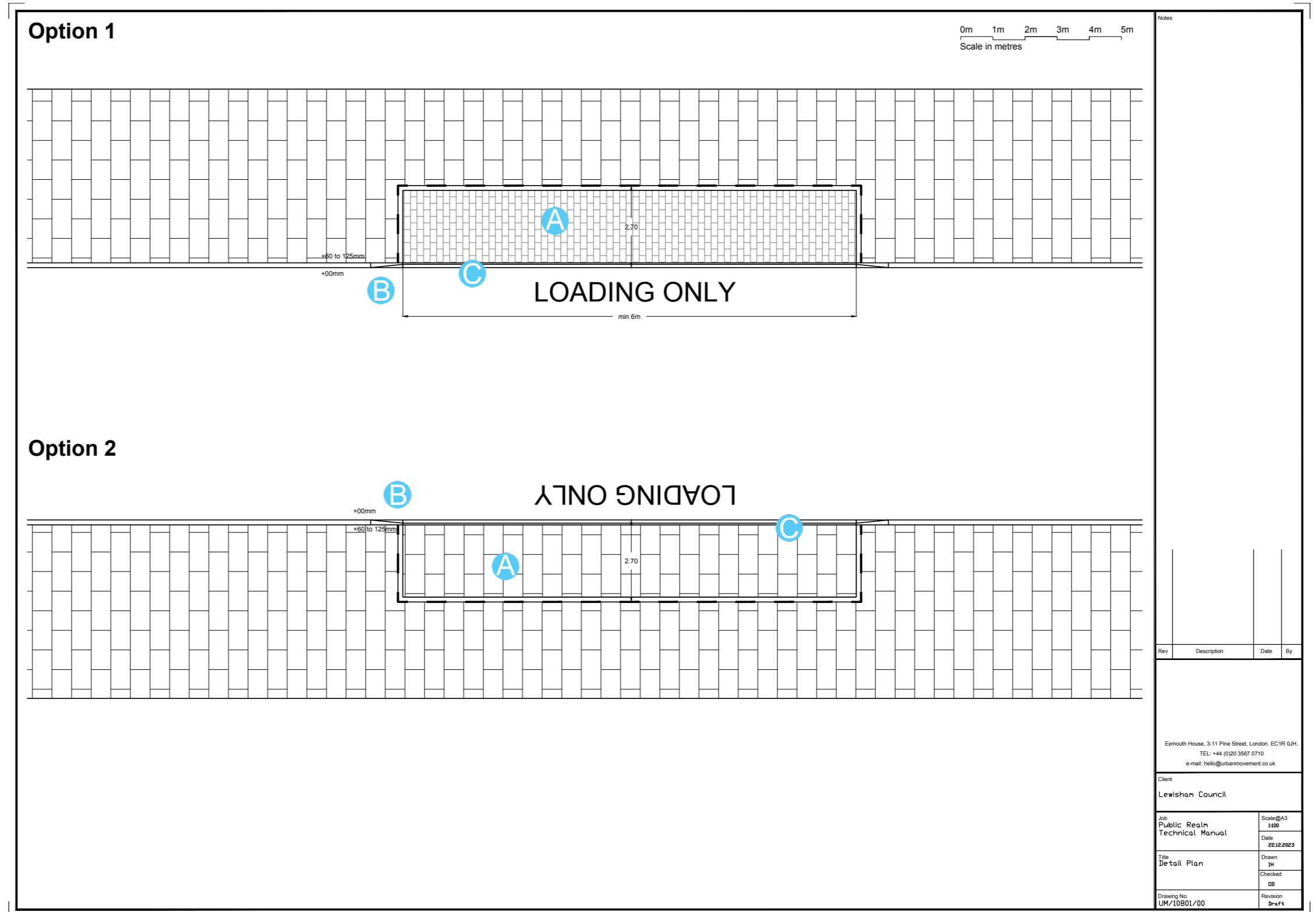
To be used when the local visually impaired group have a stated a preference for tactile blister paving.

### Option 1 - reclaimed stone setts

- A. Reclaimed stone setts (dark new stone setts or dark PCC pavers are also suitable)
- B. Transition / dropper kerb.
- C. Dropped kerbs.

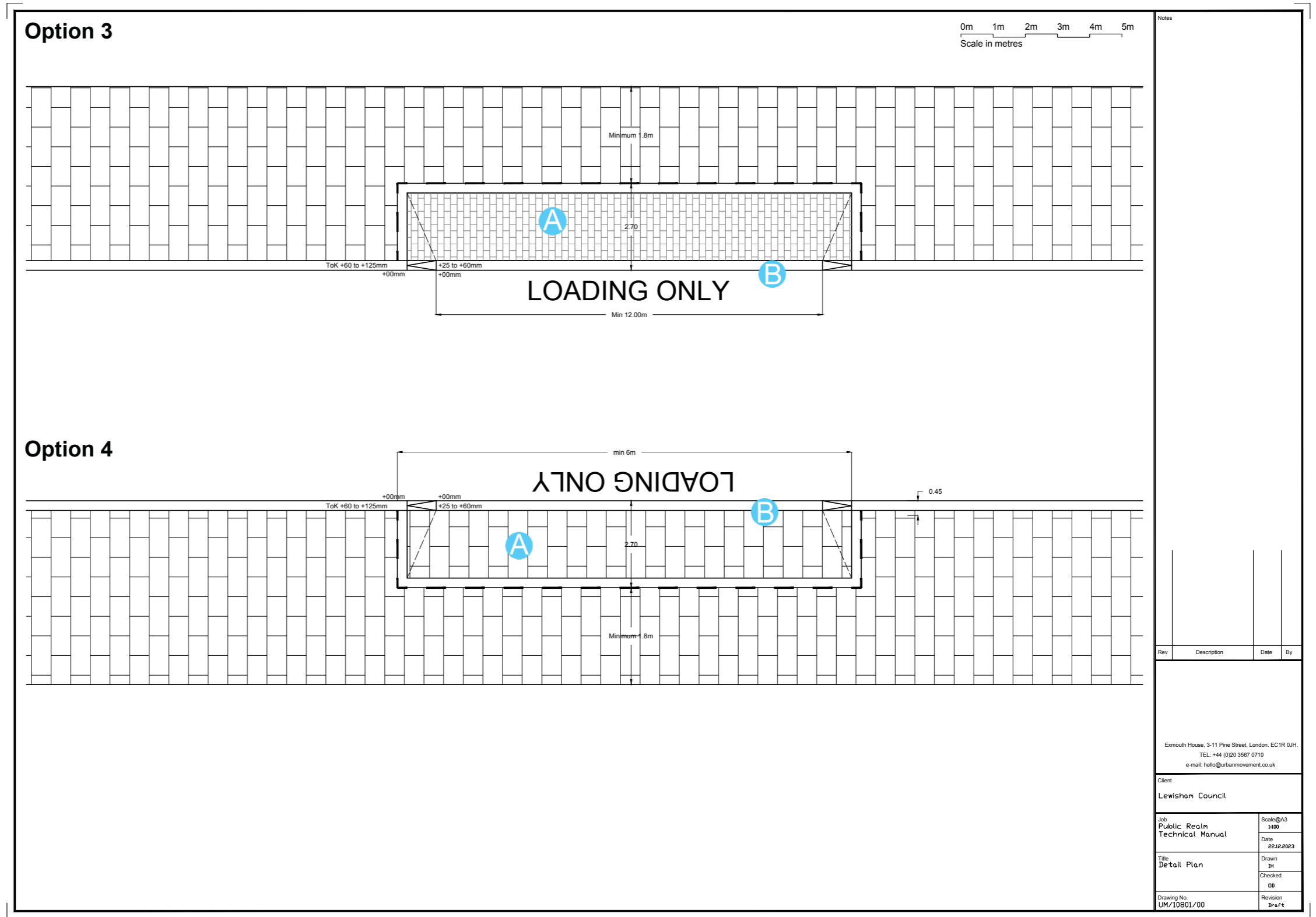
### Option 2 - material to match footway

- A. Slabs to match footway / dark mix.
- B. Transition / dropper kerb.
- C. Dropped kerbs.



Option 3 - reclaimed stone setts

- A. Reclaimed stone setts (dark new stone setts or dark PCC pavers are also suitable)
- B. Splay / chamfered kerb.

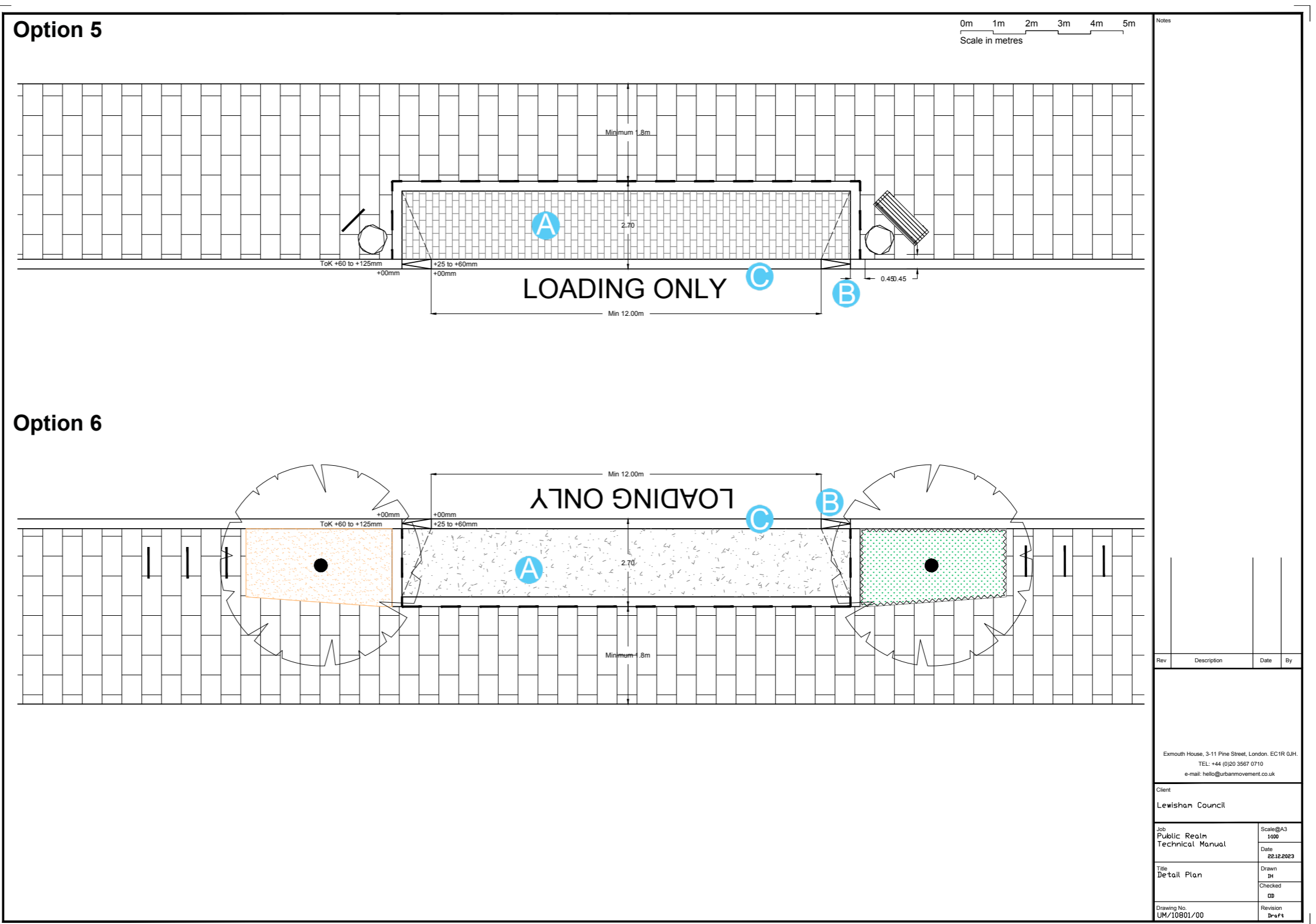


Option 4 - material to match footway.  
Suitable only in areas where the loading pad is infrequently used.

- A. Slabs to match footway.
- B. Splay / chamfered kerb

Option 5 - bay bookended with street furniture

- A. Reclaimed stone setts (dark new stone setts or dark PCC pavers are also suitable)
- B. Transition / dropper kerb.
- C. Dropped kerbs.



Option 6 - bay bookended with trees and planting

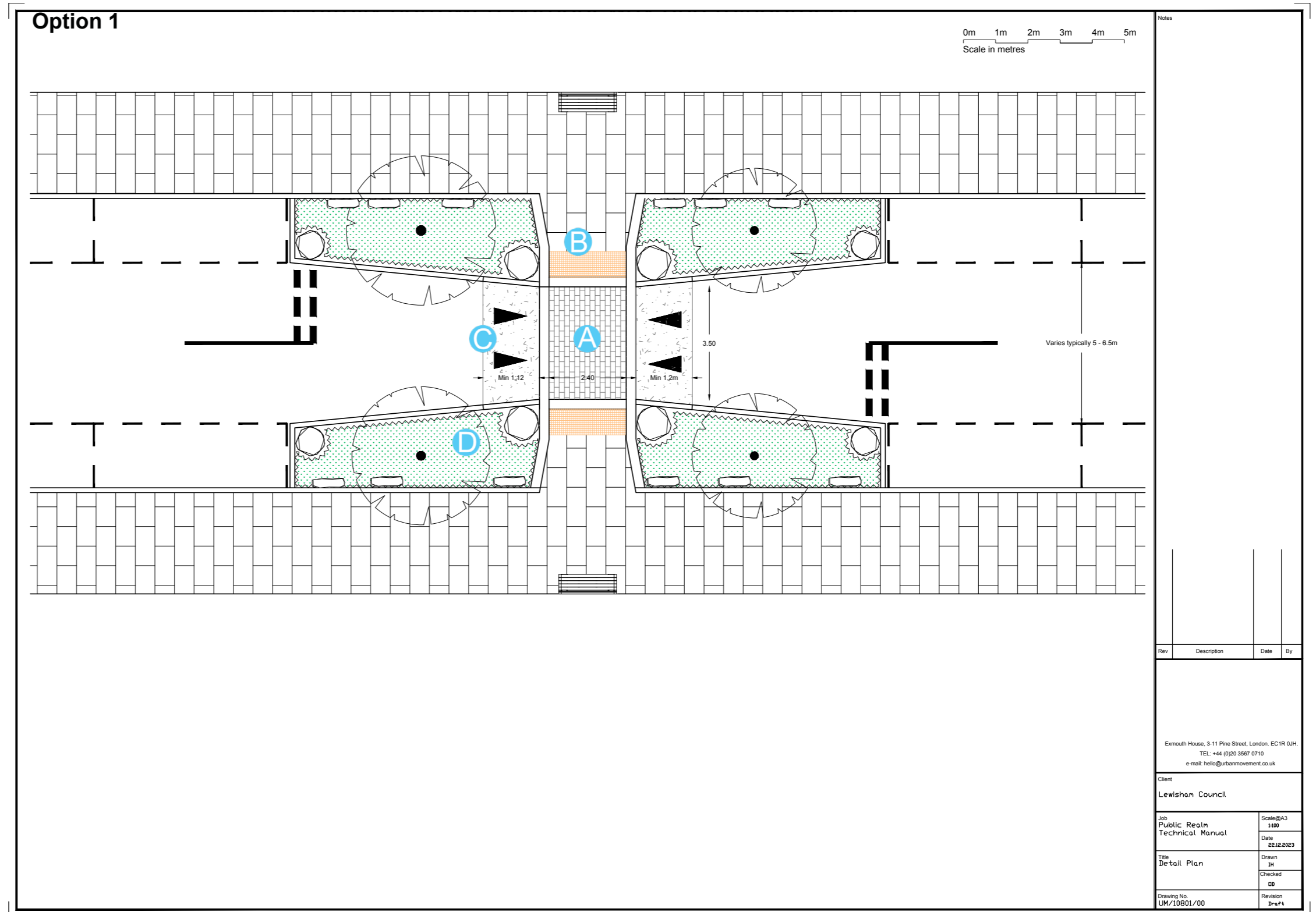
- A. Asphalt surface.
- B. Transition / dropper kerb.
- C. Dropped kerbs.

