

DESIGN PROPOSALS

4. Design Proposals

“A successful transport system encourages and enables more people to walk and cycle more often. This will only happen if we reduce the volume and dominance of motor traffic and improve the experience of being on our streets.”

TfL Healthy Streets for London (2018)

TfL has been working in partnership with LB Lewisham to support their ambition to transform Catford Town Centre and improve the experience of moving around the area in the short-term and in anticipation of future development. In particular, TfL wishes to support LB Lewisham's aspirations to create a greener town centre and ensure Catford is an enjoyable place to live, work and visit.

This section provides an overview of the Project's key design and access considerations, demonstrating how these changes will make it easier and safer to walk, cycle and use the bus in Catford – in turn helping people to make more journeys on foot, by cycle and by public transport.

4.1 Overview of the Project

The proposal involves realignment of the A205 approach to the town centre from the west to a new more southerly alignment, comprehensive highway and public realm improvements and replacement access to the St Dunstan's College Jubilee Ground sports fields.

Figure 29. Park Lane Streetspace (Source: TfL, 2023)



The project will enable LB Lewisham's vision for a green, accessible, vibrant town centre by making provision for the creation of new public spaces along the existing alignment of Catford Road east of Thomas Lane.

These changes will create more space around the relocated road to make significant improvements for all, including pedestrians, cyclists, public transport users and local businesses. The changes aim to create significant car-free town centre spaces – creating a safer, healthier, cleaner and more sustainable town centre – and supporting LB Lewisham's vision for the future of Catford.

Other aspects of the Proposed Development include:

- Three new pedestrian crossings: by Catford Bridge station, on Sangley Road at the junction with Plassy Road and at the junction of Rushey Green and Brownhill Road
- Improvements to existing pedestrian crossings;
- Wider footways between Catford Bridge station and the town centre;
- New tree and shrub planting, raingardens and enhancements to the appearance of the town centre to help achieve the green town centre vision;
- A wider northbound bus lane on Rushey Green between Brownhill Road and Wildfell Road;
- The relocation of some bus stops in the town centre;
- Journey time improvements on some bus routes – those that currently need to travel around the gyratory system;
- A new two-way segregated cycle track along the new section of Catford Road and new segregated cycle lanes southbound along Rushey Green;
- Four new Toucan crossings; and
- Advanced Stop Lanes and signalised early release for cyclists on all arms of the new junction of Catford Road, Sangley Road and Bromley Road.

This application describes how the Proposed Development will operate in a 'day one' scenario, when the new section of Catford Road comes into operation and the existing Catford Road alignment between Thomas Lane and Rushey Green is closed to through-traffic. However, it has also been designed to work with the future development scenario described in the Catford Town Centre Framework. Section 4.3.3 below demonstrates how the connectivity proposals support new development in the town centre.



Figure 30. The Catford Town Centre Highway Realignment (Source: TfL, 2023)

4.1.1 Servicing of Laurence House

A key consideration for the 'day one' scenario is maintaining the ability for refuse and service vehicles to access Laurence House – maintaining the link between the public highway and the ramp to the basement of the building.

Various options were explored to enable this, including access from the realigned Catford Road. However, this was not possible for the following reasons:

- The pedestrian island on the eastern arm of the Catford Road / Canadian Avenue junction would need to be moved further west to accommodate the swept path of large vehicles turning out of the Laurence House area. This would result in the pedestrian crossings on this island being further off the desire line for pedestrians wishing to cross from the eastern side of Canadian Avenue.
- The corner radius of the junction/access that would be needed to accommodate the left turn in would be excessively wide – again, having a significant negative impact on pedestrian amenity.
- Realistically, a signal-controlled northern arm of the proposed junction would be required, with its own pedestrian crossing. This would push the vehicular stop line further north and make it almost impossible for vehicles exiting Laurence House to straighten to get to the new proposed stop line.
- It would require an additional stage in the Method of Control to allow the manoeuvre and require the Thomas Lane/A205 junction eastbound movement to be held. The storage facility for the right turn lane into Canadian Avenue from the A205 would also have to be shortened. Both these changes would be very likely to have a negative impact on congestion and bus journey times.

Limited vehicular access to Catford Broadway via the existing Catford Road alignment needs to be maintained for servicing existing retail units. It was therefore agreed with LB Lewisham that the most desirable option for servicing Laurence House would be to reconfigure the ramp access to allow servicing vehicles to connect to it from the north, from the existing Catford Road alignment. A turning head has been included for refuse vehicles.

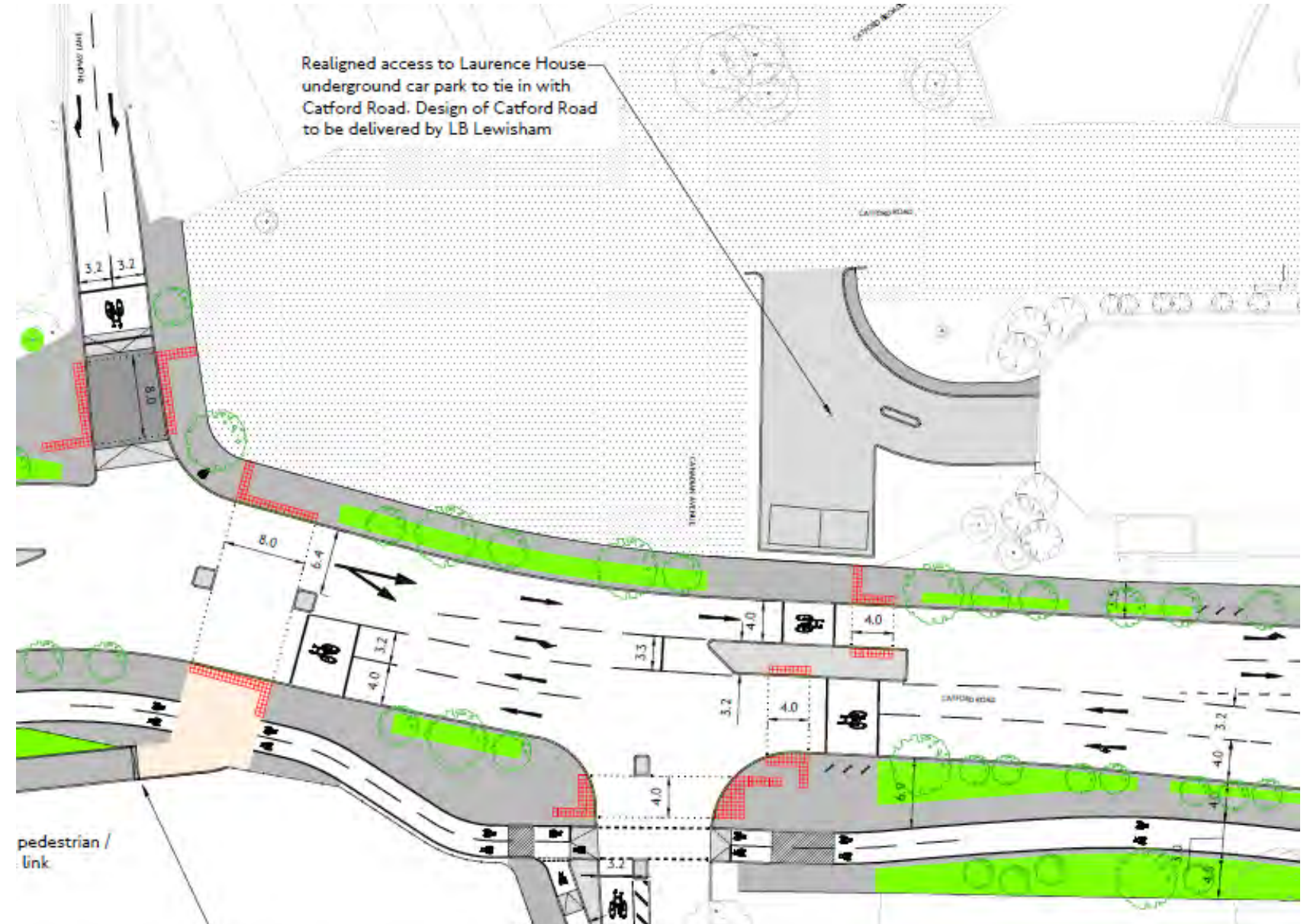


Figure 31. Realigned Access to Laurence House (Source: TfL, 2023)

4.1.2 Catford Road Bridge Widening

The Proposed Development requires support for the new highway alignment and vehicle traffic loading above the existing ground level in St. Dunstan's College Grounds adjacent to the existing Catford Road viaduct structure.

A new widening extension structure over an area of 100 metres by 15 metres next to the existing highway is proposed. Seven feasibility options were tested to fulfil the structural requirements. Options discounted included a raised embankment earth structure and reinforced concrete slab deck bridge structure supported on concrete pier foundations.

The chosen option comprises a portal frame structure of steel beams and columns adjacent to the existing bridge at the western elevation. The portal frame structure is constructed as a grillage of beams and columns with the main highway deck matching the existing highway vertical alignment travelling from east to west. The columns will line up with the existing brick arch piers so that access to the arches is not obstructed. The deck is proposed to be reinforced concrete slabs spanning on to the steel beams and incorporate a utilities trench recessed into the deck. The eastern elevation of the widening proposal will be an approach ramp constructed from a reinforced concrete retaining wall with back filled earth material to support the new highway alignment.

The extent of the retained earth structure and the steel structure sections of the approach widening will be confirmed in future design iterations with input from affected utility companies

Piled foundations with pile caps are proposed to support the steel super structure of the main deck to avoid loading the existing brick arch pier foundations and to minimise the differential settlement between the existing and new structures.

Almost all the area of the proposed widening is on privately owned land, St. Dunstan's College (subject to land purchase by TfL). There are numerous third-party services buried in the southern footway of Catford Road and will need to be relocated onto the new structure in the form of a utilities trench in the new footway area. This will likely determine the final design of the new structure.

Additionally, the design will be influenced by the aim to minimise disruption to the existing Catford Road and avoid, where possible, any road or lane closures during the construction stage.