# 5.4 Informal pedestrian crossing

## Informal pedestrian crossing

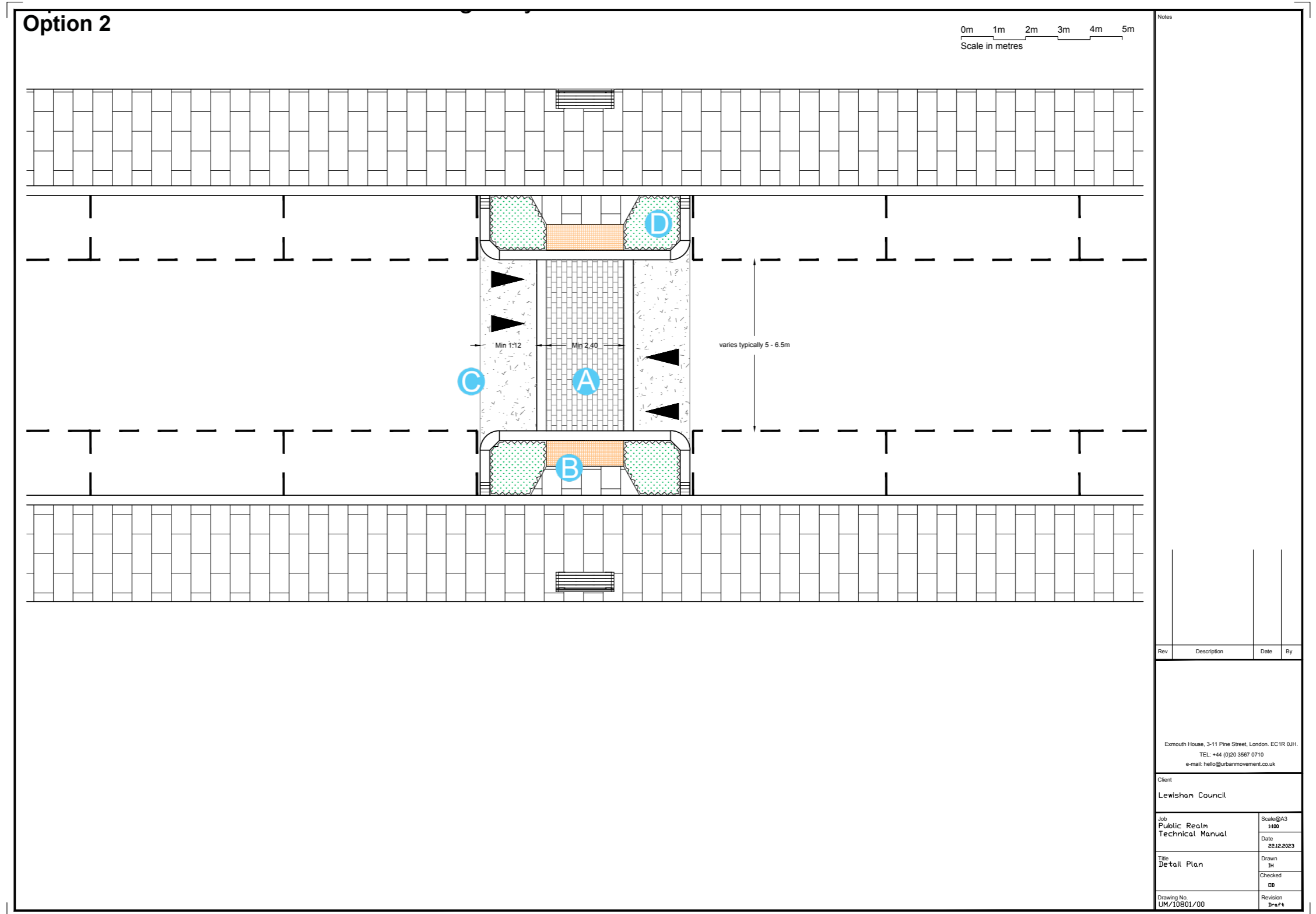
Option 1 - centrally narrowed carriageway

- A. Raised crossing area.
- B. Contrasting colour tactile paving, 800mm depth.
- C. Ramps – maximum 1:12 gradients.
- D. Carriageway raingardens to create narrowing.



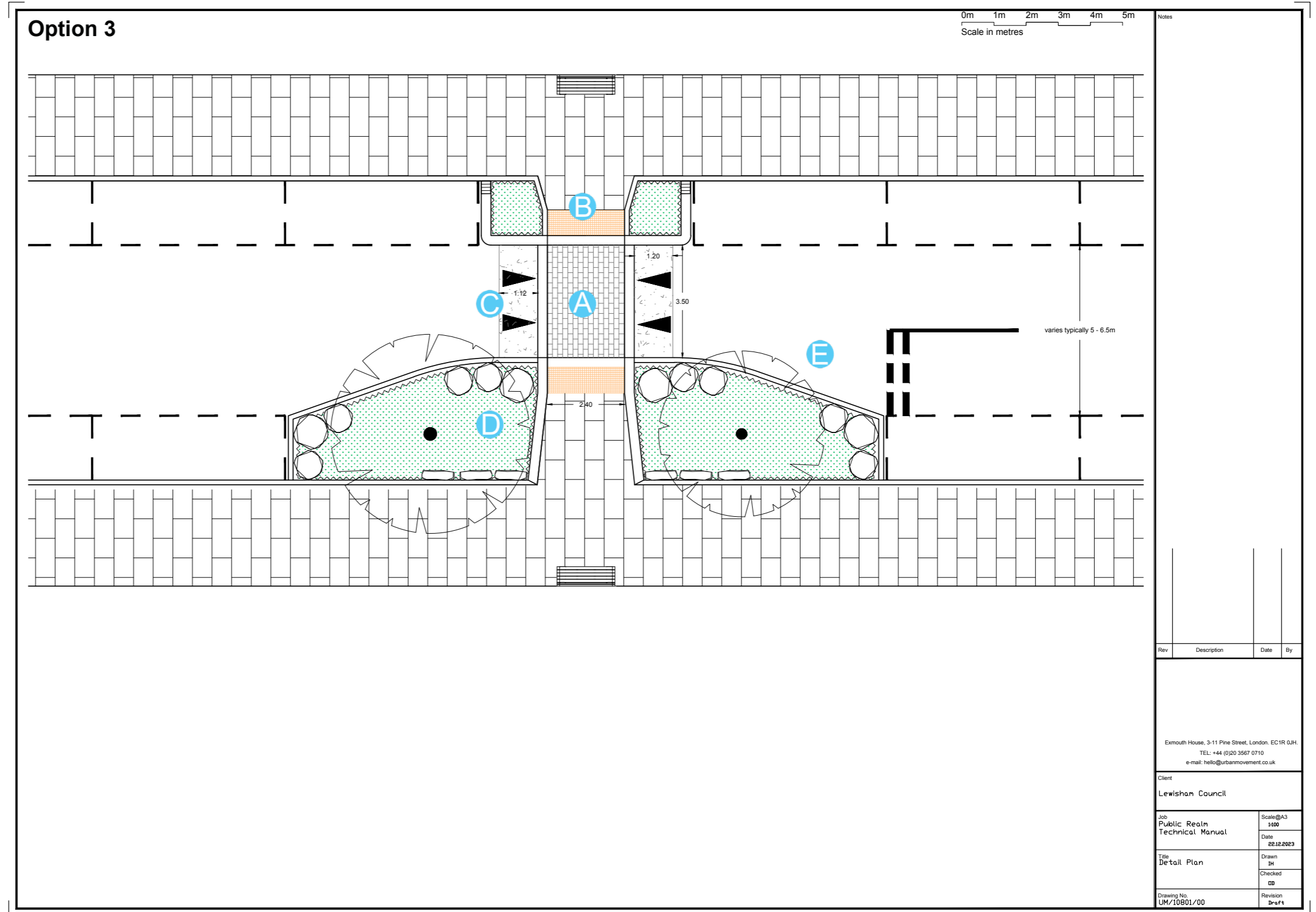
Option 2 – standard carriageway

- A. Raised crossing area.
- B. Contrasting colour tactile paving, 800mm depth.
- C. Ramps – maximum 1:12 gradients.
- D. Planted beds



Option 3 - carriageway half way build-out

- A. Raised crossing area.
- B. Contrasting colour tactile paving, 800mm depth.
- C. Ramps – maximum 1:12 gradients.
- D. Planted beds.
- E. Carriageway raingardens to create narrowing.

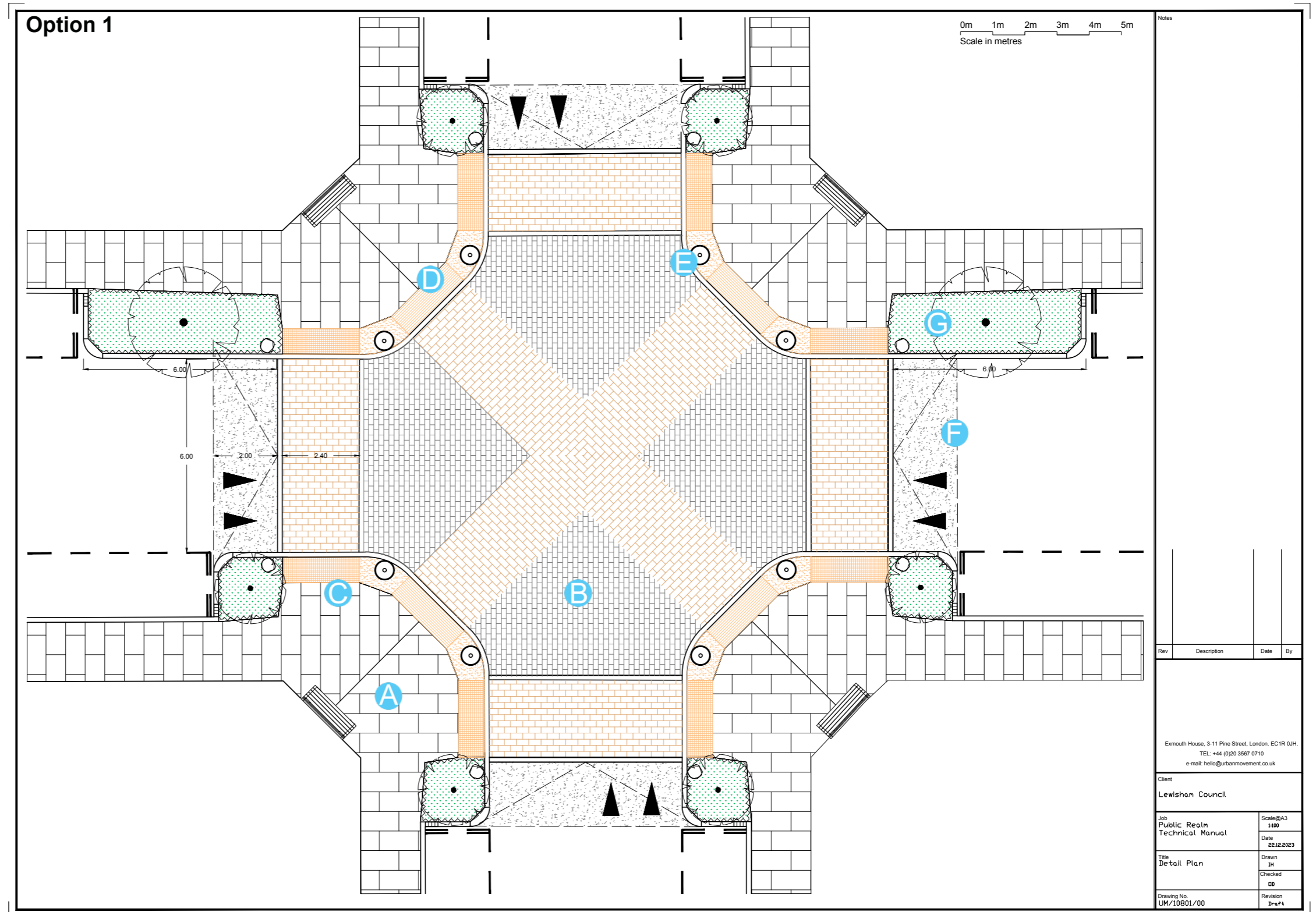




# 5.5 Raised table junction

Option 1 - tabletop in small element paving.  
In situations where one or more arms are side roads the continuous footway layouts may be more applicable.

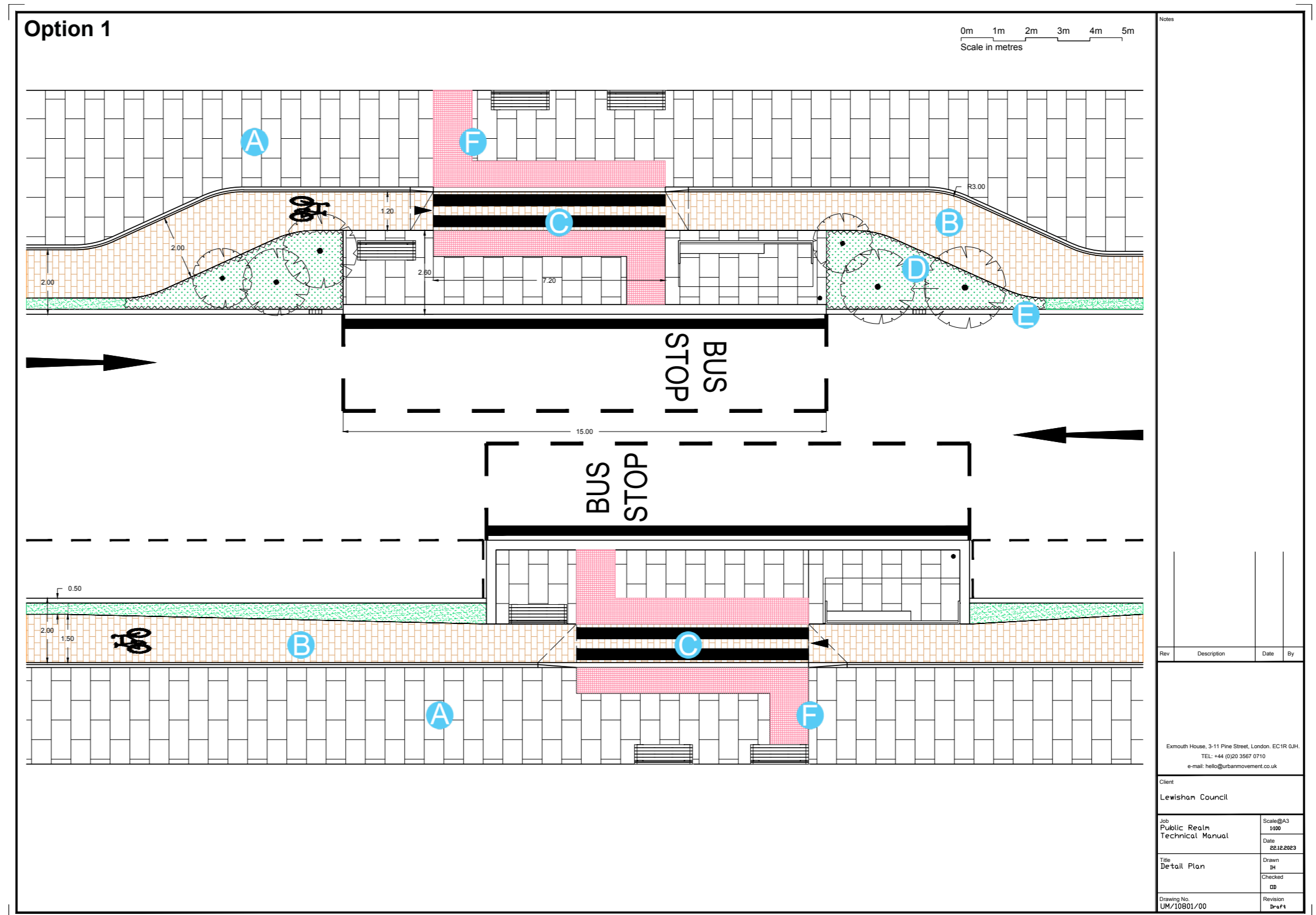
- A. Footway.
- B. Raised table (Stone setts or PCC pavers)
- C. Contrasting colour tactile blister paving, 800mm depth.
- D. Contrasting colour tactile corduroy paving, 800mm depth.
- E. Corner protection (bell bollard, rounded boulder)
- F. Ramps – maximum 1:12 gradients.
- G. Raingardens.



# 5.6 Bus stops on cycle routes

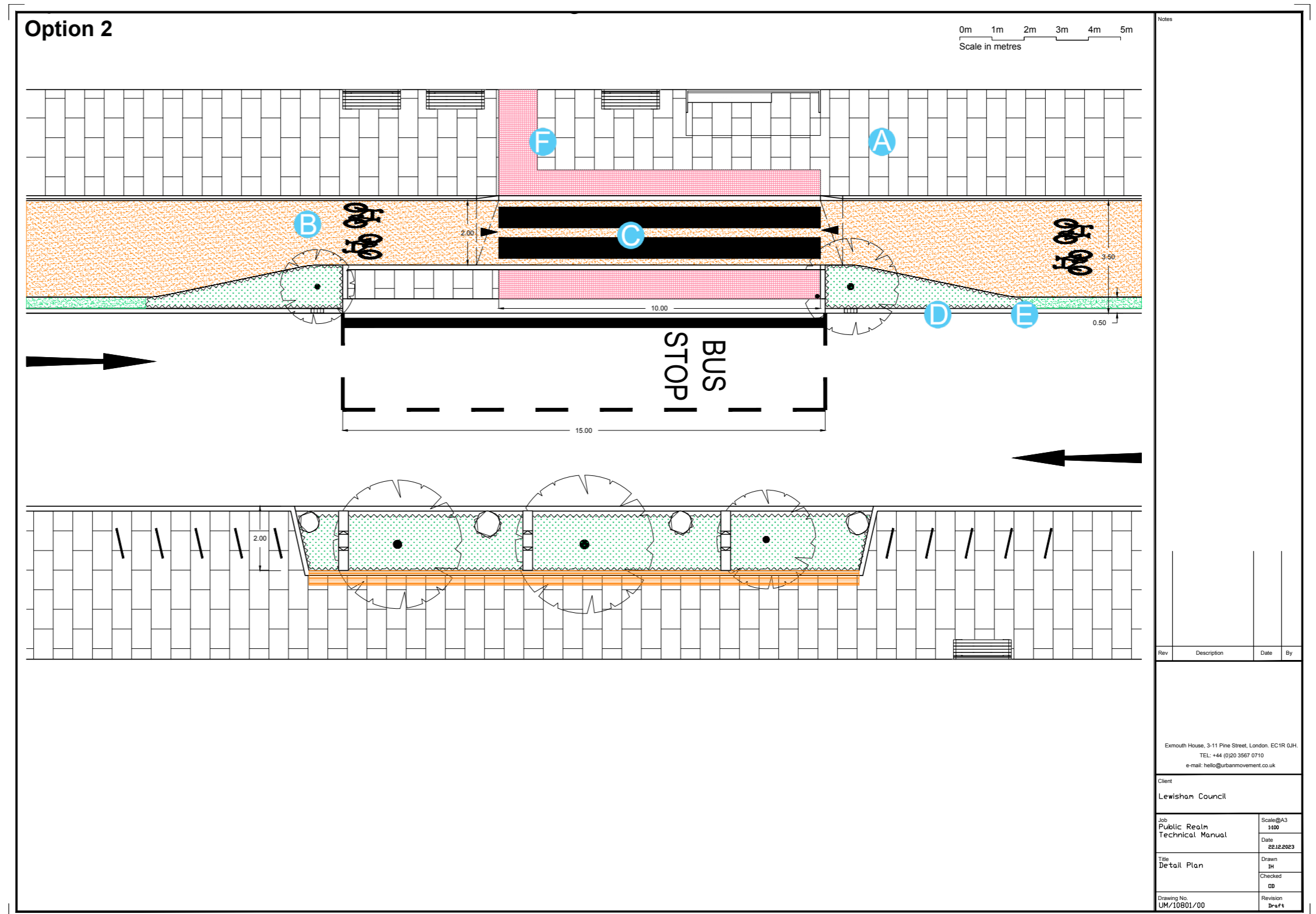
Option 1 - bus stop bypass with boarding island and with-flow cycle track

- A. Footway.
- B. Cycle track, narrowed at bus stop to 1.2m
- C. Zebra crossing of cycle lane (up to 10m wide)
- D. Raingardens at carriageway level or at cycle track level with side entry gully.
- E. Side entry gully if required.
- F. Tactile blister paving (with subtle colour contrast in conservation areas red/pink in all other locations)



Option 2 - bus stop bypass with boarding island and bi-directional cycle track

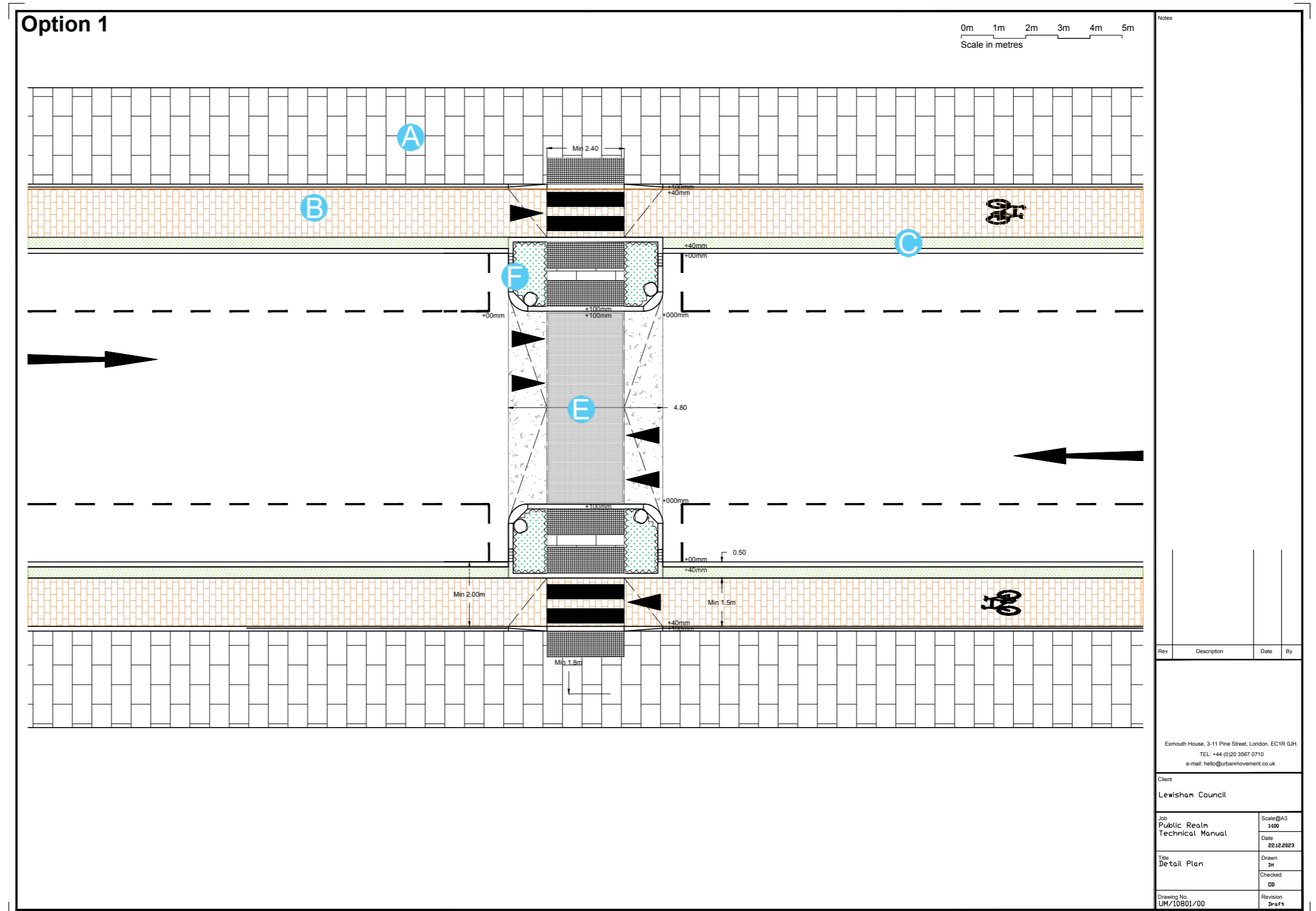
- A. Footway.
- B. Cycle track, narrowed at bus stop to 2m
- C. Zebra crossing of cycle lane (up to 10m wide)
- D. Raingardens at carriageway level or at cycle track level with side entry gully.
- E. Side entry gully if required.
- F. Tactile blister paving (with subtle colour contrast in conservation areas red/pink in all other locations)



# 5.7 Cycle lanes and tracks

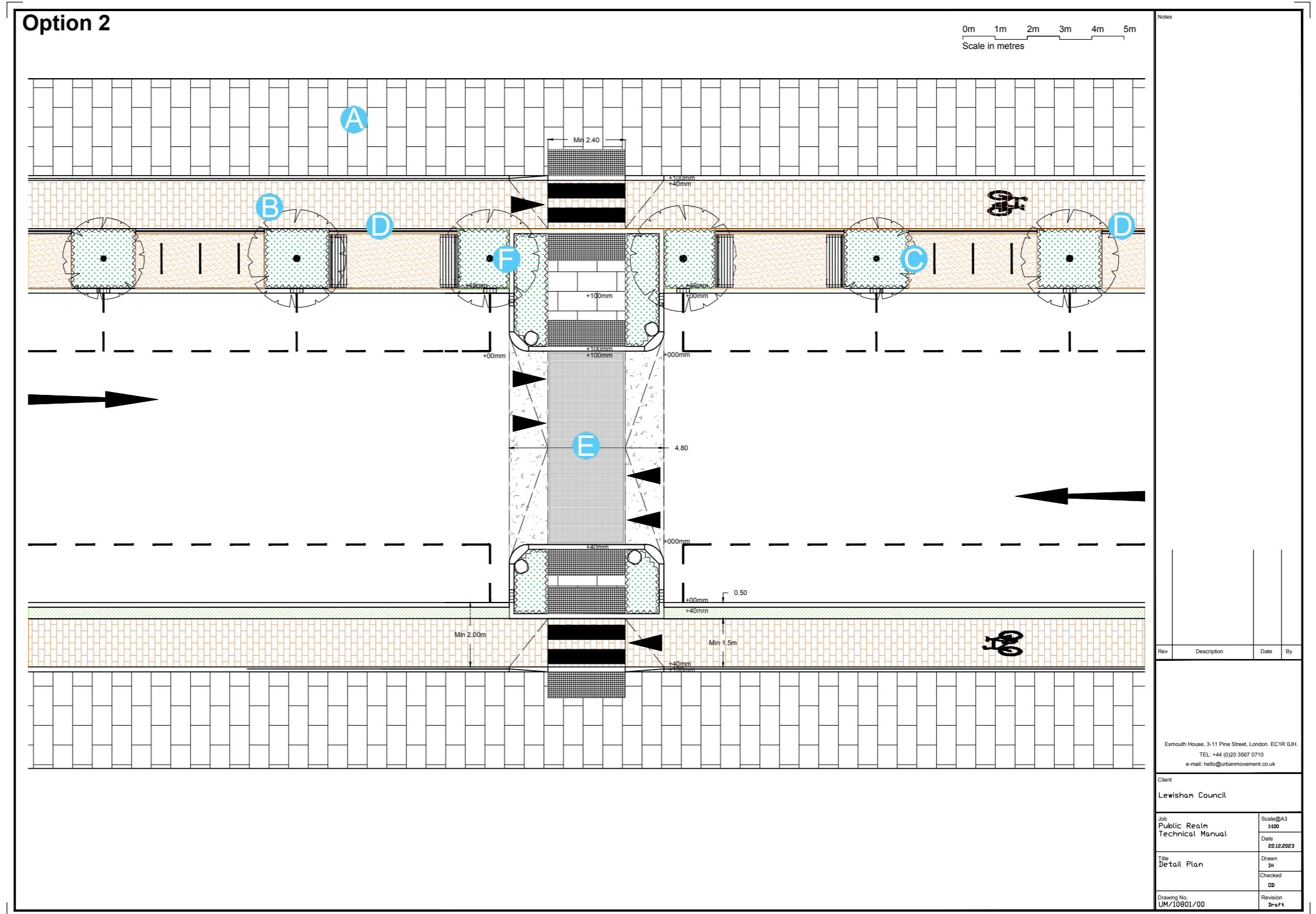
Option 1 -with-flow cycle track with soft verge / buffer at informal crossing

- A. Footway.
- B. Cycle lane in block pavers.
- C. Buffer / verge in gravel / grass, minimum 0.5m wide including kerb.
- D. Steel edge.
- E. Informal crossing.
- F. Raingarden / planted bed.



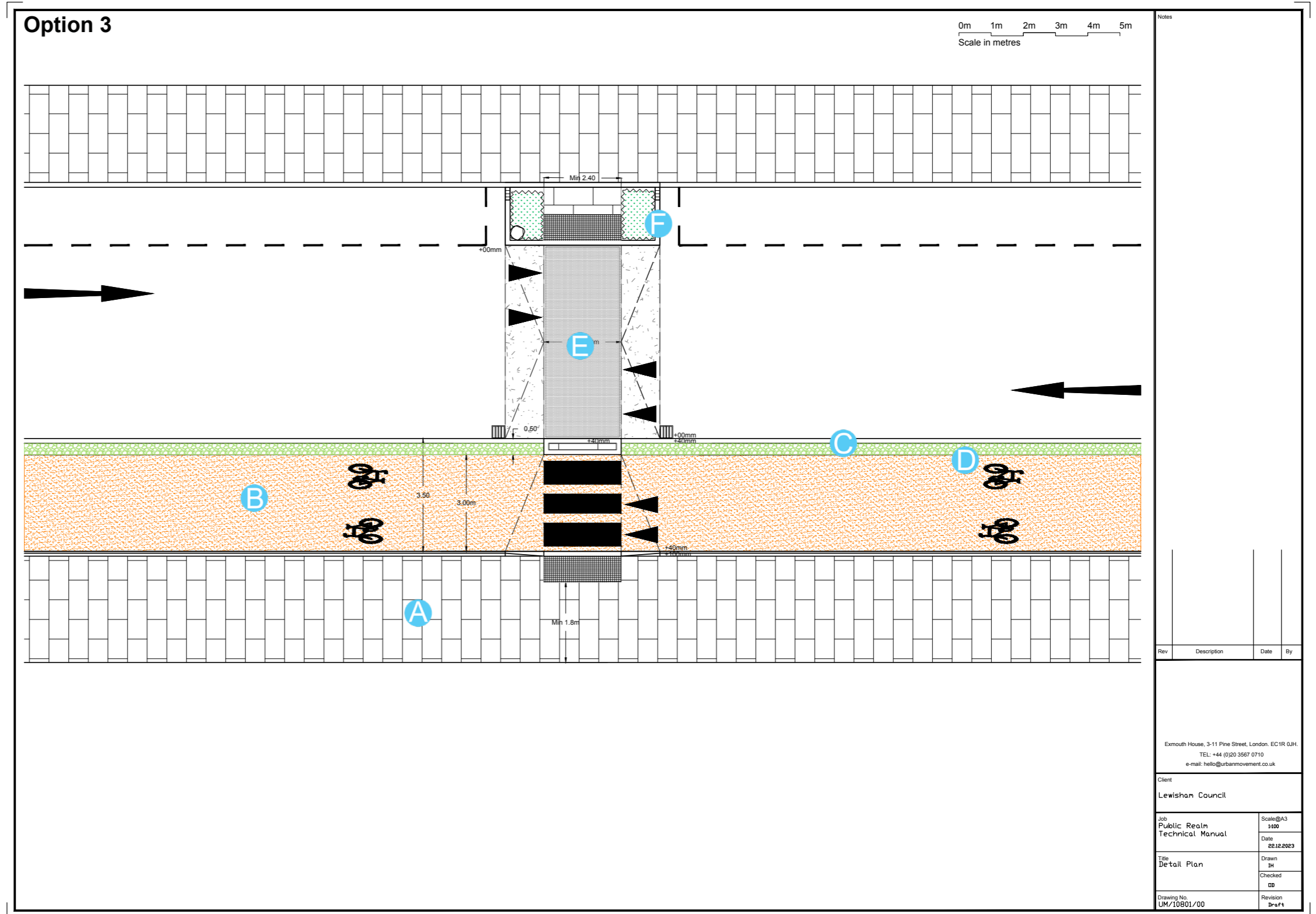
Option 2 - with-flow cycle track with wide soft verge / buffer at informal crossing.

- A. Footway.
- B. Cycle lane in block pavers.
- C. Buffer / mixed use verge, 1.2 – 2.5m wide with raingardens, trees and street furniture.
- D. Steel edge.
- E. Informal crossing.
- F. Raingarden / planted bed.



Option 3 - bidirectional track with narrow soft verge / buffer at informal crossing.

- A. Footway.
- B. Cycle lane in block pavers or asphalt.
- C. Buffer / mixed use verge, 1.2 – 2.5m wide with raingardens, trees and street furniture.
- D. Steel edge.
- E. Informal crossing.
- F. Raingarden / planted bed.

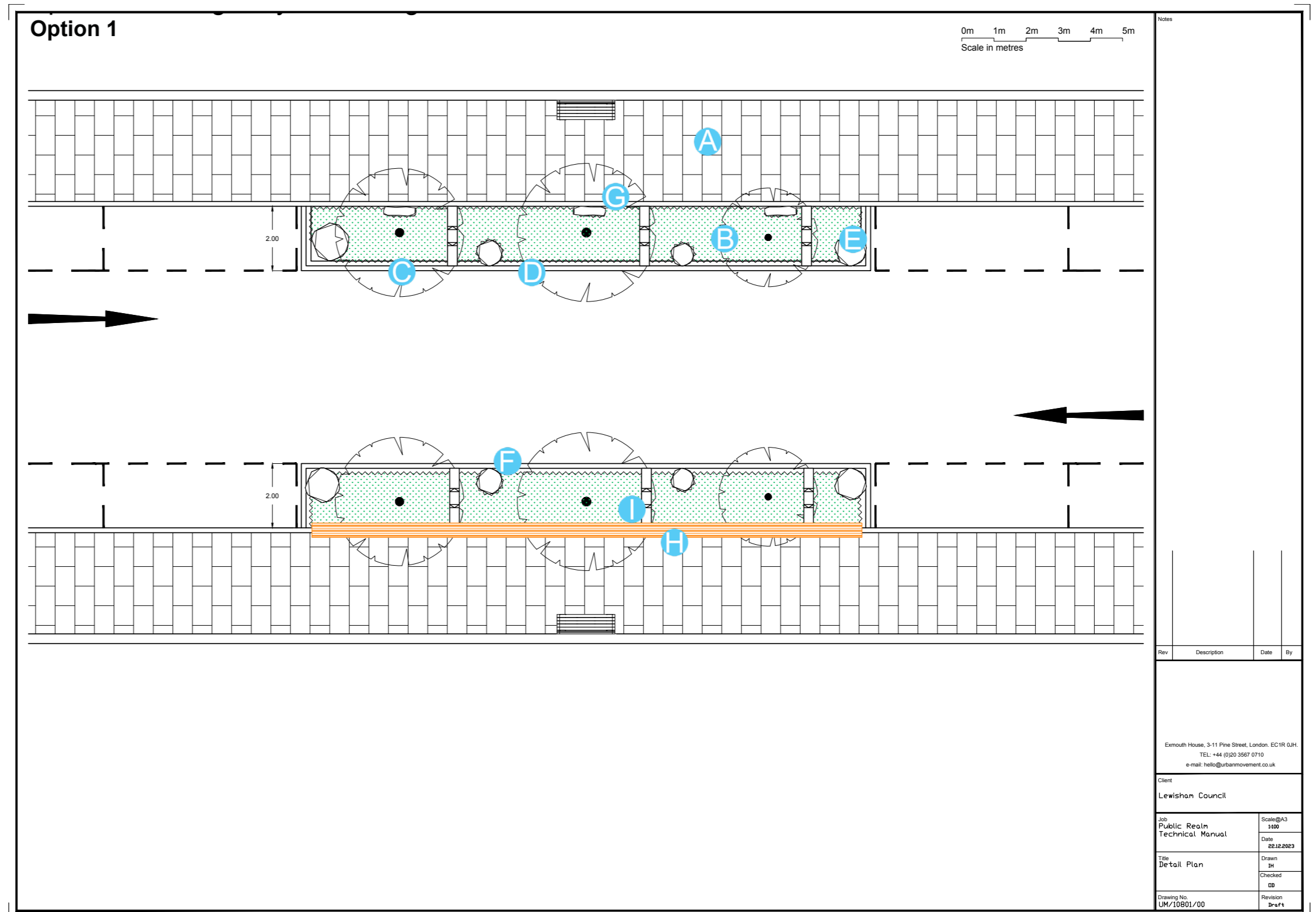


# 5.8 Raingardens

Option 1 - raingardens at carriageway level in the former carriageway.