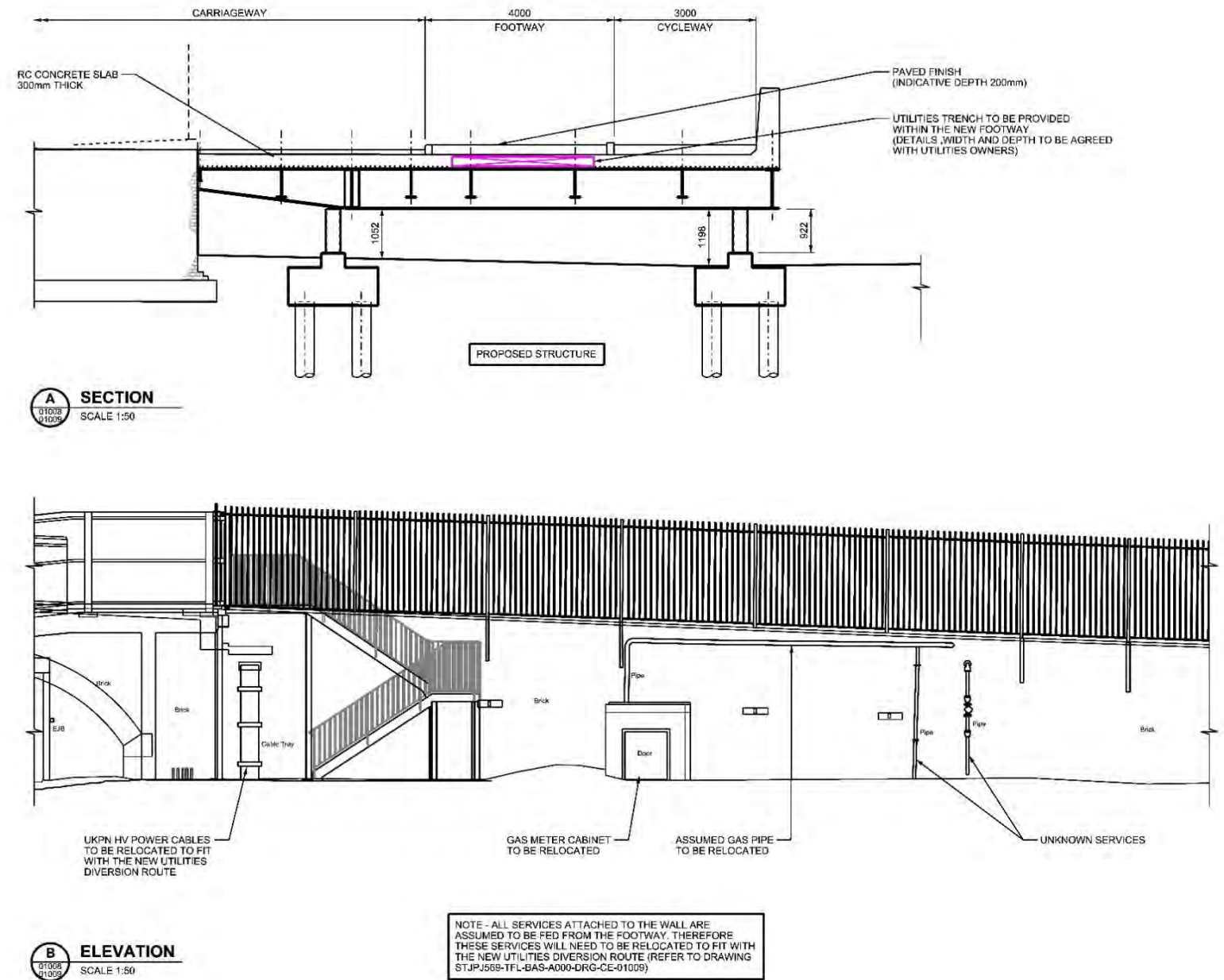


Figure 32. Catford Road Bridge Widening / Elevation (Source: TfL, 2023)

4.2 Connectivity Strategy

The overarching aim of the Proposed Development is to transform Catford Town Centre from an area dominated by motor traffic to an area that prioritises pedestrians, cyclists and public transport users. This will be achieved through various connectivity measures that make for a more rational, legible road system that is easier to cross, with significantly improved facilities for bus passengers, cycles and pedestrians.

A Transport Assessment, conducted in accordance with Transport for London's best practices, including the Healthy Streets Approach, has been submitted alongside the planning application. This Transport Assessment outlines the impact of the Proposed Development on all modes of travel.

In addition, an Equality Impact Assessment (EqIA) has been submitted in support of the planning application. The EqIA proactively assesses the impact the Project may have upon those groups protected by the Equality Act.

This DAS contains a summary version of the proposals, focusing on the physical measures.

4.2.1 Road Relocation

The central design element of the Proposed Development is the relocation of the South Circular Road (Catford Road) to run through the existing Canadian Avenue car park at Laurence House, where it will then cross the A21 Bromley Road at a re-designed junction and join directly with Sangley Road – as pictured. The rerouting of the highway will be carried out in accordance with the Standards for the Design and Construction of Roads in LB Lewisham.

The relocation would also include the removal of the one-way system around Plassy Island. This removal would replace the old network with a two-way road. These interventions will improve access to the surrounding roads and free up more space to make improvements for all road users, including pedestrians and cyclists.

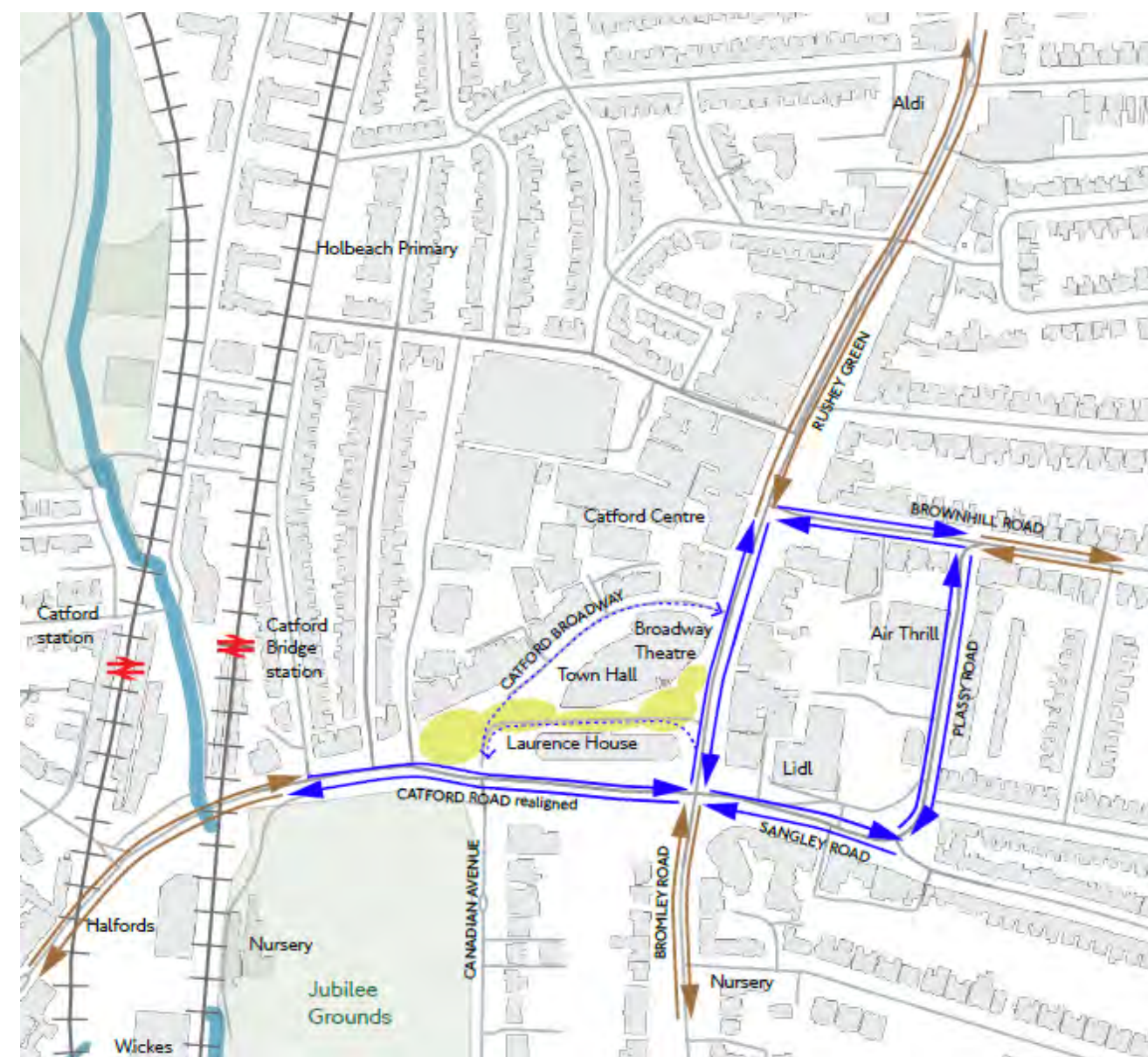


Figure 33. Traffic Movements - Day One (Source: TfL, 2023)

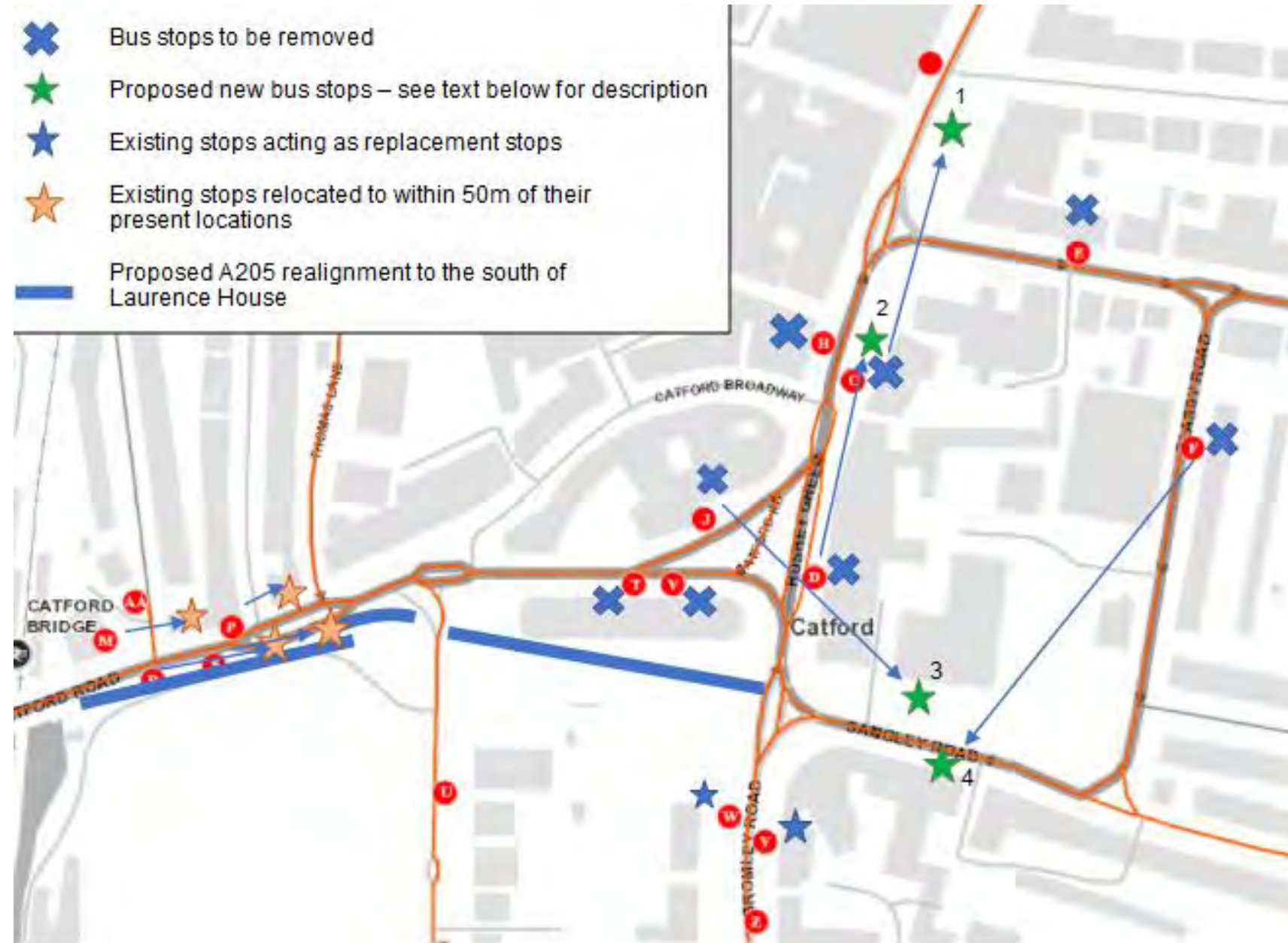
Once delivered, the Proposed Development is expected to positively influence the distribution of existing traffic across the local road network. The delivery of improved pedestrian and cycle infrastructure will be implemented alongside the new road layout to incentivise safe active travel.

The majority of existing on-street loading bays have been retained at, or close to, their existing locations. Changes to loading have been minimised as far as possible while retaining a safe, operable highway. Whenever access is currently possible, it will be maintained or re-provided in the future layout.

Catford Town Centre has an estimated 6,000 jobs that are situated alongside key retail and leisure destinations. This population will benefit from the Proposed Development, particularly travel impacts aligned with the Department for Transport's Major Road Network Objectives. Benefits will include the reduction of congestion, support for housing delivery, assistance to all road users, and support for the Strategic Road Network.