Raingardens at carriageway level, and in the former carriageway are generally preferred.

- A. Footway.
- B. Planted raingarden, minimum 0.9m internal dimension.
- C. Flush edge with hand trowel haunch with minimum 100mm free board.
- D. Bitumen seal between edge and carriageway if retrofitted.
- E. Rounded boulder corner protection.
- F. Rounded or flat boulder edge protection / parking prevention.
- G. Flat boulder, informal seat / balance play feature.
- H. Floating hardwood timber beam edge / informal seat / balance play feature.
- I. Wier to be used as necessary on sloping sites with long falls greater than 1:100.

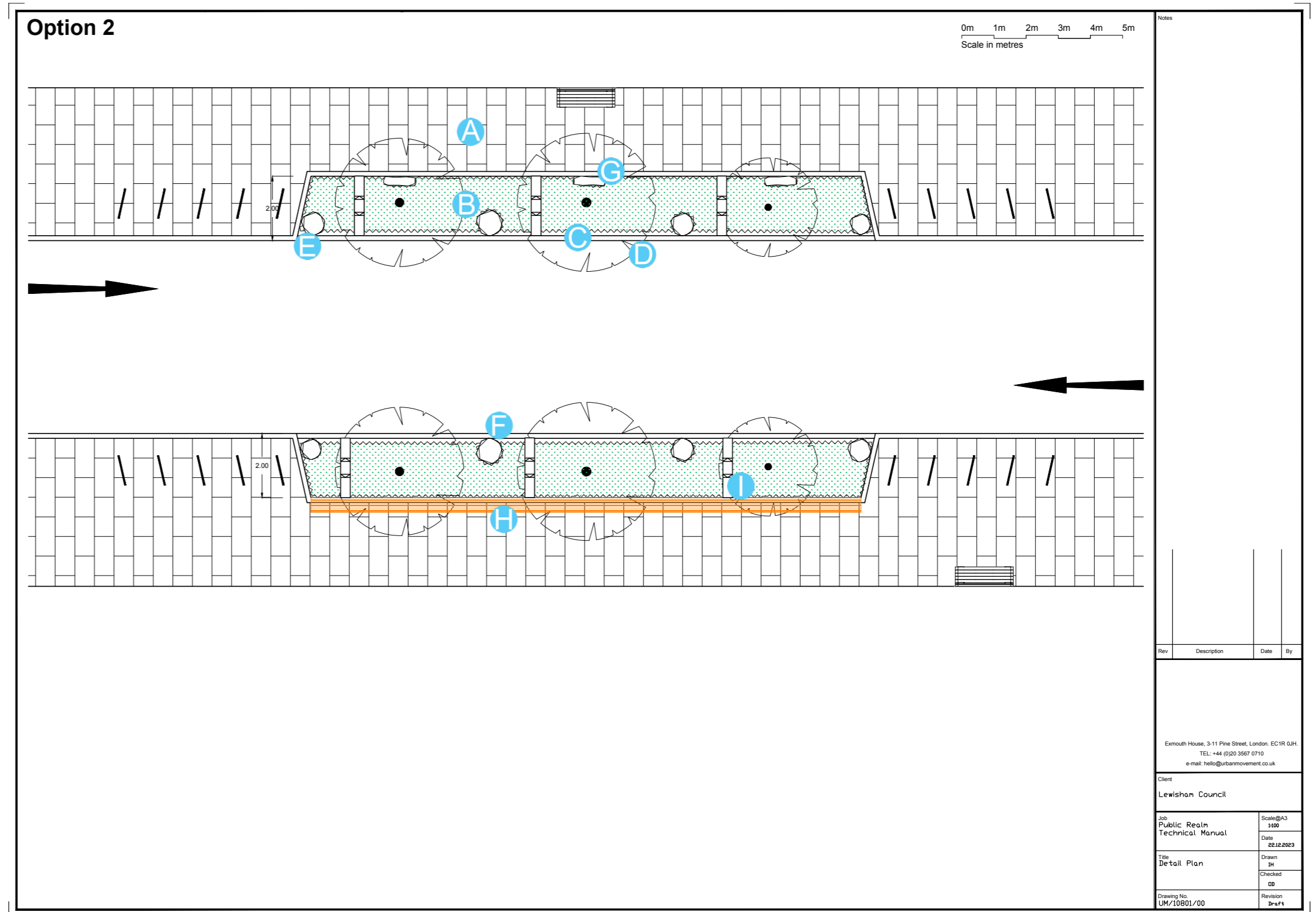


Option 2 - raingardens at carriageway level inset into footway.

Raingardens at carriageway level, and in the former carriageway are generally preferred.

- A. Footway.
- B. Planted raingarden, minimum 0.9m internal dimension.
- C. Flush edge with hand trowel haunch with minimum 100mm free board.\*
- D. Bitumen seal between edge and carriageway if retrofitted.
- E. Rounded boulder corner protection.
- F. Rounded or flat boulder edge protection / parking prevention.
- G. Flat boulder, informal seat / balance play feature.
- H. Floating hardwood timber beam edge / informal seat / balance play feature.
- I. Wier to be used as necessary on sloping sites with long falls greater than 1:100.

\* Alternative detailed with full height kerb and side inlet gully to be agreed with SuDs officer.

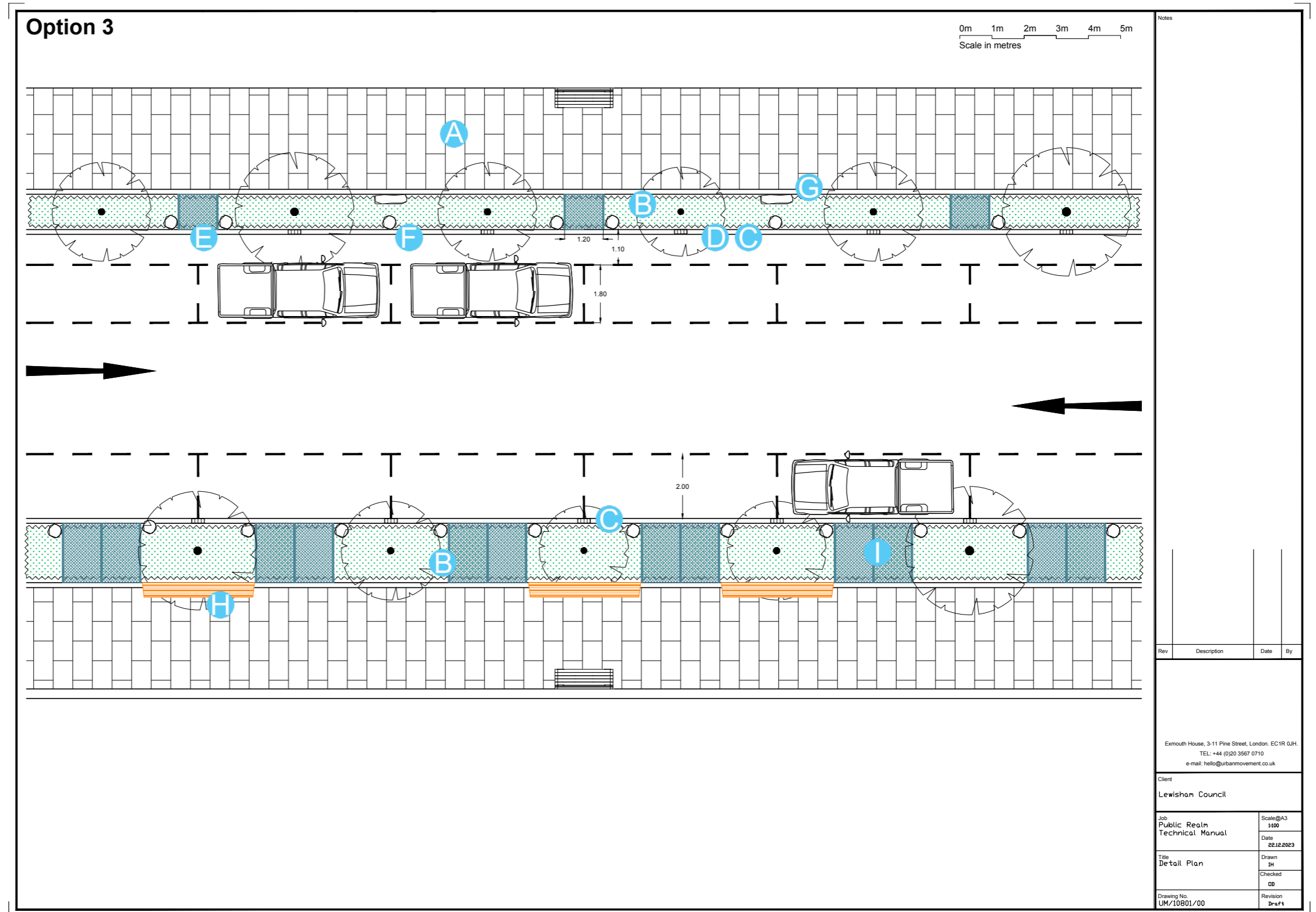




### Option 3 - raingardens with parking

Raingardens at carriageway level, and in the former carriageway are generally preferred.

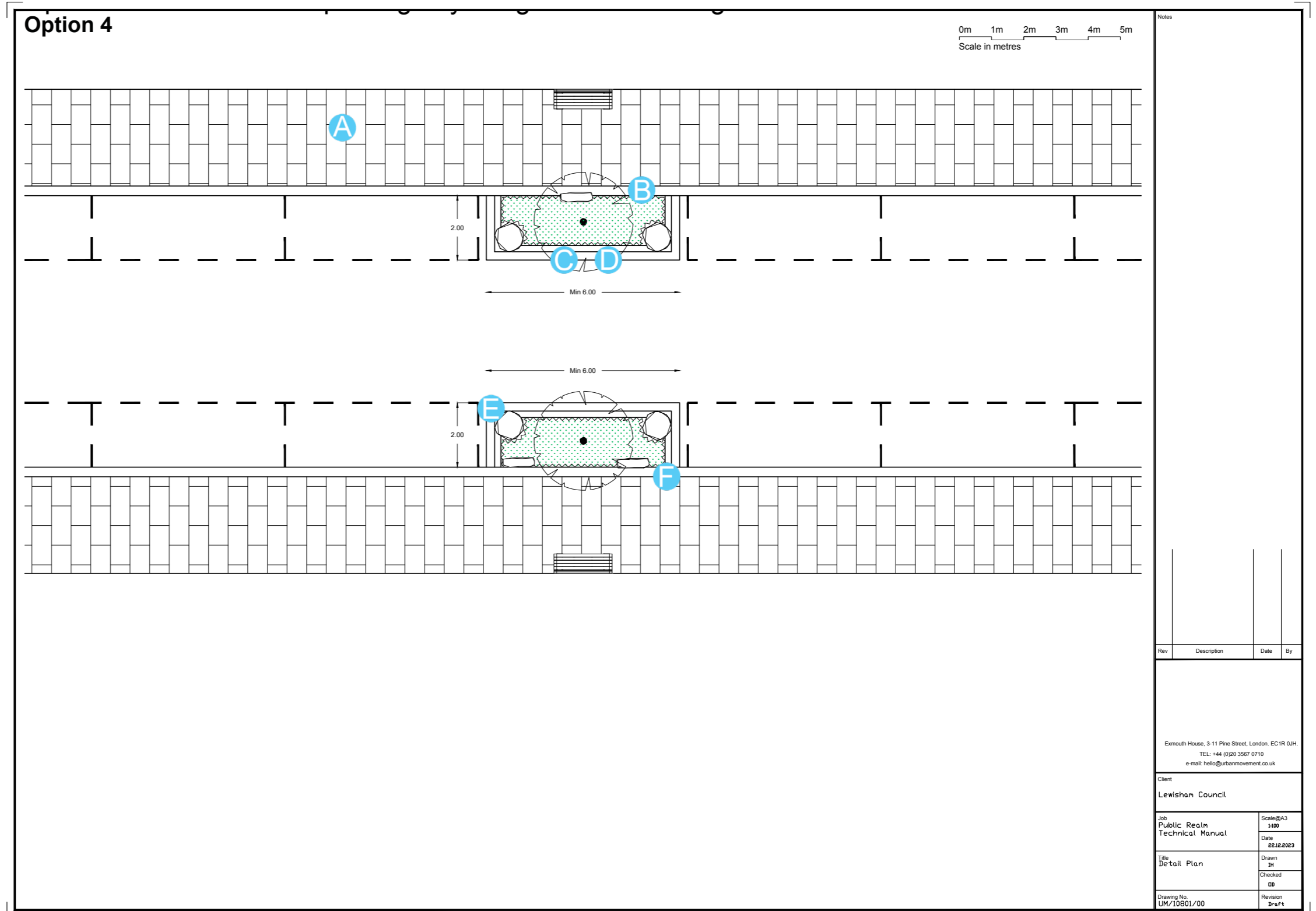
- A. Footway.
- B. Planted raingarden, minimum 0.9m internal dimension.
- C. Flush edge with hand trowel haunch with minimum 100mm free board.
- D. Bitumen seal between edge and carriageway if retrofitted.
- E. Rounded boulder corner protection.
- F. Rounded or flat boulder edge protection / parking prevention.
- G. Flat boulder, informal seat / balance play feature.
- H. Floating hardwood timber beam edge / informal seat / balance play feature.
- I. Bridge, 1.2m wide, open weld mesh panel, stone slabs or perforated Corten steel.



Option 4 - small buildout raingardens with tree

Raingardens at carriageway level, and in the former carriageway are generally preferred.

- A. Footway.
- B. Planted raingarden, minimum 0.9m internal dimension and minimum 6m<sup>2</sup>.
- C. Flush edge with hand trowel haunch with minimum 100mm free board.
- D. Bitumen seal between edge and carriageway if retrofitted.
- E. Rounded boulder corner protection.
- F. Flat boulder, informal seat / balance play feature.

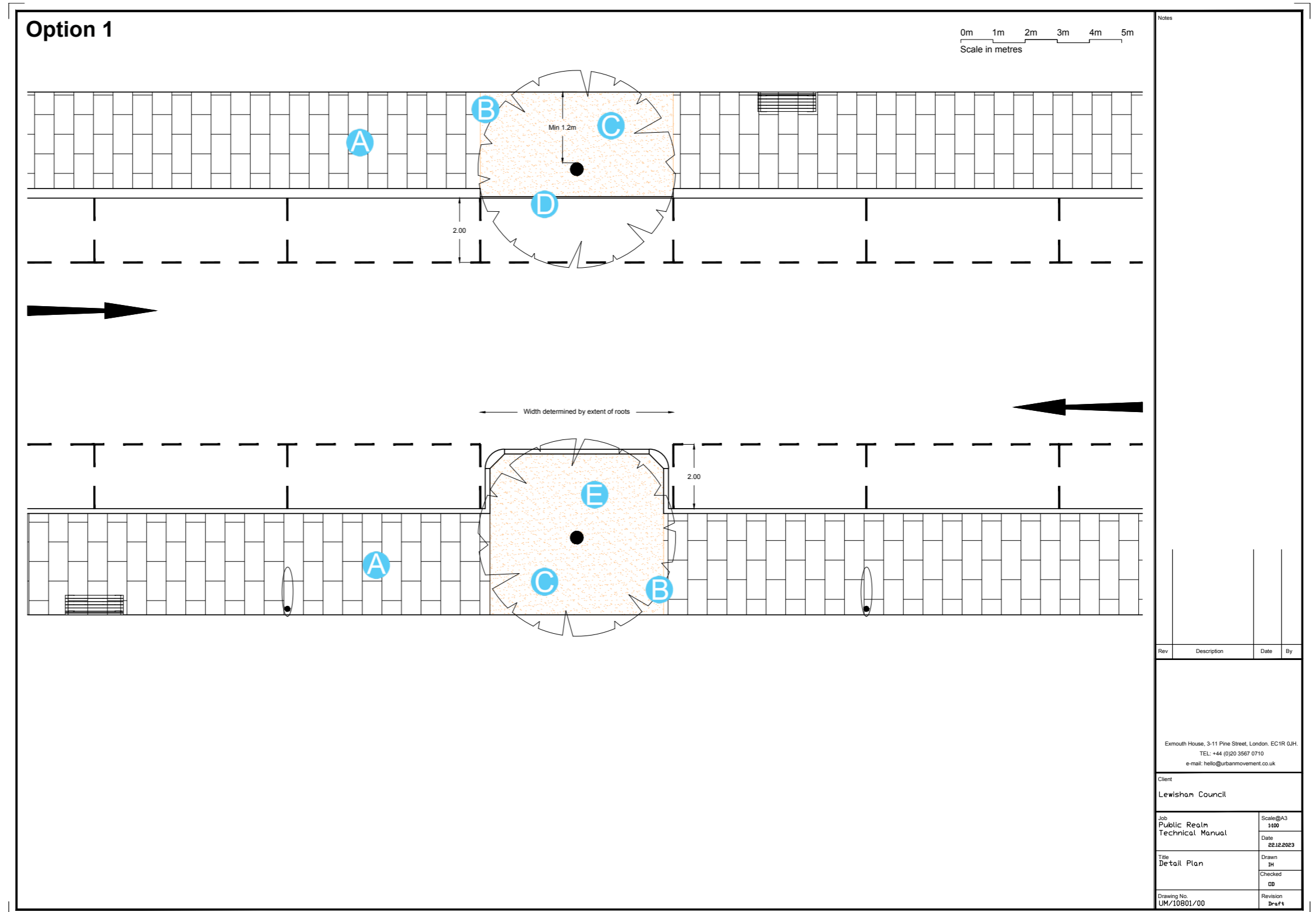


# 5.9 Trees in footways

These templates illustrate how to deal with tree roots that are lifting footways but can be applied to new trees in footways to prevent anticipated future damage. Option to drain surface water runoff into a modified tree pit. Detail TBA with LBL tree officer.

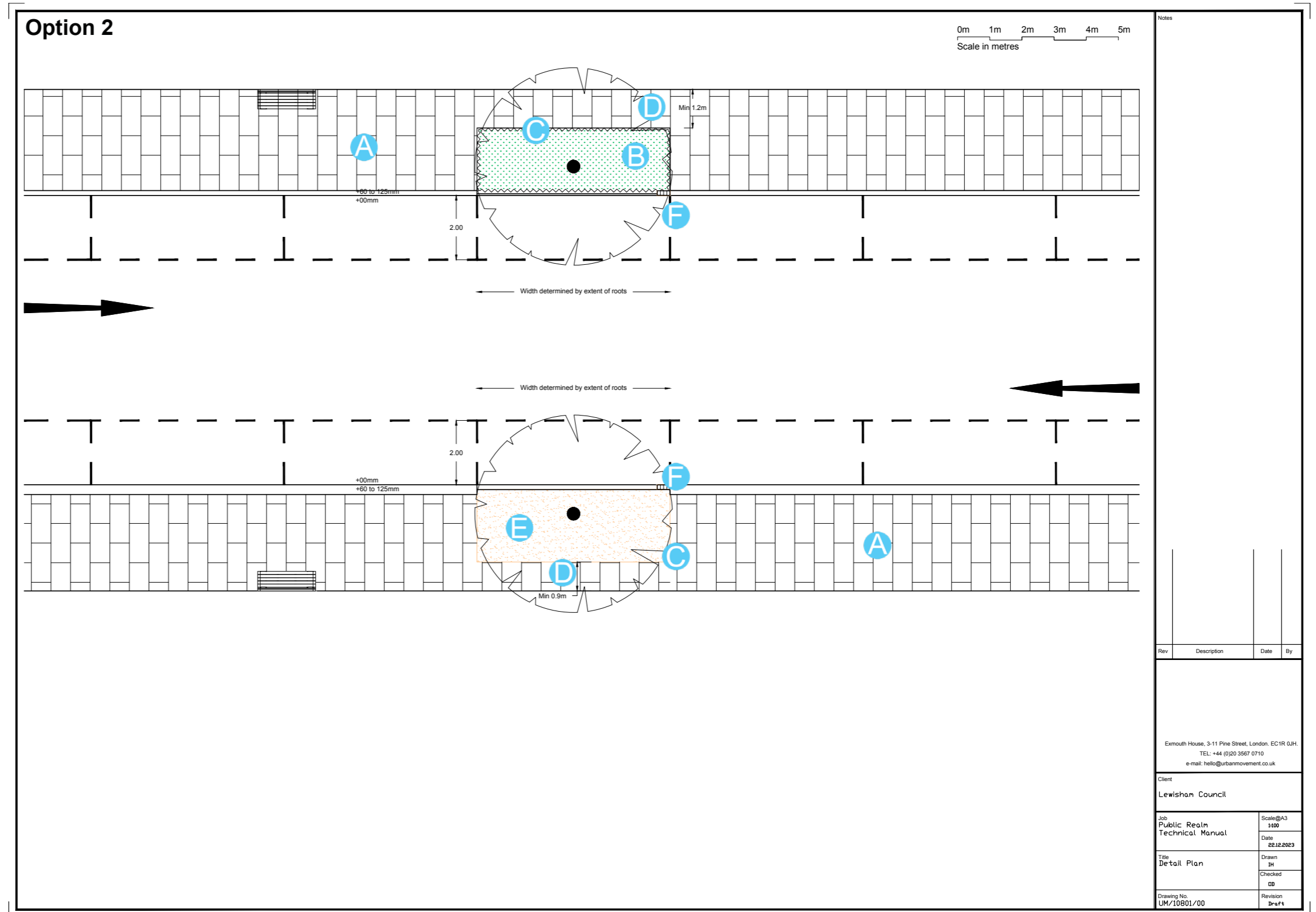
Option 1 - granular bound material over tree roots

- A. Footway.
- B. Self-supporting edge. (Steel edge, PCC heel kerb or granite sett edge can be used if required)
- C. Self-binding gravel, resin bound gravel or recycled granular material.
- D. Narrow replacement kerb.
- E. Buildout.



Option 2 - narrow footway by-pass.  
Should be designed to allow surface water run-off into the planting area.

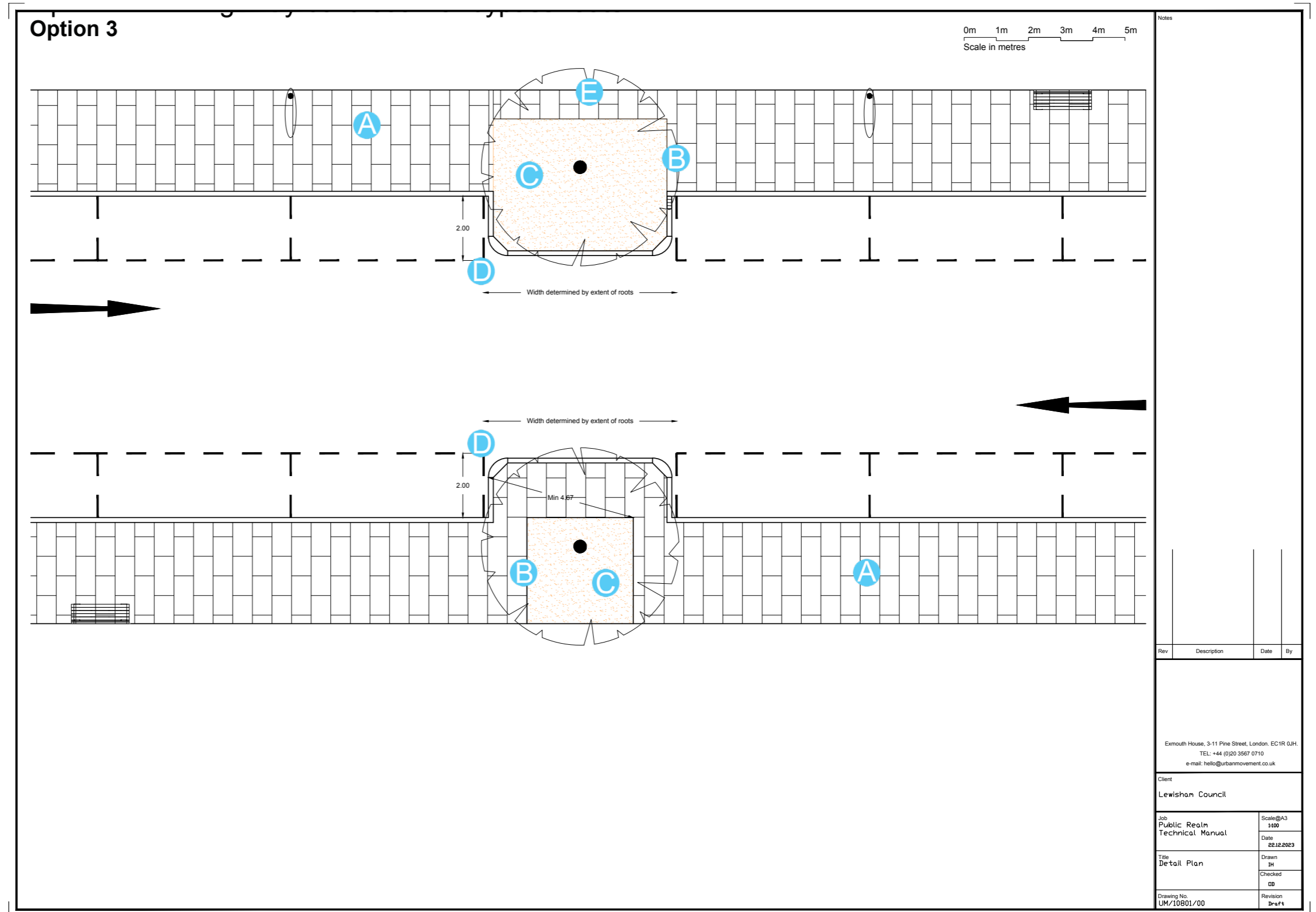
- A. Footway.
- B. Ground cover shrubs / wildflowers.
- C. Self-supporting edge. (Steel edge, PCC heel kerb or granite sett edge can be used if required)
- D. Pedestrian gap route at back of footway, must be at least 0.9m wide.
- E. Self-binding gravel, resin bound gravel or recycled granular material.
- F. Side inlet gulley option.



Rev	Description	Date	By
<p>Exmouth House, 3-11 Pine Street, London. EC1R 0JH. TEL: +44 (0)20 3567 0710 e-mail: hello@urbanmovement.co.uk</p>			
<p>Client <b>Lewisham Council</b></p>			
<p>Job <b>Public Realm Technical Manual</b></p>		<p>Scale@A3 <b>1:100</b></p>	
<p>Title <b>Detail Plan</b></p>		<p>Date <b>22.12.2023</b></p>	
<p>Drawing No. <b>UM/10801/00</b></p>		<p>Drawn <b>JH</b></p>	
<p>Revision <b>01</b></p>		<p>Checked <b>DD</b></p>	
<p>Revision <b>02</b></p>		<p>Checked <b>DD</b></p>	
<p>Revision <b>03</b></p>		<p>Checked <b>DD</b></p>	

Option 3 - build-out into carriageway with granular bound material over tree roots.

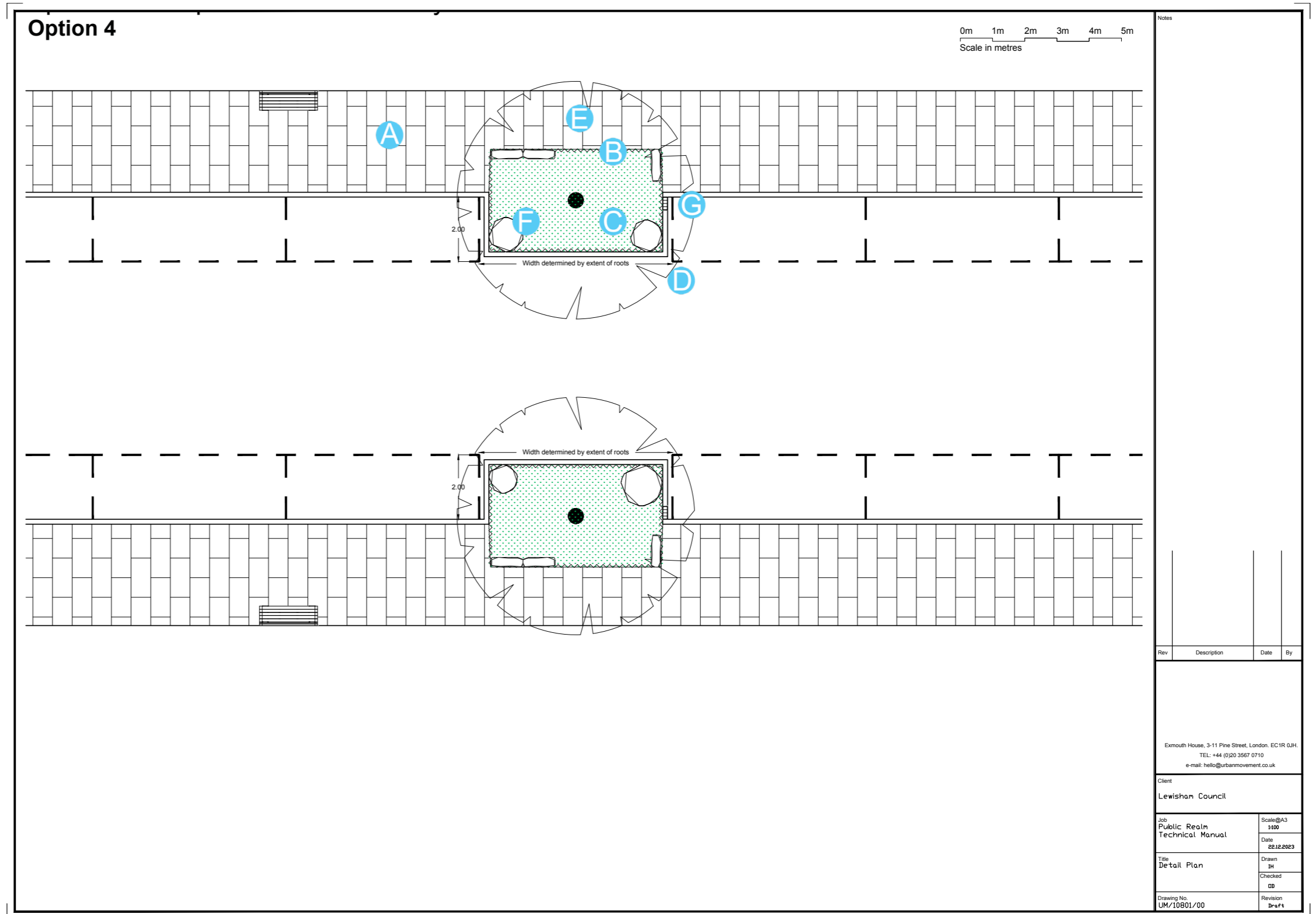
- A. Footway.
- B. Self-supporting edge. (Steel edge, PCC heel kerb or granite sett edge can be used if required)
- C. Self-binding gravel, resin bound gravel or recycled granular material.
- D. Kerb to match with quadrants on corners / bell bollard / round boulder.
- E. Pedestrian gap route at back of footway, must be at least 0.9m wide.



Option 4 - build-out into carriageway with planted raingarden.

Layout allows collection of surface water runoff in tree pit if tree species and location are suitable. Details to be agreed with the LBL Tree Officer.

- A. Footway.
- B. Self-supporting edge. (Steel edge, PCC heel kerb or granite sett edge can be used if required)
- C. Ground cover shrubs / wildflowers.
- D. Kerb to match with quadrants on corners / bell bollard / round boulder.
- E. Pedestrian gap route at back of footway, must be at least 0.9m wide.
- F. Round boulder corner protection
- G. Optional side inlet gully to feed tree roots.

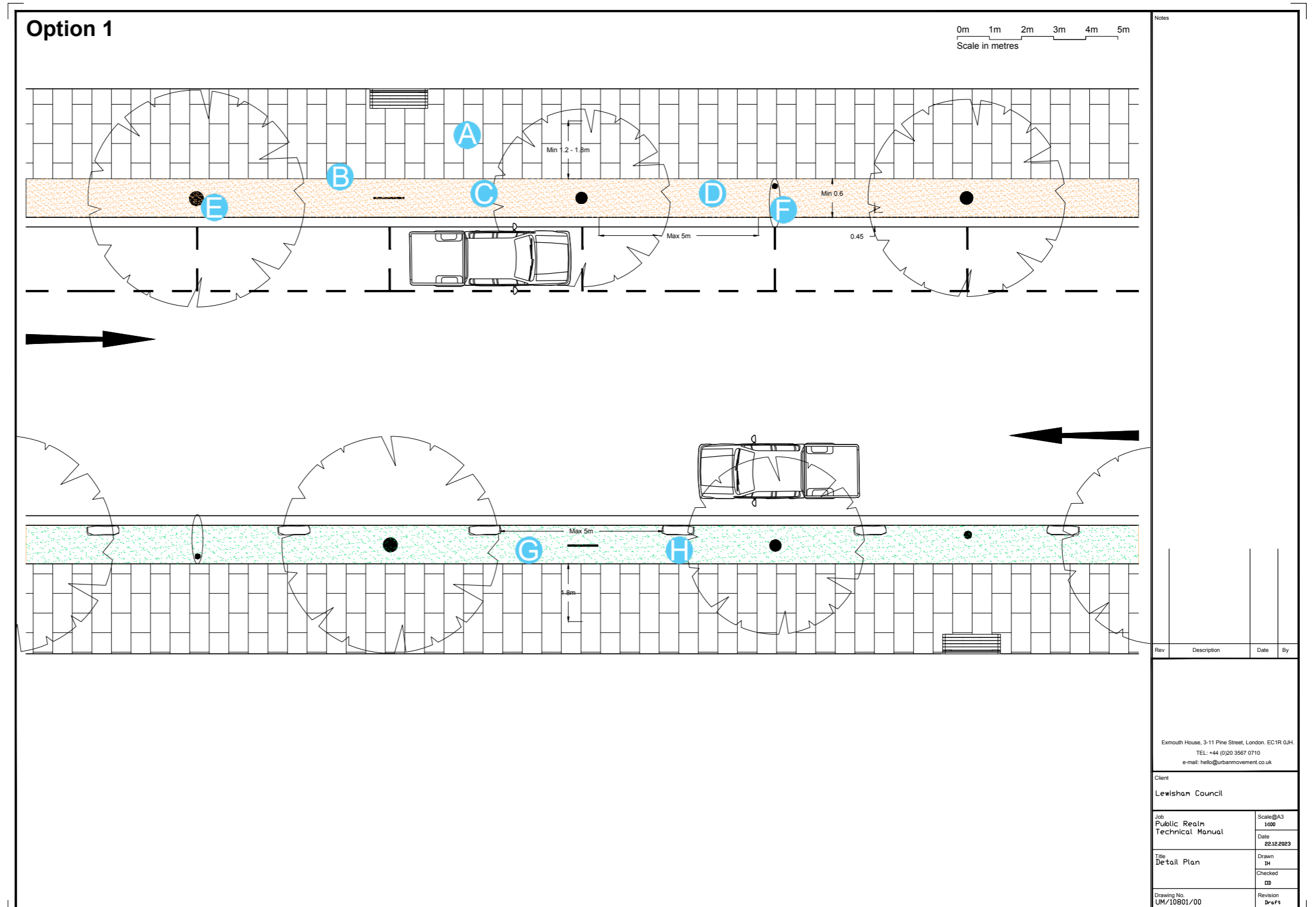


# 5.10 Verges

Verges should be considered on all footways if the recommended 'clear walking zone' width can be achieved as they are a traditional (and very useful) feature of Lewisham's Streets accommodating street without cutting slabs and catching footway runoff before it reaches the channel amongst other things.