4.2.2 Bus Connectivity

Figure 34. Existing & Proposed Bus Stop Locations (Source: TfL, 2023)



Buses are London's most heavily used form of public transport and are also accessible, but journey times can be unpredictable and ridership levels have been falling.

Figure 35 demonstrates the following changes:

- New bus stop locations: Stop C to be replaced by Stop 1, Stop D to be replaced by Stop 2,
- Stop J to be replaced by Stop 3, Stop F to be replaced by Stop 4.

The Proposed Development aims to centralise Catford Town Centre's bus stops, provide better access, improve reliability, and establish the centre as an interchange between transport services. The identified key challenges (see Section 2.8.2) highlight buses as a pivotal consideration, and therefore the Project's design has been developed to maintain and expand bus capacity.

In total, 700 metres of dedicated bus lanes will be maintained or reinstated, and the Proposed Development will provide more intuitive bus route and stop arrangements. The impact of the rerouting will reduce journey distances on four bus routes. These potential route time reductions will increase customer benefits, encourage usage and thus benefit the operator's costs. Full details on proposed bus route changes are provided in the Transport Assessment.

The proposed relocation of bus stops will have a positive impact on some users, depending on their destination. A key consideration that has shaped the proposal is the specified maximum spacing of 400 metres between bus stops from TfL's Guidelines for Planning Bus Services document.

A Transport Assessment, conducted in accordance with TfL's best practices, including the Healthy Streets Approach, has been submitted alongside the planning application. This Transport Assessment outlines the impact of the Proposed Development on bus connectivity.

4.2.2.1 Accessibility of Bus Stops

A further key design consideration is the bus stop structures themselves. For this sustainable transport mode to be fully inclusive, the design, layout and location will adhere to the TfL Accessible Bus Stop Guidance.

To achieve these connectivity objectives, a new pedestrian crossing is proposed across Catford Road at Catford Bridge Station to allow effective interchanging between local buses and trains from the two stations. The Proposed Development will also ensure that bus stops are designed to be accessible to all, with wider footways around most of the town centre bus stops.

With the relocation of Catford Road to the rear of Laurence House, the bus stops between Laurence House and the Broadway Theatre

must also be relocated, to be as accessible as possible to town centre destinations.

The proposed bus stop bypasses adhere to the guidelines outlined in the Accessible Bus Stop Guidance. Bypasses are used to guarantee a distinct separation between a passenger's waiting place and cyclists. Referred to as the island, this space will have a minimum width of 2.5 meters, facilitating the deployment of ramps by buses and providing a safe area for wheelchair and buggy users to board vehicles. A clearly defined bus passenger crossing point is also included, which is level with the top of the pavement and bus stop bypass (i.e. step free).

4.2.2.2 Catford Road / Lewisham Town Hall Bus Stops

A bus stop impact assessment was prepared to guide decision-making on the difficult question of relocating the stops on the section of Catford Road that would be closed as part of the Proposed Development. This is a key decision for public transport accessibility in Catford Town Centre.

The two main options explored for stops J, V and T were relocation to the new section of Catford Road, south of Laurence House, and relocation to Sangley Road.

The Catford Road option has some advantages for accessibility of the bus stops to the town centre – this would be close to the existing location of the stops. However, it had the following disadvantages:

- The rear of Laurence House will not be an active, well overlooked environment for the foreseeable future, particularly on the southern footway, raising public safety concerns for people waiting;
- These would be very close to the Catford Station stops – between 130 and 190 metres; but between 470 and 560 metres away from the next stops to the east;
- Given the number of buses serving the stop eastbound, there were concerns this would cause delays back through the Canadian Avenue junction and pedestrian crossing, and would impede the left-turn lane;
- Westbound, buses using the stop would block the nearside lane and, given that a dedicated bus lane in this direction on Sangley Road cannot be provided, any queuing would be very likely to delay westbound buses generally; and
- Buses turning south at the Bromley Road junction (171 and 320) would find it difficult moving from a nearside bus stop to the right-turning lane and bus delays may result.

The Sangley Road option has some drawbacks – more major roads need to be crossed to access Catford Broadway and there is a risk of

blocking westbound traffic if three buses are using the westbound stop at the same time. However, it has some key advantages:

- Although the distance to the next stops to the west is longer, this option evens out the distance between stops – between 290 and 330 metres to the nearest stops to the west and 340 to 400 metres to the nearest stops to the east;
- Eastbound buses can be accommodated at stops without delaying other traffic (including buses); and
- The footways can comfortably accommodate bus stops on both sides with a reallocation of space on Sangley Road

For these reasons, the Proposed Development has the services previously using stops J, V and T relocated to Sangley Road rather than the new section of Catford Road.

4.2.2.3 Safe Turning for Buses into Doggett Road

The current right-turn lane into Doggett Road is sub-standard at 1.4 metres in width. On-site observations and traffic counts from 2016 indicated that a large number of vehicles turn right into Doggett Road from the A205, including many buses (266 vehicles during the AM peak period, including 38 buses, and 315 vehicles in the PM peak period, including 48 buses).

As part of the proposed development, a 3-metre wide lane has been proposed to allow turning vehicles to shelter from eastbound vehicles and avoid impeding westbound vehicles. This will enhance road safety at this location, protect bus journey times and improve the efficiency and operation of the junction.

4.2.3 Traffic Management

When designing the Proposed Development, various options and layouts were reviewed and tested. The chosen design strikes an equilibrium between the conflicting demands of diverse road users. The Project will align with the Mayor's secure road network ambitions, whilst elevating sustainable transport modes and enhancing air quality.

To establish a safe and functional network within and around the site, several transport management measures are proposed.

The Proposed Development will not include vertical deflections (such as speed or road humps) for the main carriageway of the TLRN. While speed humps effectively reduce general traffic speed, they can have adverse effects on buses, passengers, and emergency services.

To minimise traffic speed, the Project instead will align with a 20mph speed limit throughout Catford Town Centre, with the expectation that the removal of the gyratory, the proximity of signalised junctions, and changes to the urban realm will naturally foster lower speeds.

The implementation of a 20mph speed limit in the area is independent from the Project. This change is planned for Winter 2023 as under the Lowering Speed Limits (LSL) Programme introduced as part of the 2018 Vision Zero Action Plan. Lowering speed limits is a key part of the Mayor's Vision Zero goal to eliminate death and serious injury from London's transport network and to enable more walking and cycling in the capital.

Raised side road entry treatments are also proposed at specific locations to improve pedestrian crossing and to moderate the vehicular speed on entering and exiting side roads. This does not include locations where buses make turning movements, such as the junction of Doggett Road and Catford Road, for the reasons stated above.

4.3 Active Travel Strategy

Walking and cycling are the healthiest and most sustainable ways to travel, either for whole trips or as part of longer journeys on public transport. As such, the Mayor's Transport Strategy outlines the aspiration for all Londoners, by 2041, to do at least the 20 minutes of active travel they need to stay healthy each day.

The design of the Proposed Development focuses on creating a safer environment that promotes active travel by introducing wider footways, more and better aligned pedestrian and cycle crossing, and dedicated cycle infrastructure. It is a first step in meeting the anticipated future demand for cycling on an east-west axis through the town centre. In summary, the Project provides:

- New and improved pedestrian crossings, better aligned with pedestrian demand and widened in key town centre locations;
- Four new toucan crossings to support cycle connectivity;
- 750 metres of new segregated cycle lanes/tracks; and
- 450 metres of widened/improved public footways

Importantly, it also enables new, pedestrian-dominated public spaces to be implemented around the existing alignment of Catford Road, eliminating the divide between Catford Broadway and Laurence House in the short-term and putting in place a key component of the longer-term development proposals set out in the Town Centre Framework.

4.3.1 Cycling Infrastructure

Improving cycling safety is vital for encouraging more people to cycle and supporting TfL's Vision Zero objectives as well as the Mayor's Transport Strategy. Improvement of the quality and safety of cycling infrastructure is a key objective in the Catford Town Centre Framework.

The Proposed Development makes some significant improvements within the project area, which will allow safer, more comfortable access to town centre facilities. Importantly, these changes are a first phase in a longer-term ambition of creating a connected cycle network across a wider area. This is described in Section 4.3.3 below.

To align with the Mayor's Transport Strategy visions, inclusivity has been prioritised to ensure the streets are safe and enjoyable for all users.

Cycling and its associated infrastructure can serve as a mobility aid. With 17% of Londoners with disabilities already making trips by bicycle, this is only slightly below the percentage of non-disabled individuals (18%). In addition, 27% of disabled individuals express an inclination to "definitely" or "probably" use new cycle routes in future.

Therefore, ability-inclusive cycling infrastructure has been a crucial design consideration for the Project, with all new cycling infrastructure developed in accordance with the Department for Transport's (DfT) Inclusive Mobility Guidance¹.

4.3.2 Segregated Cycle Infrastructure

The Proposed Development includes the following improvements for cyclists through the town centre:

- A new two-way segregated cycle track along the new section of Catford Road and on the southern footway of Sangley Road;
- New segregated southbound cycle lanes on Rushey Green, with bus stop bypasses to separate cycles from pedestrians and bus passengers;
- A wider northbound bus lane on Rushey Green between Brownhill Road and Wildfell Road;
- Four new toucan crossings to improve access between the town centre, stations and the wider area: over Catford Road at Catford Bridge Station, over Catford Road west of the Canadian Avenue junction, over Rushey Green near the Broadway Theatre, and over Plassy Road near the Sangley Road junction; and
- Advanced Stop Lanes and signalised early release for cyclists at the new junction of Catford Road, Sangley Road and Bromley Road.

Cycle parking related to the Proposed Development will be included in the next stage of design and is to be incorporated with the urban realm improvements for the TLRN and new pedestrian space on the former alignment of Catford Road.

4.3.2.1 Cycling Inclusivity

Pedestrians and cyclists are likely to engage with each other in areas where they share footway space. This consideration is set out in design standards, such as the London Cycling Design Standards², aimed at promoting safe and considerate behaviour among cyclists. This topic becomes particularly crucial in safeguarding the road safety of older individuals and children.

Segregated cycle lanes have been included in the Proposed Development along sections of Catford Road and Rushey Green. Following consultation, the Proposed Development will now also include an additional section of cycle lane on the south side of Sangley Road.

Bus stop bypasses have also been included to eliminate the need for cyclists to navigate past traffic when overtaking a bus at a bus stop. This design component is key in encouraging those with lower confidence levels, including parents with children, who might otherwise be hesitant to cycle on the carriageway.

Access to and egress from segregated and shared cycle infrastructure will be encouraged through the inclusion of:

- Dropped kerbs;
- Signage;
- Tactile paving; and
- 20mph speed limits.