Option 1 - granular bound material (gravel) and grass verges..

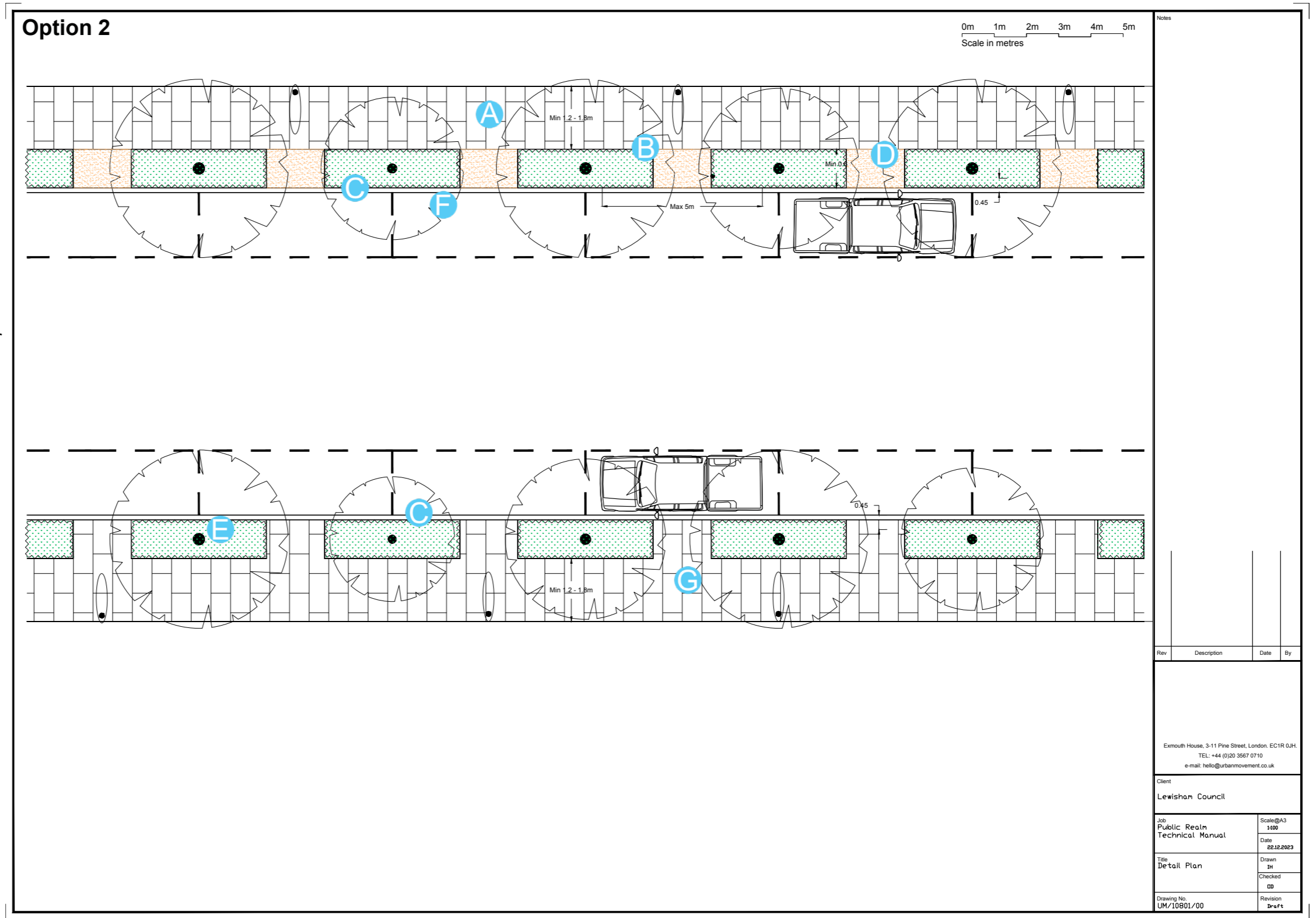
- A. Footway.
- B. Self-supporting edge. (Steel edge, PCC heel kerb or granite sett edge can be used if required)
- C. Multifunctional verge 0.6m minimum width.
- D. Self-binding gravel, resin bound gravel or recycled granular material.
- E. Tree, size and species dependant on verge width.
- F. Street furniture, road signs, lighting columns etc.
- G. Grass verge 0.6m minimum width.
- H. Parking prevention stones at 5m centres at least 200mm x 300 x 900mm.



Option 2 - mixed gravel, slabbed and planted verge.

Verges can be planted with a variety of plant species, but they should generally be low growing varieties up to around 0.6m when to pedestrian crossing points and never any higher than 1.2m.

- A. Footway.
- B. Self-supporting edge. (Steel edge, PCC heel kerb or granite sett edge can be used if required)
- C. Planted verge 0.6m minimum width.
- D. Self-binding gravel, resin bound gravel or recycled granular material.
- E. Tree, size and species dependant on verge width.
- F. Optional side inlet gully to feed tree roots.
- G. Slabbed footway continued to kerb edge.

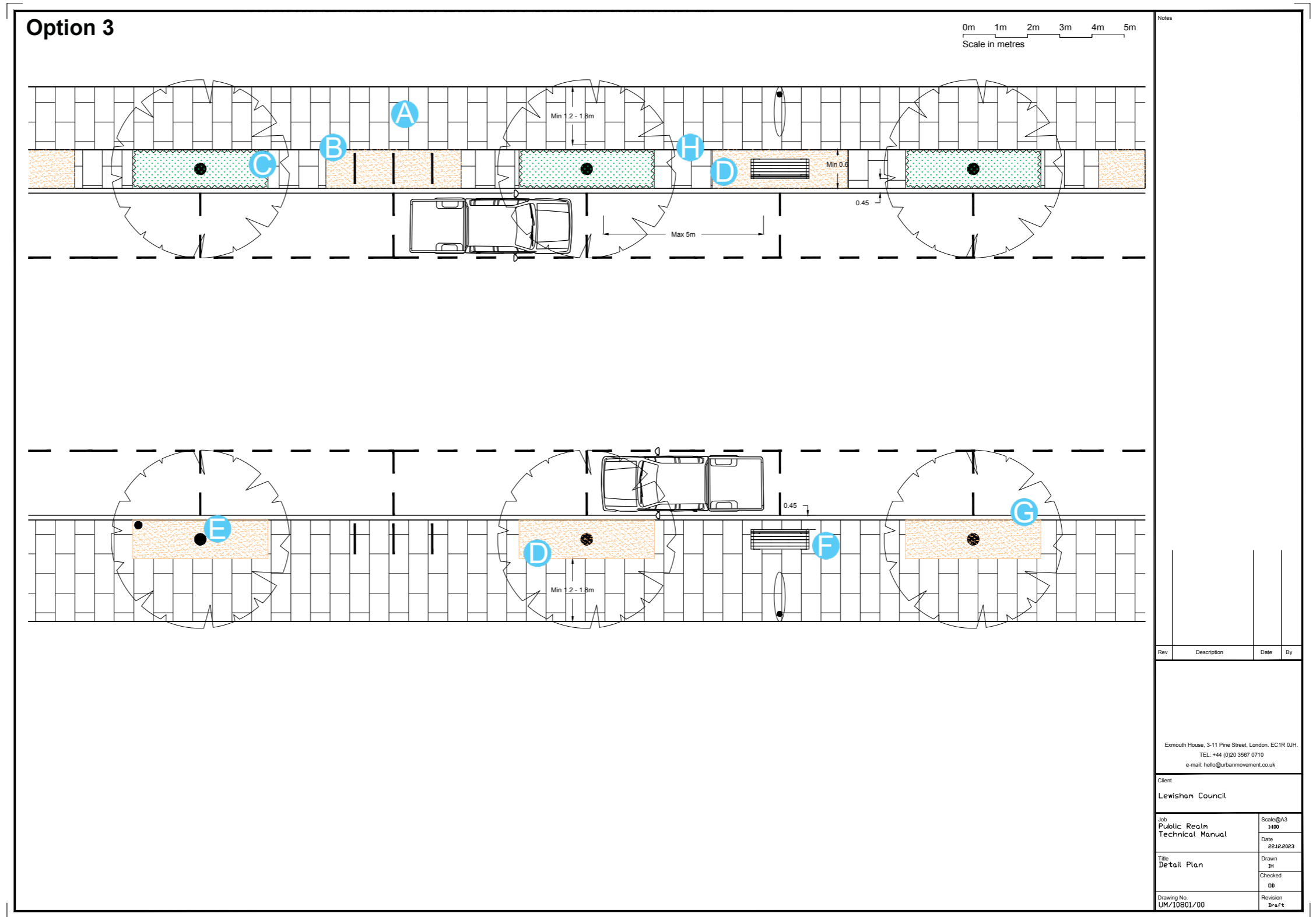




Option 3 - mixed multifunction street furniture zone and planted verge.

Where there is on street parking placement of trees and furniture should be set back from the kerb face by 1m to allow the door to fully open.

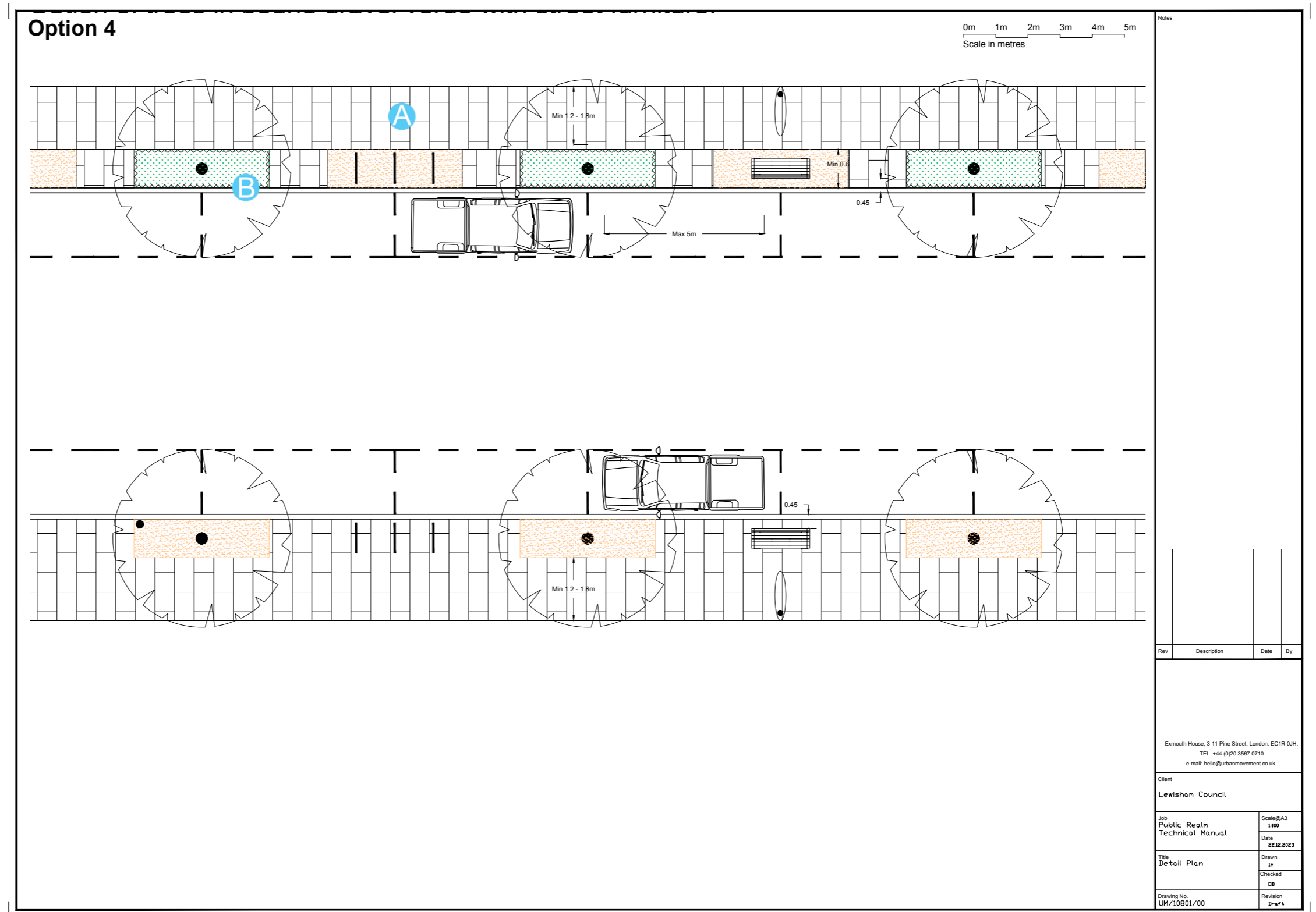
- A. Footway.
- B. Self-supporting edge. (Steel edge, PCC heel kerb or granite sett edge can be used if required)
- C. Planted verge 0.6m minimum width.
- D. Self-binding gravel, resin bound gravel or recycled granular material.
- E. Tree, size and species dependant on verge width.
- F. Street furniture, road signs, lighting columns etc.
- G. Optional side inlet gully to feed tree roots.
- H. Slabbed footway continued to kerb edge.



Option 4 - hedged verges.

Hedges close to the carriageway have been proven to deflect and absorb airborne pollution from motorised traffic and should be considered where there are particular sensitivities.

- A. Footway.
- B. Hedge, maximum height 1.2m, gapped as required to provide access.

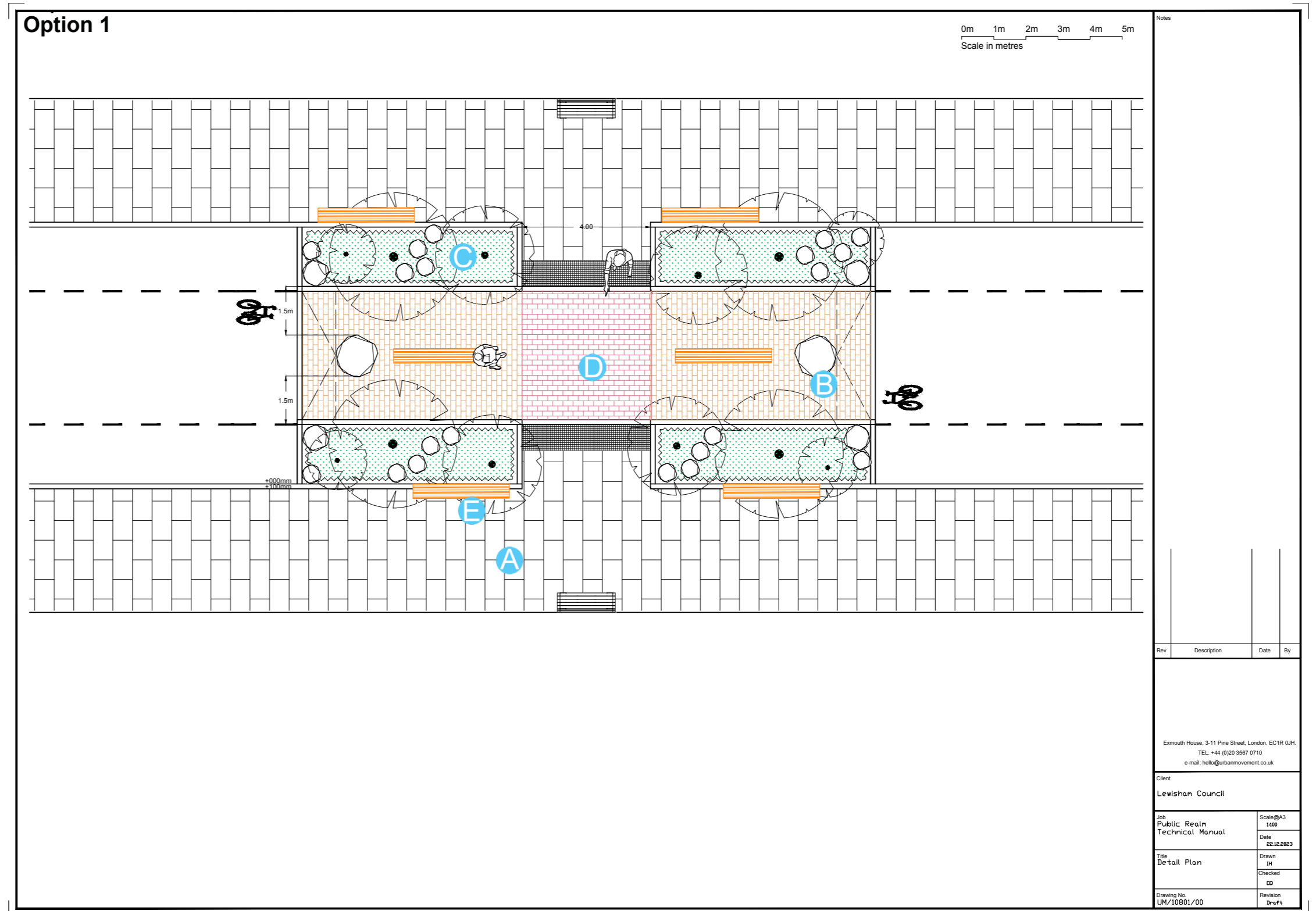


# 5.11 Modal filters

Modal filters generally need to prevent vehicle traffic through a street whilst allowing cycles and pedestrians and sometimes emergency vehicles. They should firstly be considered as public spaces fulfilling the function of a pocket park, play area, nature reserve etc. The templates illustrate different mechanisms to filter out vehicles primarily using raingardens and boulders to create a narrowing but, in many places, other features may be more appropriate.

Option 1 - large, fixed boulders with raised crossing area.

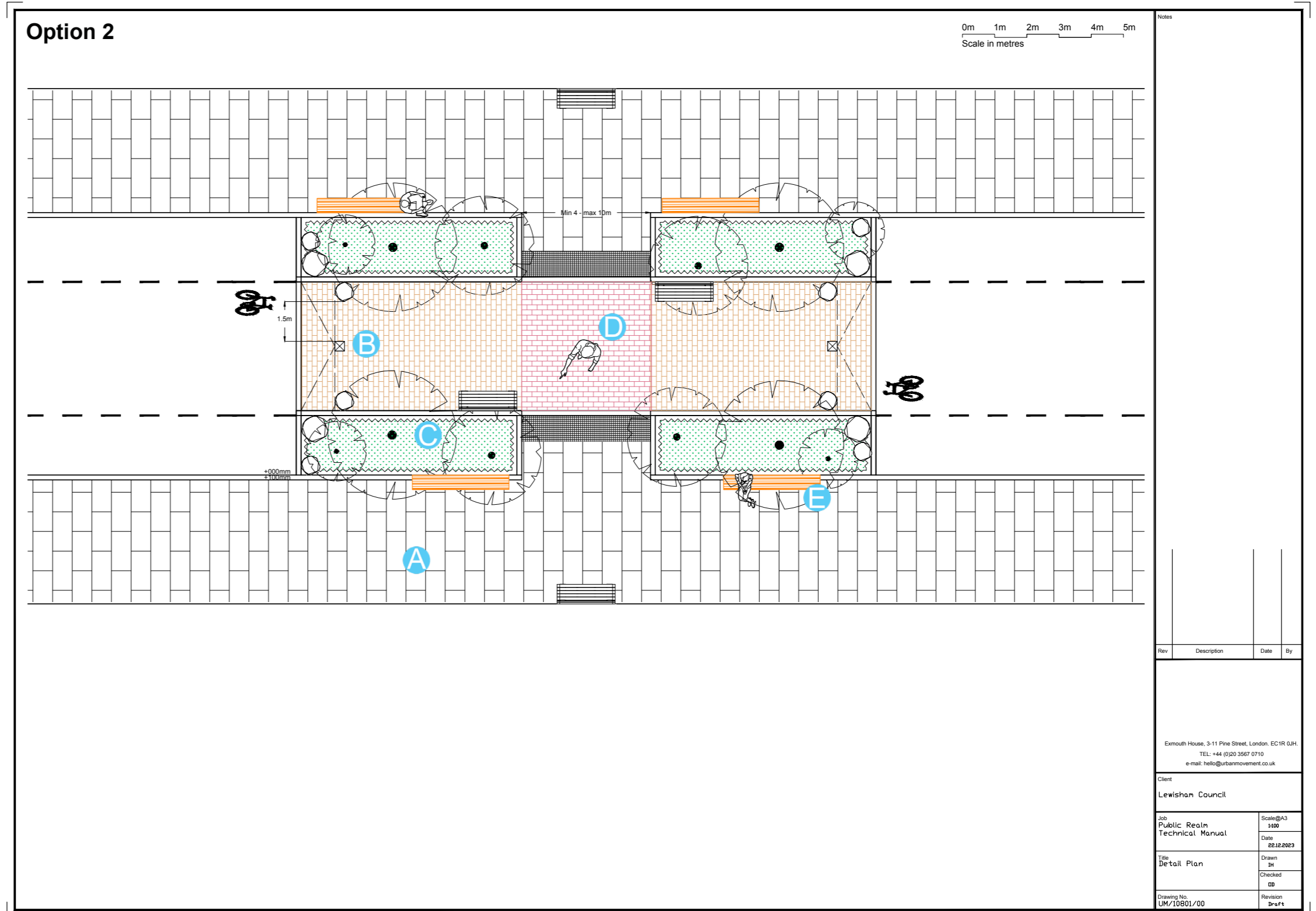
- A. Footway.
- B. Boulders to create narrowing to 1.5m.
- C. Planted play/raingarden.
- D. Raised pedestrian informal crossing.
- E. Seats.



Option 2 - lockable bollards to allow occasional vehicle access

- A. Footway.
- B. Demountable / crash bollards to create narrowing to 1.5m.\*
- C. Planted play/raingarden.
- D. Raised pedestrian informal crossing.
- E. Seats.

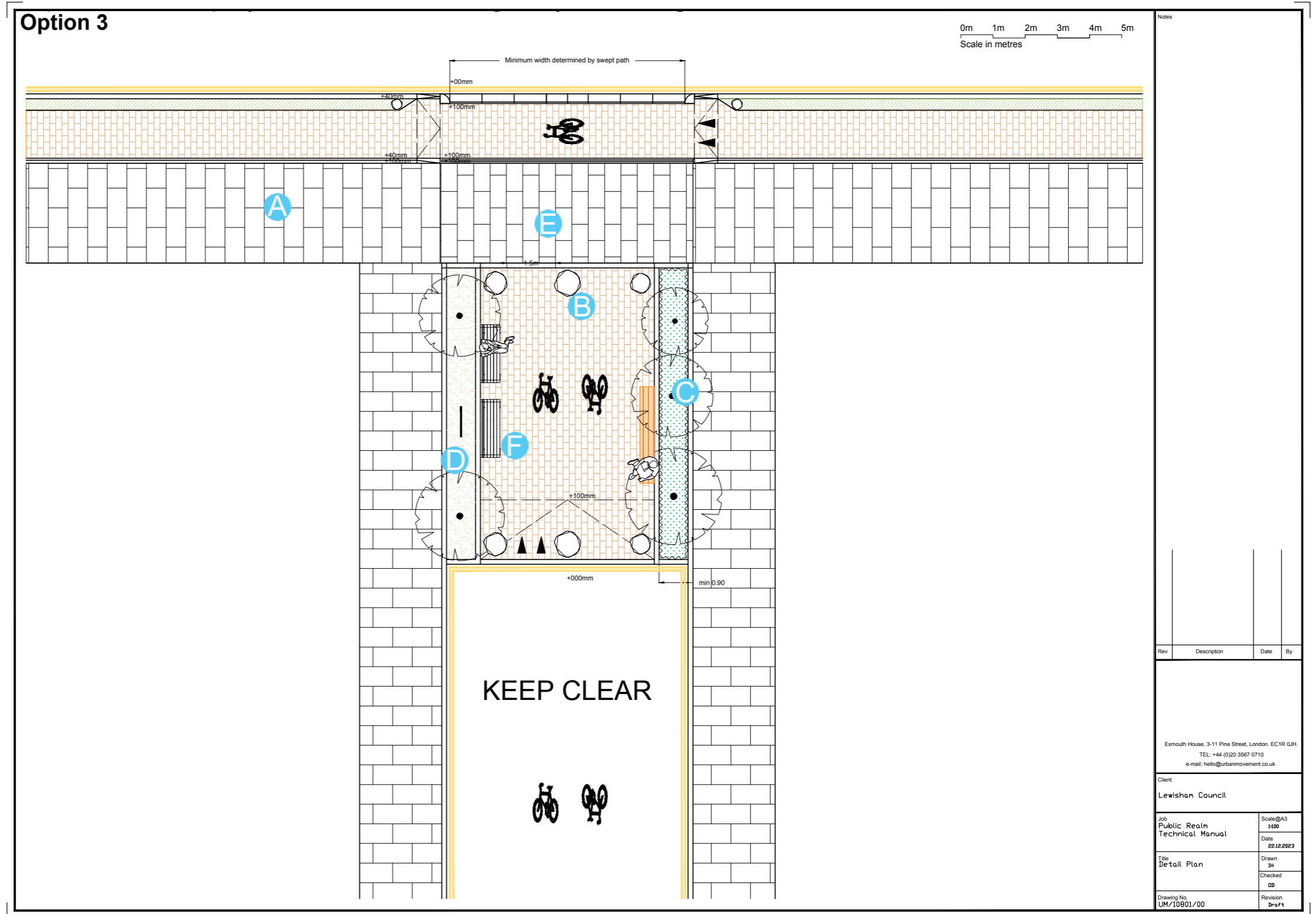
\*agree appropriate methods with emergency services.



Option 3 - large, fixed boulders with extended raised area at side road

- A. Footway.
- B. Boulders or demountable / crash bollards to create narrowing to 1.5m.\*
- C. Planted raingardens.
- D. Verge with street furniture.
- E. Raised pedestrian informal crossing.
- F. Seats.

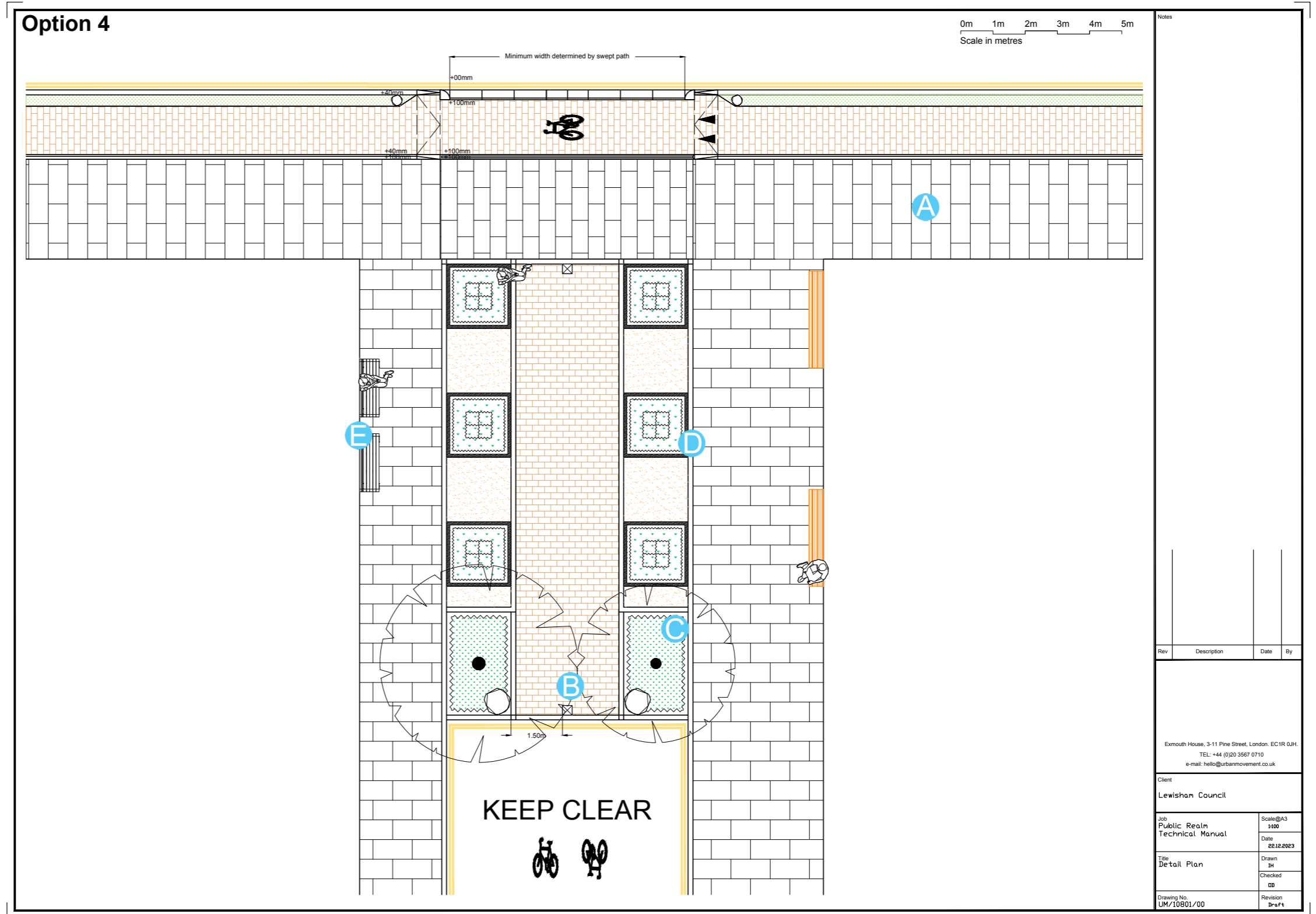
\*agree appropriate methods with emergency services.



Option 4 - with raised community growing beds

- A. Footway.
- B. Boulders or demountable / crash bollards to create narrowing to 1.5m.\*
- C. Planted raingardens.
- D. Raised beds.
- E. Seats.

\*agree appropriate methods with emergency services.



# 5.12 School streets

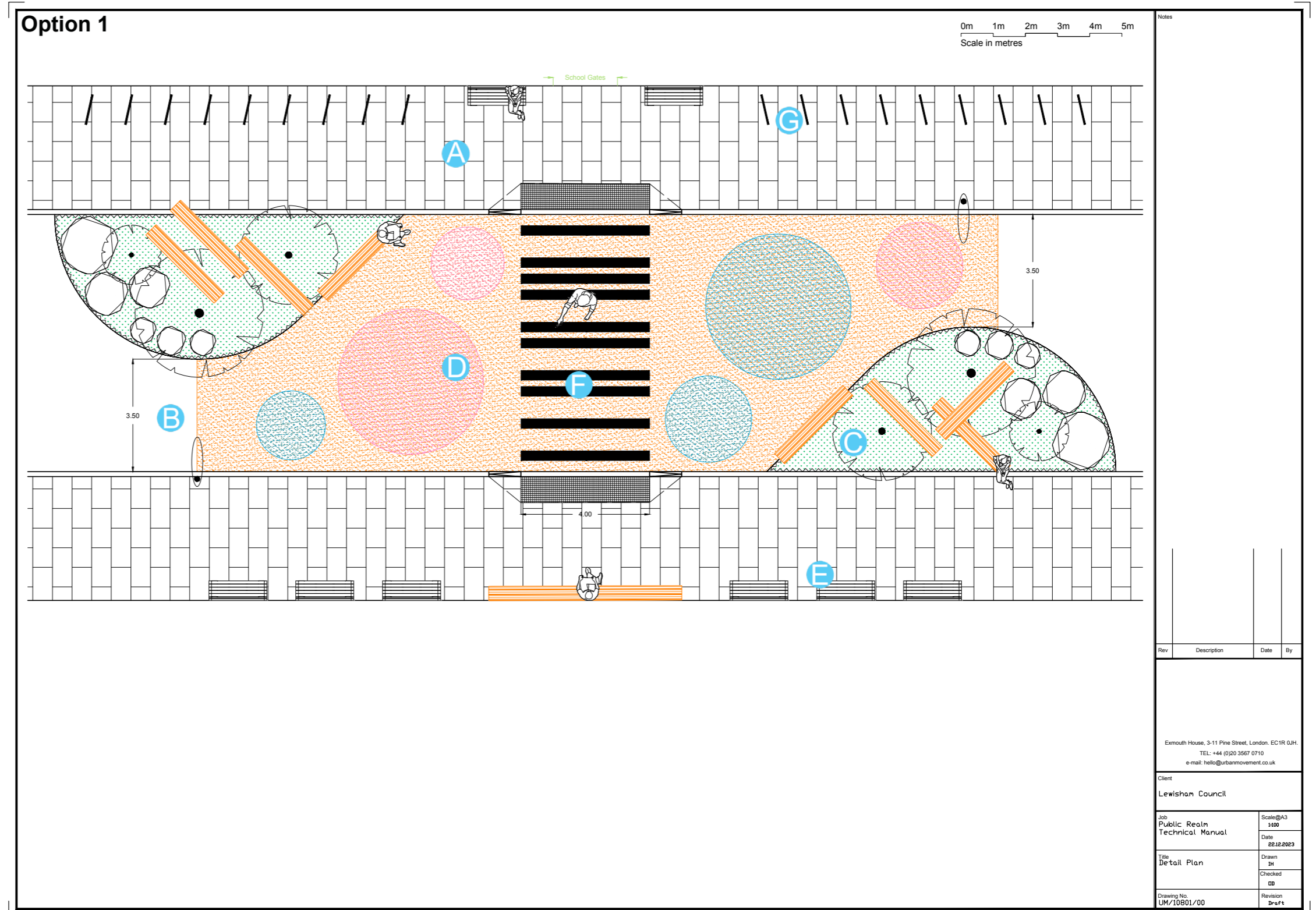
The nature and management of streets in front of schools varies considerably, however the main components are illustrated in this template drawing. Designs should be developed in consultation with the school.

## Option 1 - carriageway level raingardens

This is simple proposal that creates two short sections of one-way street with play/raingardens at carriageway level.