4.3.2.2 Cycles Using the Carriageway

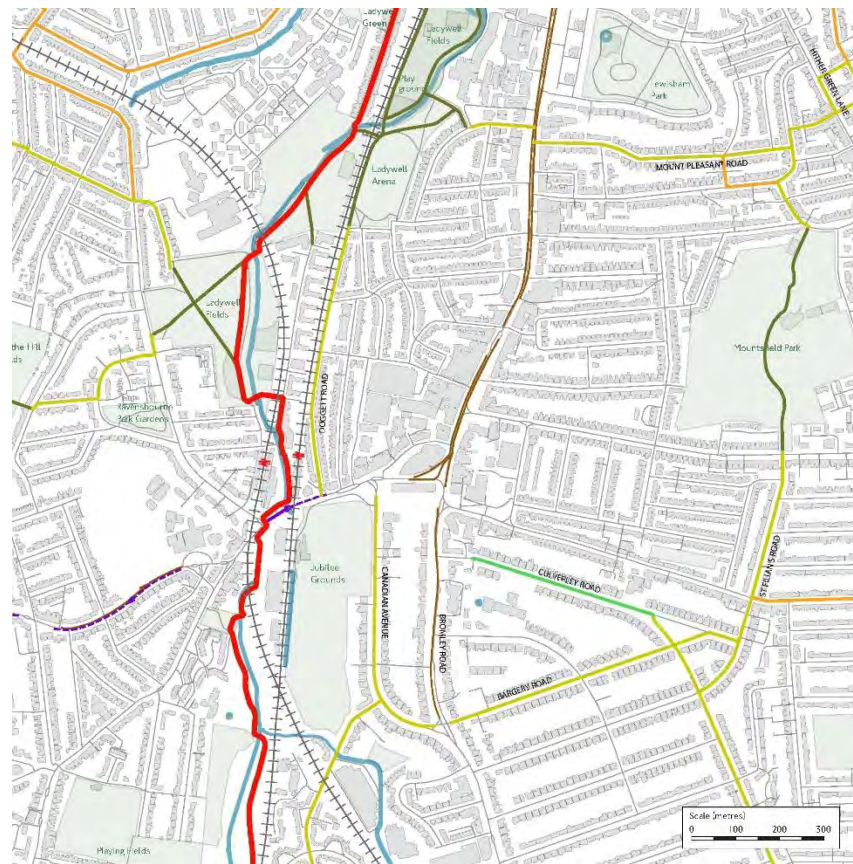
Where sufficient space is available the nearside lane on approaches to junctions has been widened to 4m and Advanced Stop Lines (ASL's) have been provided, This is to assist cycling progression through the junctions and helps mitigate the risk of collisions. We seek to enhance safety and mitigate risks whenever we can, where possible, in the design process.

¹ Department for Transport (2021) *Inclusive Mobility A Guide to Best Practice on Access to Pedestrian and Transport Infrastructure*. Available at: [https://assets.publishing.service.gov.uk/media/61d32bb7d3bf7f1f72b5ffd2/inclusive-](https://assets.publishing.service.gov.uk/media/61d32bb7d3bf7f1f72b5ffd2/inclusive-mobility-a-guide-to-best-practice-on-access-to-pedestrian-and-transport-infrastructure.pdf)

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² Transport for London (2014). *London Cycling Design Standards*. Available at: <https://content.tfl.gov.uk/lclds-chapter1-designrequirements.pdf> (Accessed: 23 November 2023)

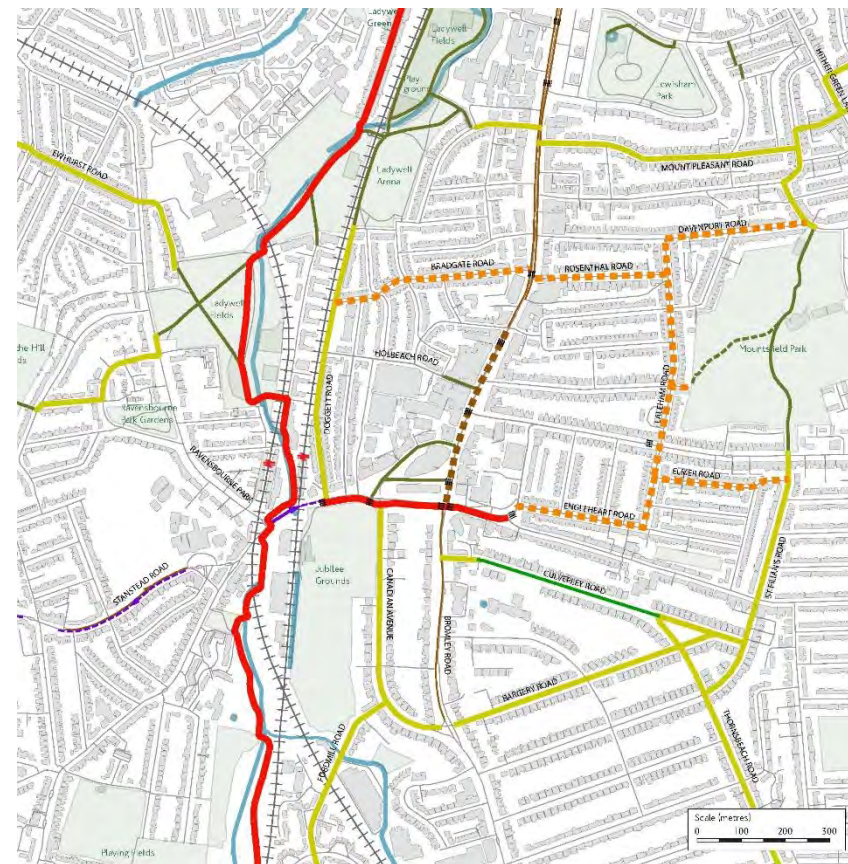
4.3.2.1 Current Cycling Infrastructure



KEY

- █ Cycleway or Cycleway standard
- █ Mandatory cycle lane
- - - Advisory cycle lane
- █ Shared bus lane
- █ Off-carriageway and cyclable
- █ Restricted to through-traffic
- █ Signed cycle route on 20mph, traffic calmed street

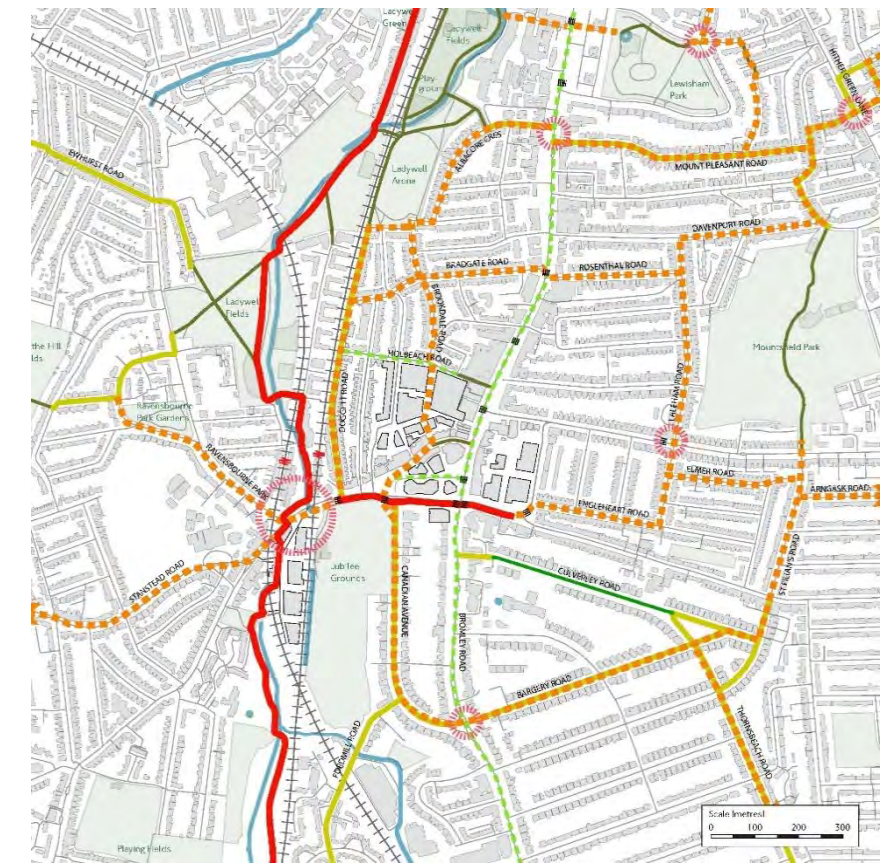
4.3.2.2 Proposed “Day One” Cycling Infrastructure



KEY

- █ Cycleway or C'way standard
- █ Combination of cycle lanes and shared bus lanes
- - - New backstreet routes to sign
- █ Signed cycle route on 20mph, traffic calmed street
- █ Mandatory cycle lane
- - - Advisory cycle lane
- █ Shared bus lane
- █ Off-carriageway and cyclable
- █ Restricted to through-traffic

4.3.2.3 “Full Completion” Cycling Infrastructure



KEY

- █ Cycleway or C'way standard
- █ Combination of cycle lanes and shared bus lanes
- - - New backstreet routes to sign
- █ Signed cycle route on 20mph, traffic calmed street
- █ Mandatory cycle lane
- - - Advisory cycle lane
- █ Shared bus lane
- █ Off-carriageway and cyclable
- █ Restricted to through-traffic

4.3.1 Connecting Routes

A study of connectivity around Catford has informed how this Project could contribute to creating a more connected walking and cycling network across the wider area. The Project can be seen as a first step in the process, enabling and helping to make the case for other future interventions beyond the application site. The images above show the network improvements brought about the Project on 'day one' of the opening of the new Catford Road and, indicatively, how the cycle network could take shape through future interventions. This may include improved crossings of main roads beyond the project area, area-wide traffic management initiatives and minor improvements to backstreets to make them safer for cycling.

The Catford Town Centre Framework sets out the Council's aspirations to increase cycling and walking provision across the Catford Road bridge through a cantilever structure on the southern side of the bridge. The Project delivers the first section of this structure, on the eastern side of the bridge. It is LB Lewisham's aspiration to deliver the second section of this structure, going over the bridge and on the western side, as part of the redevelopment of the existing retail park on the western side of the bridge (Halford/Wickes site). Delivering the cantilever structure in two phases will enable the retail park to be redeveloped in the best possible way for local residents, offering opportunities to uncover the River Ravensbourne and improve the public realm, as well as delivering much-needed housing.

TfL and LB Lewisham will continue to explore other initiatives to improve cycling connectivity and complement the improvements to cycling included in this Project.

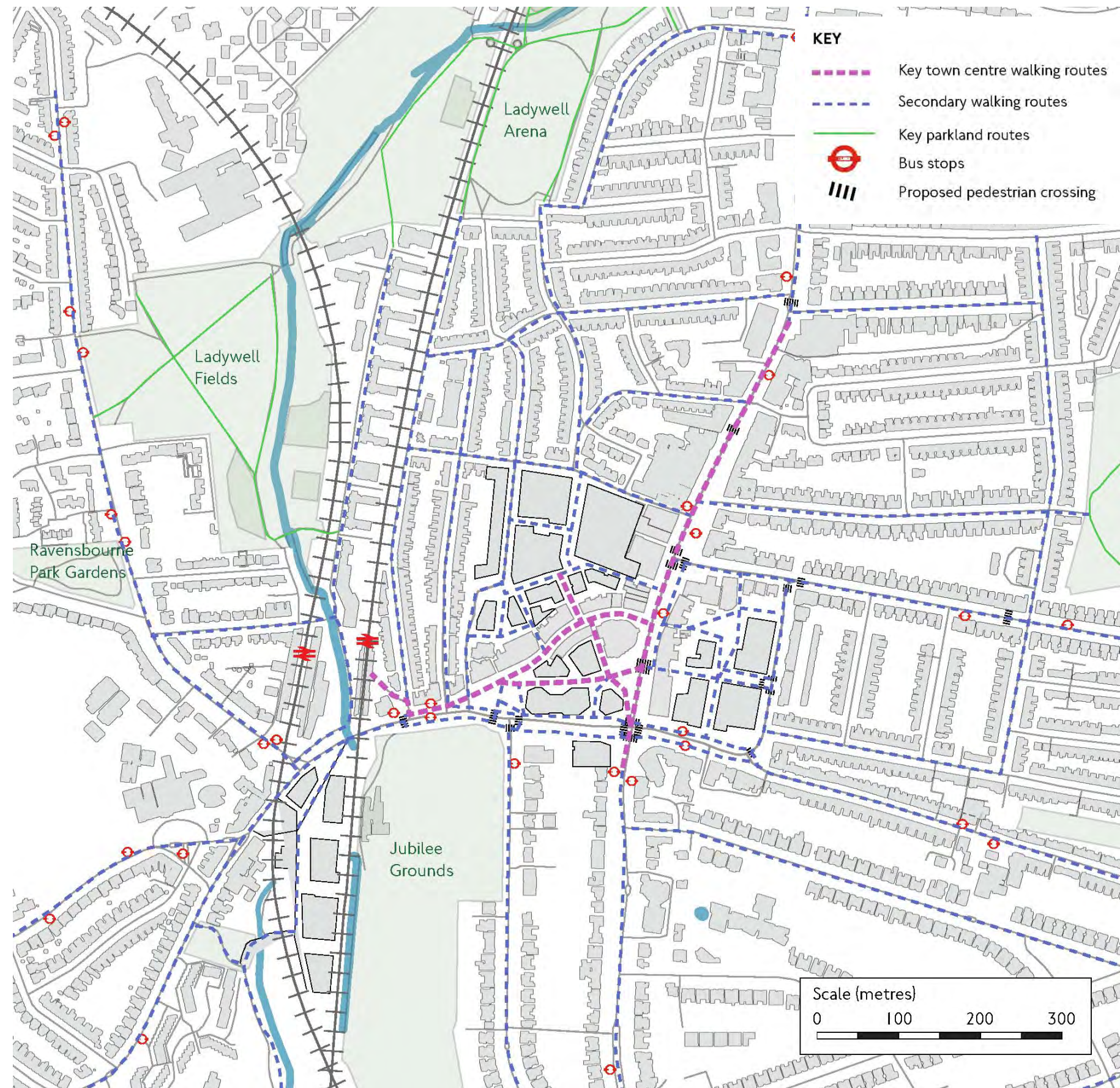
4.3.2 Pedestrian Accessibility

As stated in the Project overview, the Proposed Development has improved pedestrian accessibility at its core and seeks to make Catford Town Centre a more comfortable place to get around for those on foot. It would also make for a more inclusive pedestrian environment where everyone would feel safer and more comfortable moving around the town centre.

Proposed measures include:

- Wider footways between Catford Bridge Station and the town centre;
- A new signal-controlled pedestrian crossing over Catford Road at Catford Bridge Station;
- New signal-controlled pedestrian crossings over Catford Road near Thomas Lane, over Canadian Avenue and over Plassy Road at Sangley Road;
- Improved signal-controlled pedestrian crossings elsewhere in the town centre;

Figure 35. Proposed Pedestrian Infrastructure (TfL, 2023)



- New signal-controlled pedestrian crossings on all arms of the new junction at Catford Road, Sangley Road and Bromley Road;
- Simplifying the junction of Rushey Green and Brownhill Road to introduce new 'straight across' pedestrian crossings to make crossing the A21 Rushey Green easier for pedestrians; and
- Creation of an inclusive pedestrian public realm to Catford's commercial core, whilst facilitating pedestrian flows between Catford Broadway and Laurence House.

In addition, the following design principles have been incorporated throughout the Proposed Development, where possible:

- Widened crossings;
- Shortened crossing distances where possible;
- Removal of redundant street furniture;
- Improved footway surfaces;
- Simplified street layouts;
- Detectable kerbs on footway changes (with an upstand of no less than 60mm);
- Improved signals such as pedestrian countdown; and
- Implementing rotating cones and audible signals for inclusivity.

The aim has been to provide 3-metre wide footways wherever possible in the town centre. A balance with other benefits has had to be struck in some locations. This includes footways where the pedestrian space is less than 3 metres because it is bounded on one side by tree planting and/or raingardens. Elsewhere, the benefits of providing multi-functional threshold space to local shops, cafes and restaurants has been taken into account and balanced appropriately with the width for pedestrian through-movement.

The western footway of Plassy Road in the Proposed Development is significantly narrower than other footways – 1.8 metres at its narrowest. The reason for this is the need to provide a right-turning lane southbound on Plassy Road to protect current and future access to the Plassy Island site. This footway will be widened as part of the developer's proposals for Plassy Island. Prior to that development, it would only be expected to accommodate low pedestrian flows and has no active frontages.

4.3.2.1 Benefits to Pedestrians

The design measures align with TfL's Streetscape Guidance³ and The Planning for Walking Toolkit⁴. These design measures will create widespread community benefits, including:

- Community health and wellbeing;

³ Transport for London 2022, 'Streetscape Guidance 2022 Revision 2', Transport for London, Available at: <https://content.tfl.gov.uk/streetscape-guidance-2022-revision-2.pdf> (Accessed: 22 November 2023)

- Safer crossing points, specifically at Catford Bridge Station and Thomas Lane;
- Shorter active travel times;
- Improved air quality; and
- Increased natural surveillance to reduce criminal activity.

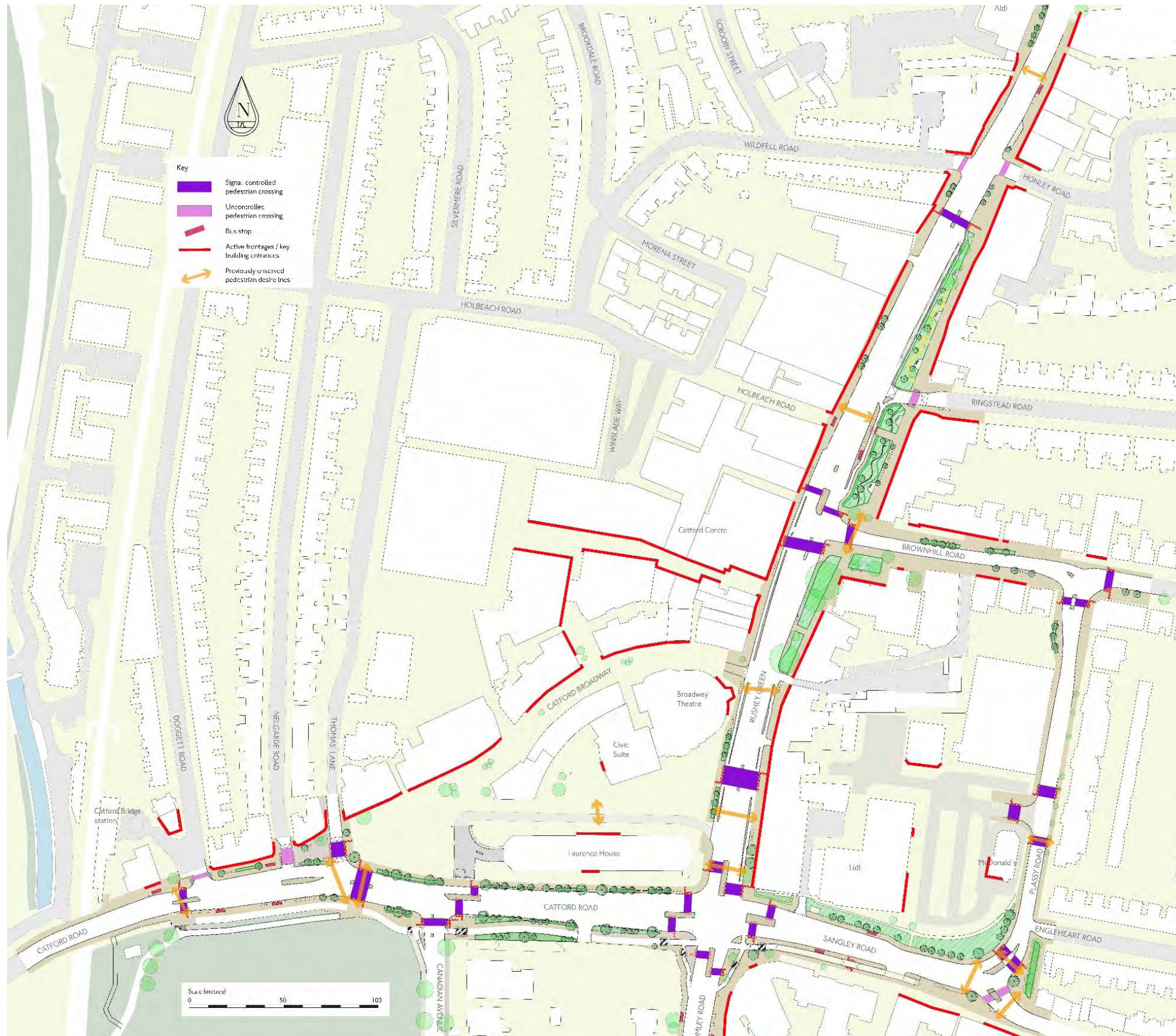
The improvements to pedestrian infrastructure are likely to provide more attractive walking locations and improve the desirability of Catford, leading to greater informal interaction, and consequently helping to foster good relations in the local community.

These benefits were recognised within the design consultation with pedestrians being rated as the most likely to benefit from the Project.

A key part of the Mayor's Transport Strategy is 'Vision Zero'. The 'Vision Zero' object aims to eliminate all deaths and serious injuries on London's transport system. Pedestrians play a crucial role in the transport network, and with the Proposed Development expanding pedestrian footways, enhancing crossings, and streamlining routes, their safety has been prioritised in the design. These safety efforts align with the pedestrian design in TfL's policies.

⁴ Transport for London 2023. 'The Planning for Walking Toolkit', Transport for London, Available at: <https://content.tfl.gov.uk/the-planning-for-walking-toolkit.pdf> (Accessed: 22 November 2023)

Figure 36. Catford Town Centre Proposed Active Frontages
 (Source: TfL, 2023)



In addition, improving London's Air Quality is a priority for the Mayor of London. The perception of many pedestrians using the town centre will be an improvement in air quality given the removal of traffic from the Catford Road area which is where many people will make use of the new public spaces to be created by LB Lewisham. The reduction in idling along the former gyratory, along with the provision of significant improvements in greening will also improve the perception of the town centre as a cleaner and more pleasant environment.

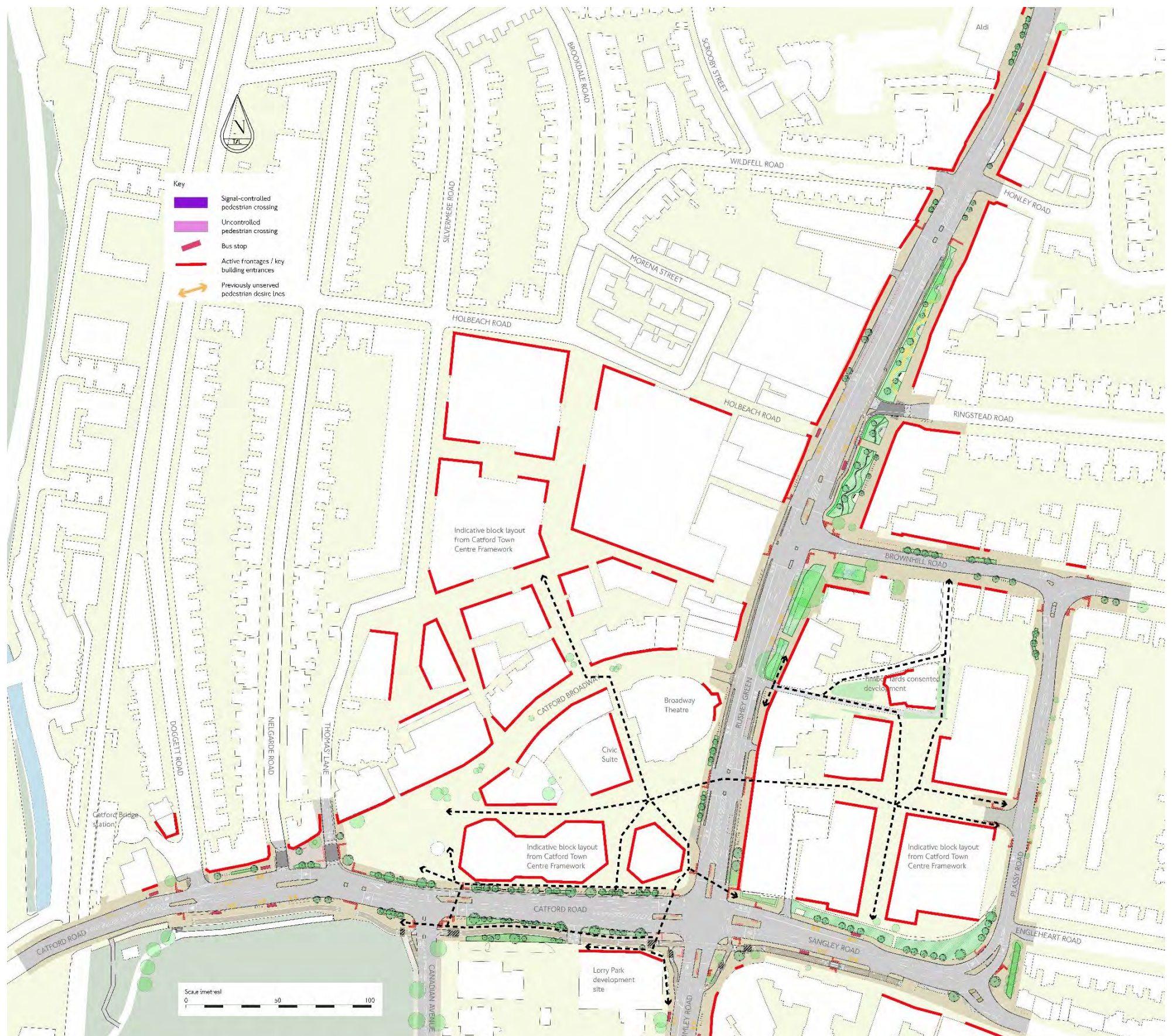
The air quality and noise modelling assessment report and a transport assessment prepared in accordance with TfL's best practice guidance

including the Healthy Streets Approach will be submitted with the planning application.