- A. Footway.
- B. Narrowing to allow one vehicle to pass, 3.25m.
- C. Planted play/raingarden with climbing boulders and balance beams.
- D. Coloured surface dressing to carriageway mixed with painted patterns. \*
- E. Formal and informal seats.
- F. Informal pedestrian crossing area.
- G. Cycle parking

\*Consider Restricted Park Zone to avoid zig markings and double yellow lines

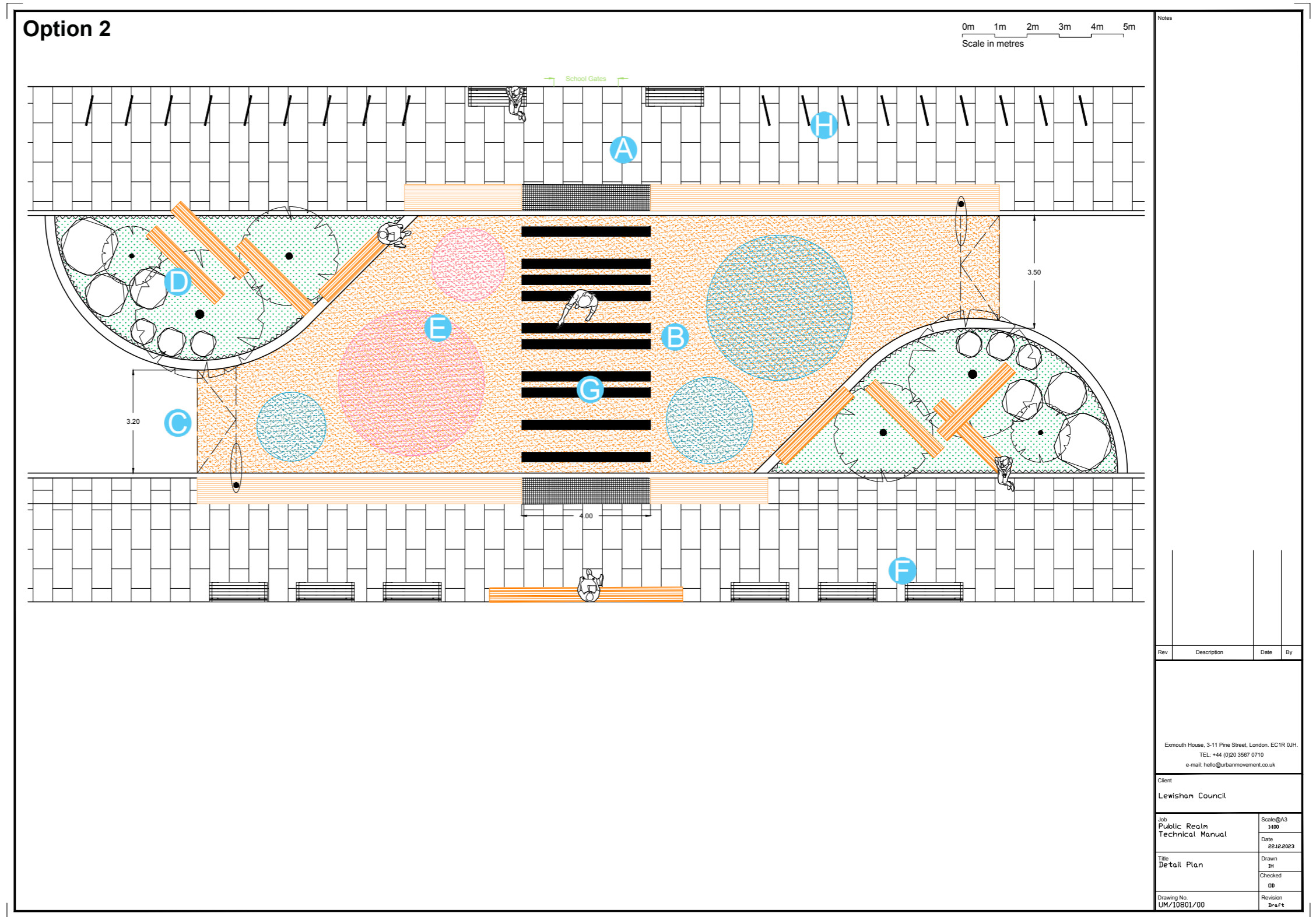


Option 2 - raised single surface with informal pedestrian crossing

This is simple proposal that creates two short sections of one-way street with a raised play/raingardens at carriageway level.

- A. Footway.
- B. Raised table.
- C. Narrowing to allow one vehicle to pass, 3.25m.
- D. Planted play/raingarden with climbing boulders and balance beams.
- E. Coloured surface dressing to carriageway mixed with painted patterns. \*
- F. Formal and informal seats.
- G. Informal pedestrian crossing area.
- H. Cycle parking

\*Consider Restricted Park Zone to avoid zig markings and double yellow lines.



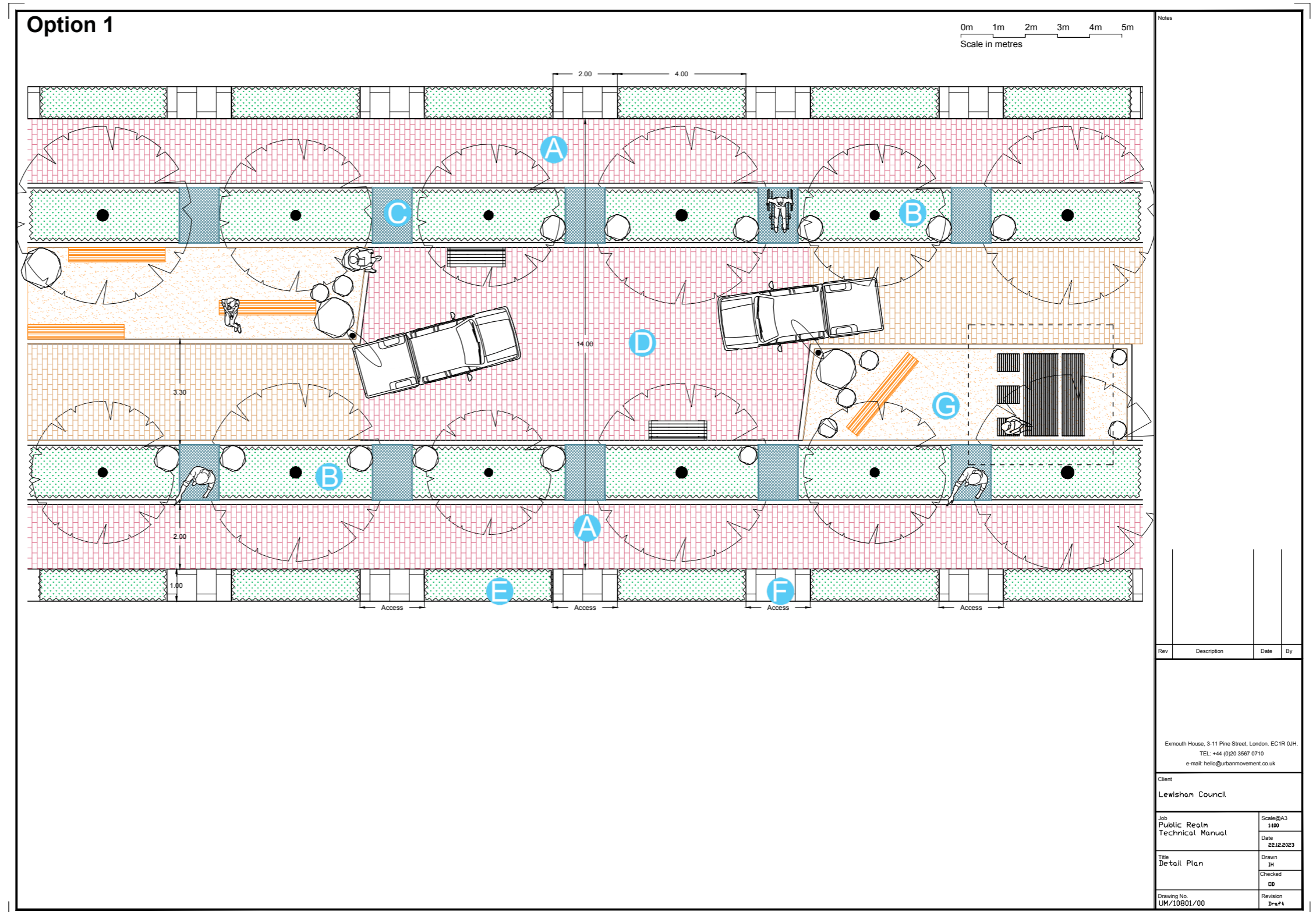


# 5.13 New residential streets

Option 1 - Single surface street – Homezone typology

This template is based on a relatively narrow, 14m street, and any additional width should be used to widen the footways, privacy strips, play areas and raingardens

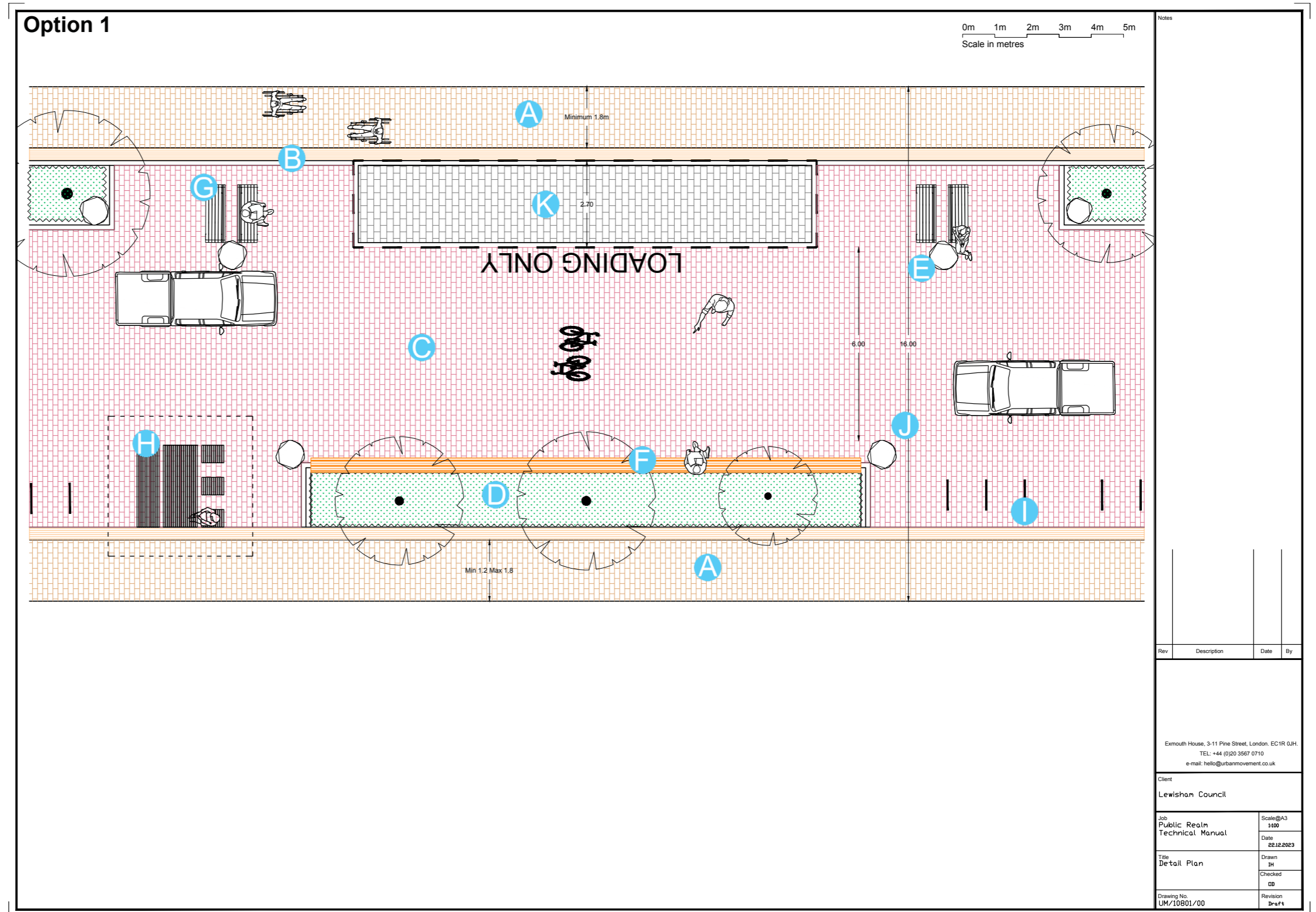
- A. Pedestrian only area.
- B. Planted raingardens with trees at 6m centres.
- C. Bridge over raingarden.
- D. Vehicle movement space.
- E. Planted privacy strip.
- F. Property access path.
- G. Play / social area with seats and picnic tables etc.



# 5.14 Pedestrian priority streets

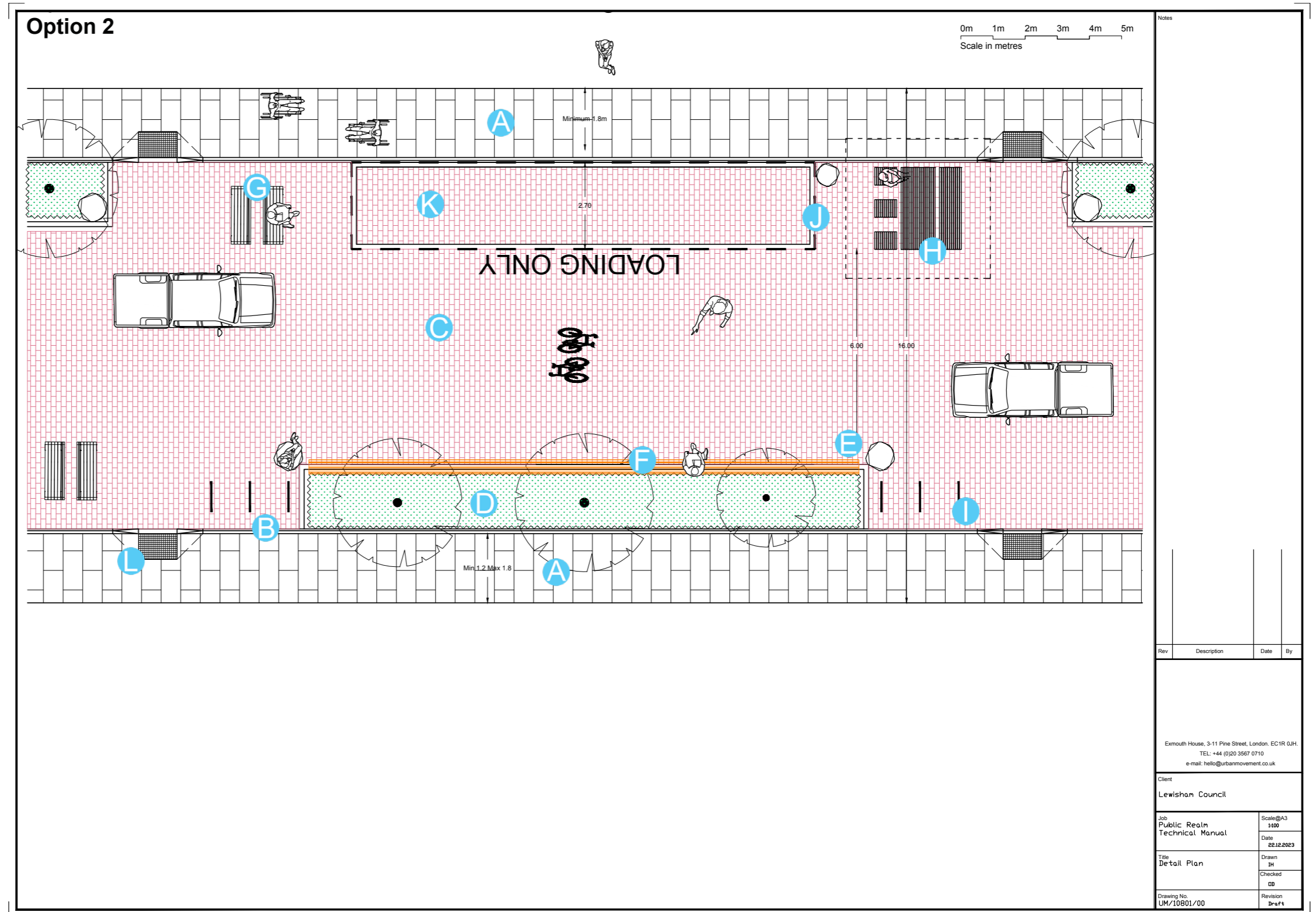
Option 1 - single surface with tactile defined pedestrian zone

- A. Pedestrian clear and safe zone 1.2 – 1.8m wide.
- B. Tactile corduroy paving edge to pedestrian zone 0.4 – 0.8m wide.
- C. Principal pedestrian, vehicle and cycle movement space, maximum gaps 6m.
- D. Planted raingardens with trees.
- E. Sitting / play boulders to protect corners.
- F. Floating timber beam edge seat.
- G. Seats.
- H. Picnic table.
- I. Cycle parking.
- J. Street furniture / boulders define vehicle route
- K. Loading / disabled parking bay.



Option 2 - raised footways with 60mm chamfered kerbs

- A. Pedestrian clear and safe zone 1.2 – 1.8m wide.
- B. Tactile corduroy paving edge to pedestrian zone 0.4 – 0.8m wide.
- C. Principal pedestrian, vehicle and cycle movement space, maximum gaps 6m.
- D. Planted raingardens with trees.
- E. Sitting / play boulders to protect corners.
- F. Floating timber beam edge seat.
- G. Seats.
- H. Picnic table.
- I. Cycle parking.
- J. Street furniture / boulders define vehicle route
- K. Loading / disabled parking bay.
- L. Dropped kerb informal pedestrian crossing.



Option 3 - single surface street/market street

- A. Pedestrian clear and safe zone 1.2 – 1.8m wide.
- B. Tactile corduroy paving edge to pedestrian zone 0.4 – 0.8m wide.
- C. Principal pedestrian, vehicle and cycle movement space, maximum gaps 6m.
- D. Planted raingardens with trees.
- E. Sitting / play boulders to protect corners.
- F. Floating timber beam edge seat.
- G. Seats.
- H. Market stalls and loading / disabled parking bays outside trading hours.
- I. Cycle parking.
- J. Street furniture / boulders define vehicle route.