4.3.3 Integration with New Development

The Proposed Development has been designed flexibly so as to be well integrated with the existing town centre in the 'day one' scenario but also suitably responsive to future development, as set out in the Catford Town Centre Framework. The figure below shows the future development scenario, combining the framework plan and consented scheme for the Timber Yards development with the Proposed Development.

Figure 37. Catford Town Centre Future Public Realm Masterplan



4.4 Placemaking and Public Realm Strategy

4.4.1 Overview

In addition to the highway realignment works, the Project includes a comprehensive placemaking strategy, which aims to support the ambition of the Catford Town Centre Framework (2021) to regenerate Catford into the “*greenest town centre in London*”.

In line with the Catford Town Centre Framework (2021), the TfL Project seeks to give precedence to public spaces, to boost the town centre’s vitality and liveability by providing residents and visitors to Catford with opportunities to meet others, pause, unwind and play.

In addition, the Project aims to prioritise nature wherever possible, with the aspiration to support the shift towards a cleaner, healthier and more sustainable town centre for the benefit of Catford’s residents, urban wildlife and ecology.

The Proposed Development’s objectives include the following public realm specific considerations:

- Consolidate the public realm to create better places for people;
- Establish green and verdant public spaces that are welcoming for all;
- Strengthen the civic and culture character of the town centre;
- Establish the framing of new public spaces with a permeable edge;
- Deliver decluttered, generous, accessible footways; and
- Integrate spaces that support existing businesses.

Figure 38. Ladywell Fields towards Catford Town Centre (Source: LB Lewisham, 2021)



Figure 39. Hillingdon Flower Roadside (Source: TfL, 2023)



As outlined in Section 4.1, the Proposed Development is set to deliver:

- 450 metres of widened public footways;
- Distinctive gateways to Catford Town Centre;
- Multi-functional public spaces that build on existing character;
- The opportunity to deliver significant pedestrianised public realm that benefits Catford's commercial core; and
- The removal of segregation between Catford Broadway and Laurence House, allowing the release of 7000m² for a new public realm
- Cycle parking in key locations

Existing public art and the heritage pump at Rushey Green will be preserved and integrated into the public realm in line with a wider public art strategy to be developed by LB Lewisham.

To ensure a joined-up approach to public realm, the Proposed Development will be complemented by an interim scheme for the spaces made available for new public realm – largely the existing alignment of Catford Road between Thomas Lane and Rushey Green. This interim scheme, for which LB Lewisham is the client, does not form part of this application.

Material is provided in this document for information only, to give a fuller picture of how the realigned A205 will be integrated into the wider public realm in the short term. Longer-term, LB Lewisham hopes to bring forward a more comprehensive development scheme in line with the Catford Town Centre Framework, which will include a permanent public realm design. The public realm proposal offered in the Proposed Development therefore needs to work both with the interim scheme for the new public spaces of Catford Town Centre and with future development proposals.

The following Sections 4.4.2 – 4.4.6 look at key areas of public realm. Section 4.4.8 gives an overview of the Interim Scheme for Catford Public Spaces.

Figure 40. Sheffield's Grey to Green Mission (Source: Nigel Dunnett, 2023)

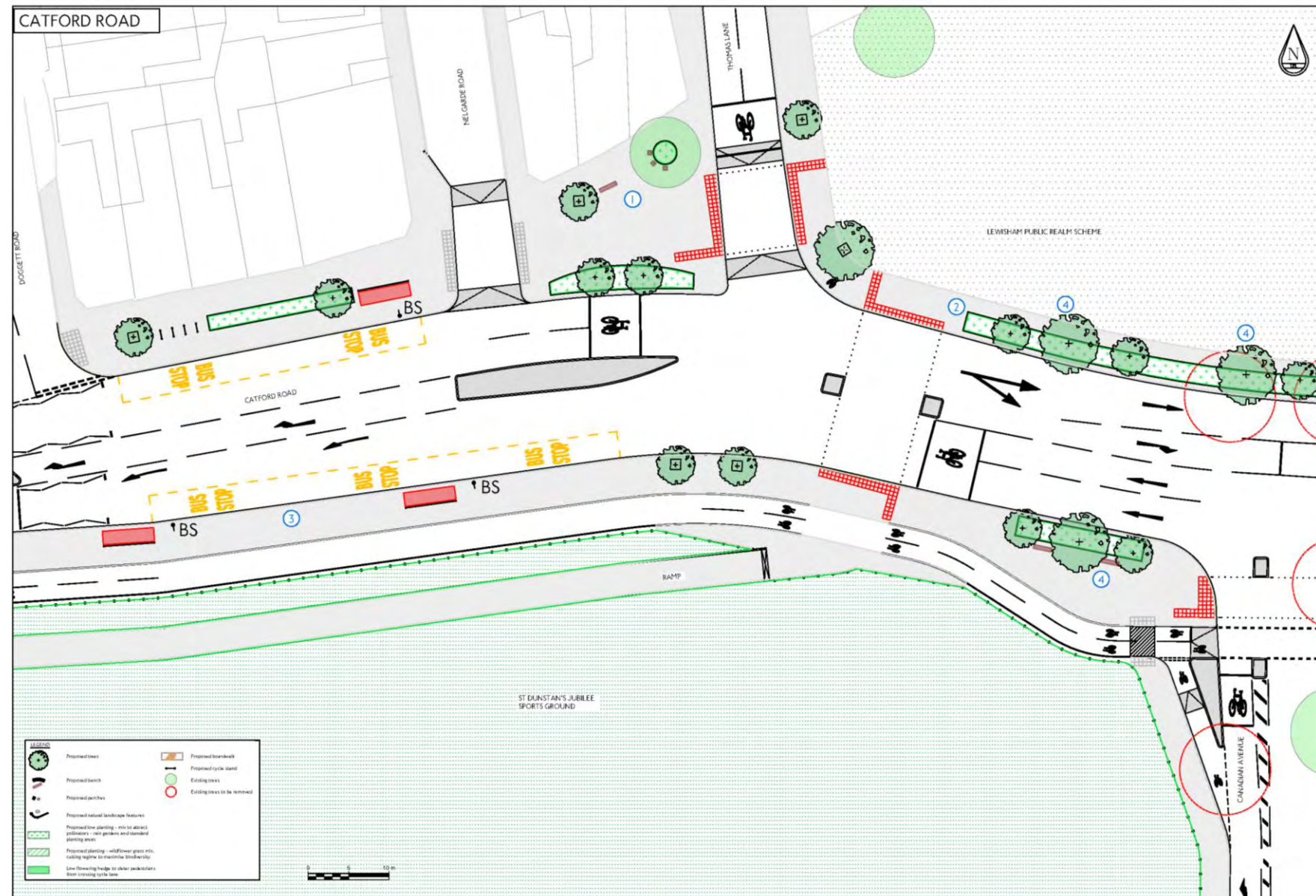


Figure 41. Westerham Avenue, Enfield (Source: TfL, 2023)



4.4.2 Catford Road (Catford Bridge)

Figure 42. Public Realm Plan for Catford Road (Source: TfL, 2023)



This location will incorporate enhanced footways and recreational areas to benefit local shops and restaurants, including the integration of seating and planting. The objective includes spacious waiting areas at bus stops to ensure a comfortable and accommodating environment for all.

1. Public space outside shops. Seating and planting placed to allow pedestrians direct access to crossings.
2. Rain garden / SuDS tree planting to take surface water run-off.
3. This stretch is a bridge structure and therefore greening is limited. It may be possible to introduce below ground SuDS features once the soil depth available is known.
4. Large trees in rain gardens at this point mark the gateway to the new central public space.

Figure 43. Rue Garibaldi, Lyon (Source: Laurence Danière, 2015)



4.4.3 New Catford Road

Figure 44. Public Realm Plan for New Catford Road (Source: TfL, 2023)



Public realm improvements are central to the road realignment aspect of the Proposed Development. The new highway is to be tree-lined, include seating and cycle parking with integrated SuDS. A segregated, two-way cycle track will run along the southern side. This exemplar street will provide a high-quality spine for new development to follow on both sides.

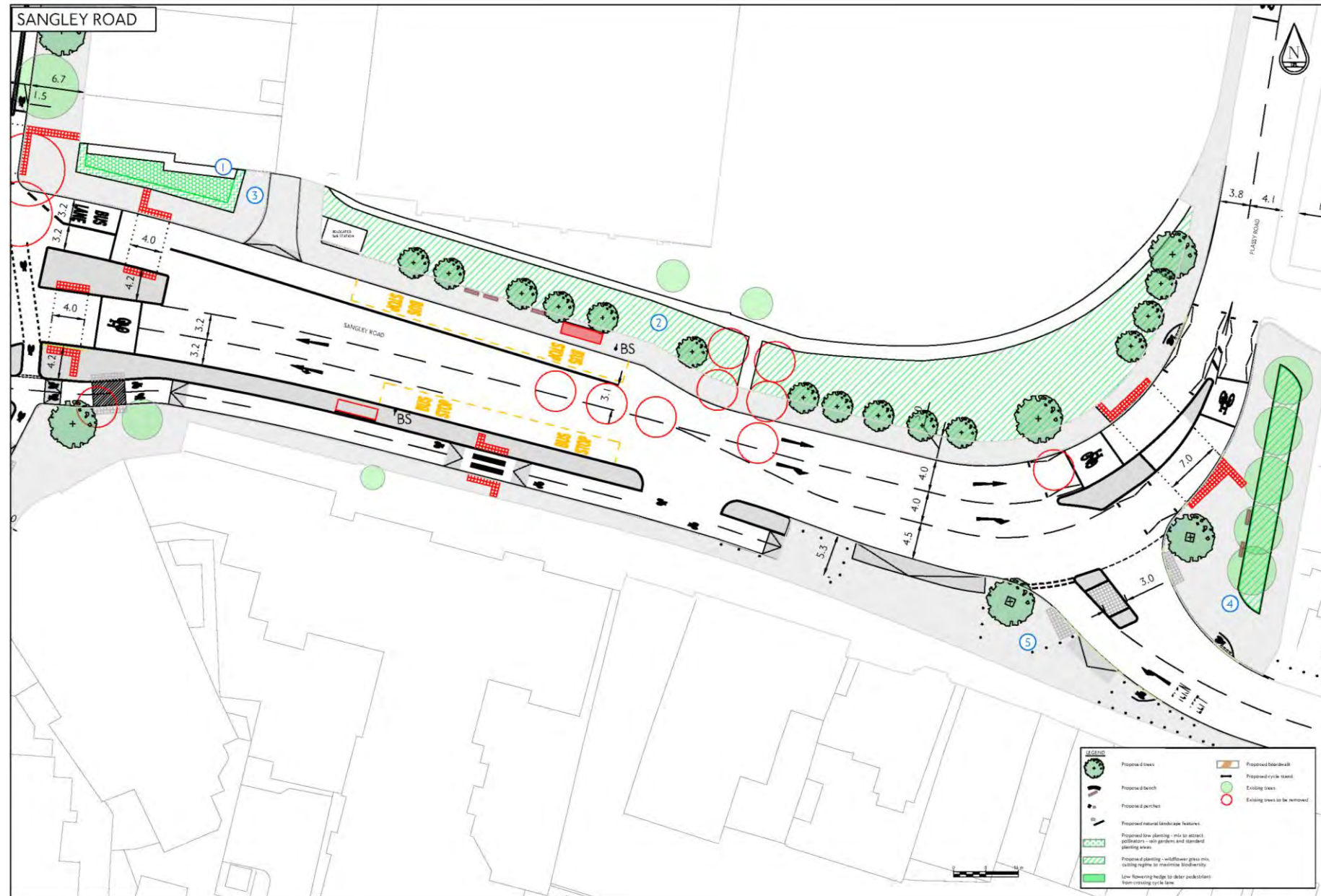
1. Rain gardens to run alongside footway edge, providing SuDS and planting to act as a buffer between the pedestrians and the new road. Gaps in trees/ planting allow for north-south permeability and access to future development sites.
2. New trees to provide an improved boundary between new road and potential future development.
3. Existing poor-quality trees along the BT boundary would have to be removed to allow new trees to thrive.
4. At Laurence House, existing access arrangements, including Fire Escapes are retained.

Figure 45. Sheffield's Grey to Green Mission (Source: TfL, 2023)



4.4.4 Sangley Road

Figure 46. Public Realm Plan for Sangley Road (Source: TfL, 2023)



This element of the Proposed Development provides an opportunity to increase biodiversity. The current amenity grass will be replaced with wildflower grass which will be managed with an optimum cutting regime. New tree planting will line this section.

1. Low-fenced area set aside for biodiversity shrub planting. The installation of an interpretation board could explain the Biodiversity Net Gain approach.
2. Grass managed for maximum biodiversity with a cut-and-collect system and other measures to reduce soil fertility. This section of greenspace has been kept as open and flexible to be integrated more effectively in the design of future Catford Island development.
3. Relocated advertising boards to go here.
4. Relocated sub-station– existing location is in the proposed carriageway.
5. Existing trees improved with joined-up tree pits and underplanting where possible.
6. Bollards are to deter vehicles from crossing footway to access private forecourts.

Figure 47. Freezeland Way, Hillingdon (Source: TfL, 2023)



4.4.5 Rushey Green (Squares 1-6)



Figure 48. Boardwalk Example (Source: Shutterstock, 2023)

Rushey Green provides a key opportunity to enhance the setting of the high quality and high CAVAT-value mature trees. There is also an opportunity to improve the accessibility and integration of public space through connected green space routes that are more inviting and efficient.

The design reflects the history of the squares by joining up the greens with a sinuous boardwalk, planting and landscape features referencing the streams that flowed down Rushey Green until the mid 1850's.

The natural landscape will champion the concept of 'Play on the way' at Rushey Green, as set out in the GLA's Making London Child-Friendly Design Guidance document. The existing railings to the London Squares are to be removed on three sides, connecting the Squares and forming a linear series of spaces. A suitable 'heritage-style' low railing will be reinstalled between the squares and the cycle lane. Each cluster will have its own character.



Figure 49. Public Realm Plan for Rushey Green Squares 1-6 (Source: TfL, 2023)

1. Seating facing both into the green space and towards the shops, allowing for better integration with businesses.
2. Linear swale SuDS feature running through the space where tree roots allow.
3. Boardwalk, to bring children into green space and to engage with the trees and planting.
4. Sculptures hidden among the planting.
5. Natural landscape features.
6. Low ground-cover planting for pollinators.
7. Low flowering hedge to deter pedestrians from crossing cycle lane hedge.
8. Grass managed as wildflower – cutting regime to promote biodiversity
9. Low fence to separate cycle track from green space.
10. Hospitality zone: indicative 2.2m kept clear for additional businesses to introduce outside seating.

4.4.6 Rushey Green (Squares 7-8)

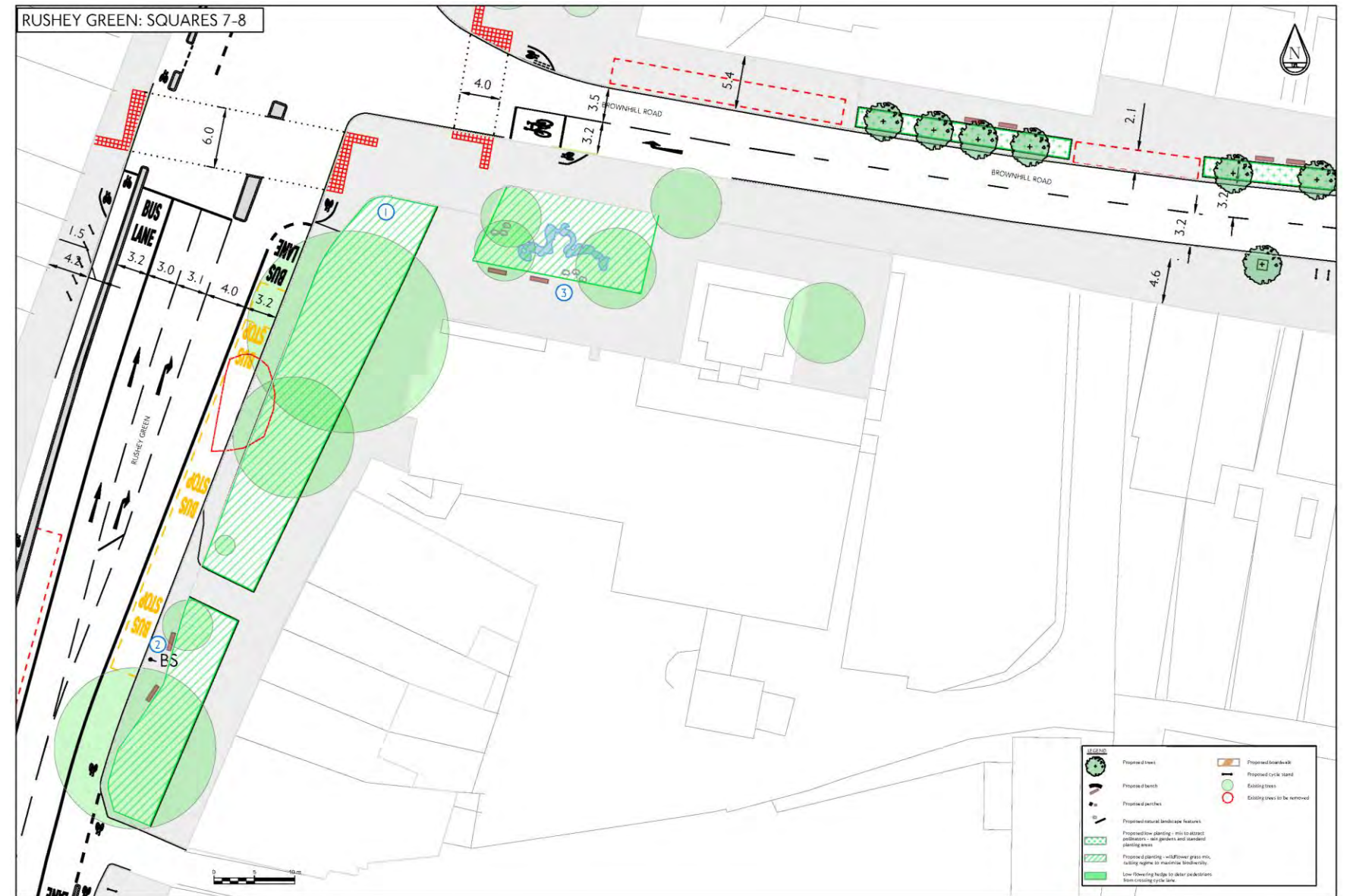
Figure 50. Bridget Joyce Square, White City (Source: Robert Bray Associates, 2023)



Figure 51. Stepping Stone Example (Source: Shutterstock, 2023)



Figure 52. Public Realm Plan for Rushey Green Squares 7-8 (Source: TfL, 2023)



1. Grass managed as wildflower. Any additional groundcover planting would be dependent on the density of tree roots.
2. Seating for bus stop.
3. Potential for seating and improved environment around the Waterline sculpture (outside application area).

4.4.7 Heritage Considerations

The Proposed Development's main influence on the area will be predominantly through low-level road network alterations, such as:

- Kerb changes;
- Carriageway widening;
- Traffic management infrastructure; and
- Street furniture.

These are expected to have a limited impact on the setting of local built heritage assets.

A key heritage benefit of the Project is the rerouting of the A21 to the south of Laurence House. This realignment will have a positive impact on the setting of the Broadway Theatre (Grade II).

The Heritage and Archaeological impacts are discussed further in the Heritage Statement and Archaeological Report.

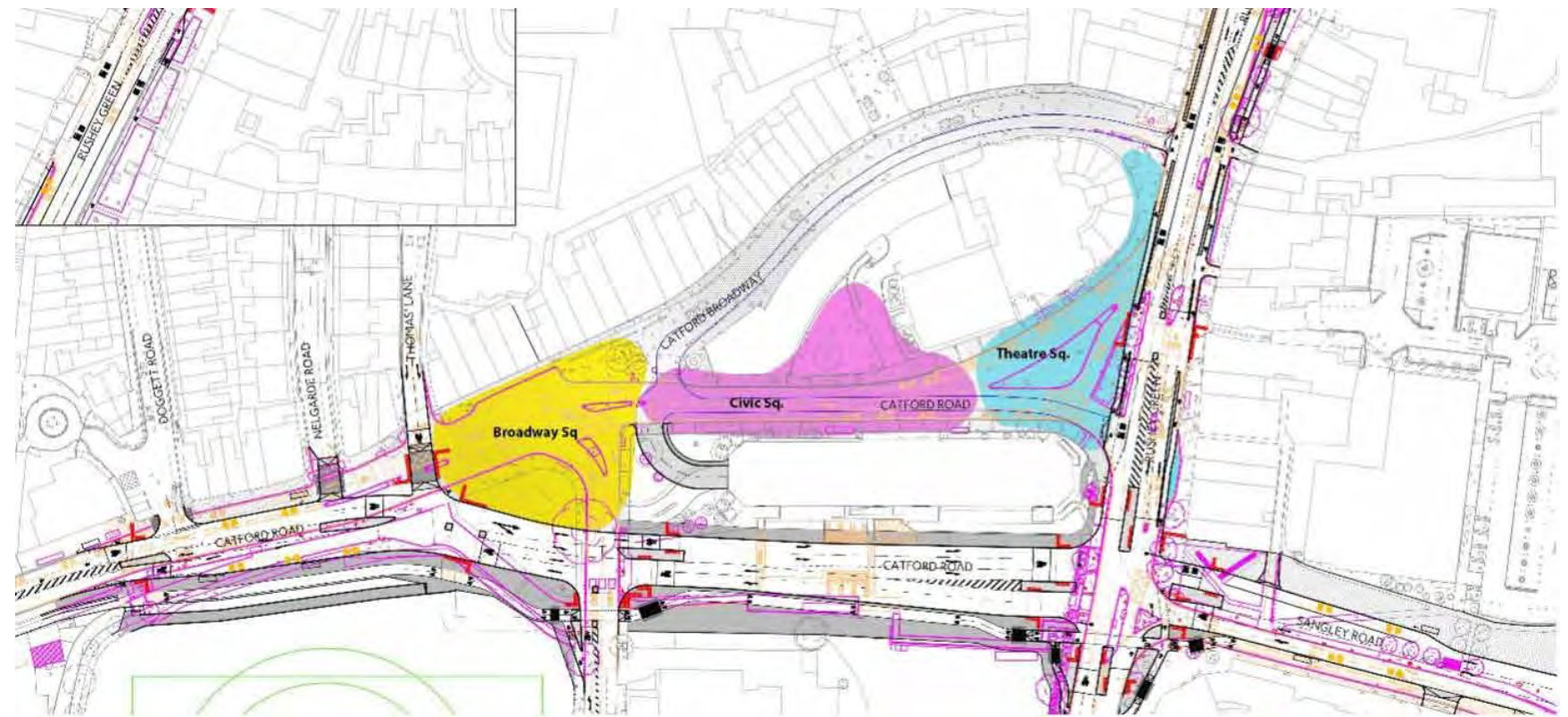
4.4.8 Interim Scheme for Catford Public Spaces

The Proposed Development moves the A205 Catford Road away from its current alignment between the Civic Suite and Laurence House. The existing Catford Road, together with a large space to the south-east of Thomas Lane, will become a new public open space in the town centre, with an approximate area of 7,000 square metres. For this space, LB Lewisham has commissioned a 'day one' / initial phase meanwhile design in support of the Proposed Development – to be delivered separately but, in terms of the experience of being in Catford town centre, to be an integral part of the changes brought about by the Proposed Development.

This Interim Scheme will exist on the ground until a development proposal for the Laurence House and Civic Suite site is implemented, which is unlikely to be before the early 2030s. It is expected that many of the proposed interventions will be able to be incorporated into the permanent proposals, even if this simply means moving street furniture and play equipment, transplanting trees and shrubs, and relaying lawns.

The new public space covered by the Interim Scheme can roughly be broken up into three areas, which have provisionally been given the titles 'Broadway Square', 'Civic Square' and 'Theatre Square'. Each square will have its own distinct identity. Some vehicular access will need to remain through these spaces, to accommodate servicing to Laurence House and retail premises on Catford Broadway.

Figure 53. Sub-Division of New Catford Public Spaces (Source: Catford Public Spaces Report, 2023)



The Interim Scheme is to be guided by these four themes:

- To be the greenest town in London
- To build physical activity into everyone's daily lives
- A space for creating, making and experiencing art and culture
- To be home to London's most vibrant street market

The Interim Scheme will complement the Proposed Development, ensuring that there is an integrated approach that supports the wider aspirations for improving the pedestrian environment, encouraging active travel, creating a more climate-resilient public realm and greening the Town Centre.

4.4.9 Public Realm Phasing

The delivery of the Proposed Development will utilise a phased approach with small, achievable projects to be implemented from *Day 1*. These short-term interventions will rapidly benefit the local area and help the visualisation of the final Project.

Future phases following the delivery of the Proposed Development may include:

- The integration of the public realm with the Catford Island development scheme, allowing greater east-west and north-south pedestrian flows; and
- The integration of the Canadian Avenue lorry park development into the active travel network, allowing a landscape buffer along the new Catford Road and greater accessibility throughout the area.

4.5 Landscape Character Strategy

A central ambition of the Proposed Development is to enhance the town's public realm with greening and tree planting. Where there is a loss of assets, TfL have set out to ensure we mitigate, improve quality and add value.

4.5.1 Typologies

Landscape typologies within the development fall into three types; the mown amenity grass crossed with paths bounding Sangley Road, the formal, contained mown grass of the London Squares and the St Dunstan's Jubilee sports grounds, which consists of functional mown grass but is important for a sense of openness and views into green space.

Outside the development boundary there are large parks (including river corridors), sports fields, small public green spaces, railway corridors, and street tree planting.

There are gaps in the network of green spaces and tree canopy cover but there are limited opportunities to achieve this within the development boundary. See Section 4.5.4 for more detail of constraints.

4.5.2 Distinctiveness

As part of this application, we have looked at which features and attributes of the town centre landscape are of key importance and why.

In terms of distinctiveness, the London Squares, are a key part of the character of the existing A21. Physically they create a buffer between the homes and businesses and the street. In terms of amenity, they include many large trees and in terms of land use they provide welcome green space for residents to use.

They are formal in design with mown grass and trees. However, they are fenced, gated and, in some cases, cluttered. The London Squares could do much more and are currently not fulfilling their potential.

The scheme proposes to enhance the currently low-key spaces in order to ensure they make a greater contribution to the look, feel and habitat value of the town centre.

4.5.3 Green Spaces

The Proposed Development will prioritise the integration of green spaces into all areas of the Project where possible. All green space interventions are included in the public realm plans provided in Section 4.4 above.

Currently, the application site's existing natural habitats include modified grassland and scattered trees, with hard-standing and buildings making up the majority of the application area.

Under the proposals there will be a diversity of green spaces in relation to their scale, use and benefit. The proposals aim to maintain the distinctiveness of the current green spaces while increasing their multi-functionality.

Key green space design components:

- Climate resilience - an accompanying Sustainable Drainage System (SuDS) strategy for the Project. Where possible this will take the form of rain gardens with robust, drought-tolerant planting and engineered tree pits.
- Climate resilience – structural tree planting to support wildlife corridors and combat urban heat island effect. As the climate changes, trees come under increased stress through drought which can put them at risk. Joined tree pits to give the optimum rooting area will address this.
- Including natural landscape features to enhance the layout of London squares and encourage informal play.
- Less emphasis on amenity grass and more emphasis on planting for biodiversity and pollinators in areas where people dwell.

The graphic below illustrates the key landscaping principles to be applied to all streets within the development.

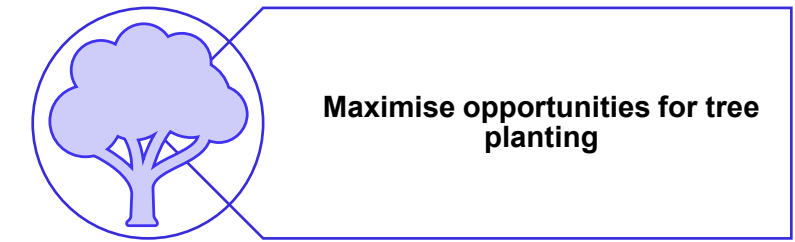


Figure 54. Street Greening Ambitions - Bonnington Square Gardens (Source: Catford Town Centre Framework, 2021)



4.5.4 Tree Planting

Informed by the results of a Tree Survey (September 2023), the Proposed Development prioritises the preservation of high-quality trees (trees categorised as A and B), as far as it is reasonably practical within the constraints of highway safety design standards.

Both TfL and LB Lewisham recognise the value of trees in the town centre and the contribution they make to an area. Trees are only removed when absolutely necessary, such as when a scheme could not operate correctly without removing them.

Unfortunately, in this case, it is necessary to remove some existing trees in order to deliver the scheme. Although this includes 3 high quality trees, many of trees proposed to be removed are in poor health. The Proposed Development has aimed, where possible, to retain mature, and semi-mature trees. This will reduce impacts to birds, bats and insects at a local level. For full details of proposed tree retentions and removals, please refer to the Arboricultural Impact Assessment submitted in support of this planning application.

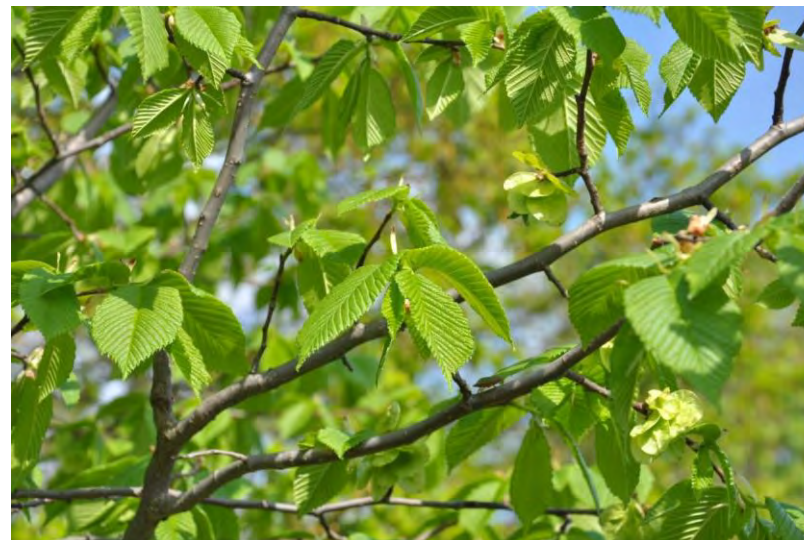
Newly planted trees will be provided through a mix of large, medium, small and ornamental trees. The species will be suitable for an urban environment and contribute to pollution control. We will utilise below ground engineered connected tree pits wherever feasible.

To mitigate the impact of the tree removals a robust replacement planting scheme is proposed, including planting of 132 new trees, plus a potential additional 3 trees, depending on constraints in an area allocated to increasing biodiversity. Taken together with other greening proposed within the town centre, this results in a net increase of the number of trees across the site and exceeds the borough's target of 2 trees to replace every felled tree. These trees will connect with existing green infrastructure, provide canopy cover and increase biodiversity. Footway widths and the constrained environment due to existing underground services mean in some locations it is not possible to create an uninterrupted canopy. Gaps in the canopy include:

- Catford Road to the north of St Dunstan's playing fields where a bridge structure prevents tree planting along the footway.
- Plassy Road, to the east of Catford island where the lack of space prevents tree planting, existing trees on the east side are on private land.
- Southern frontage of Sangley Road, and South Circular, east side, opposite the theatre, both locations planting area is constrained by services.

The proposed new street layout also opens up exciting possibilities for greener public spaces in Catford. TfL have examined all opportunities where new green space can be provided throughout the town centre as part of the scheme.

Figure 55. Elm Tree (Source: Shutterstock, 2023)



Newly planted trees will be provided through a mix of large, medium, small and ornamental trees:

Large trees

- Used to create a focal point or visual punctuation;
- Can reflect an existing character area or be proposed as part of a new character area;
- Are proposed to reach maturity, allowing their environment benefits to be realised; and
- The species used could include *Tilia tomentosa* 'Brabant' and *Acer platanoides* 'Deborah'.

Medium trees

- These will form the majority of the tree planting and can provide connections between the large trees;
- The species selected provide a variety of crown forms and sizes to reflect nature of the built environment; and
- The species used could include *liquidambar styraciflua* 'Worpleson' and *Alnus cordata*.

Small and ornamental trees

- Used for constrained spaces or to complement the other green infrastructure;
- Can increase pollination for biodiversity and offer visual interest at a human scale; and
- The species used could include *Crateagus persimilis* 'prunifolia' and *Prunus Kanzan*

Figure 56. Prunus 'Kanzan' (small tree) (Source: Shutterstock, 2023)



Figure 57. *Tilia tomentosa* (large tree) (Source: Shutterstock, 2023)



Figure 58. *Liquidambar styraciflua* 'Worplesdon' (medium tree) (Source: Shutterstock, 2023)



TECHNICAL DESIGN MATTERS

5. Technical Design Matters

“Improving the environment of Catford Road is important to ensure pedestrians and cyclists feel comfortable and safe.”

Catford Town Centre Framework (2021)

This section of the Design and Access Statement provides further technical details with regards to key aspects of the Proposed Development’s design and access principles – including safety and security, lighting, management and maintenance, and sustainability.

The design of these elements has been undertaken by TfL’s team of specialist engineers, in line with TfL guidance and relevant national standards.

5.1 Safety & Security / Management & Maintenance

Improving safety for all street users is a top priority to ensure Catford remains an attractive place in which to live, work and invest. All elements of the design will seek to provide safe and secure environments, as outlined in Section 17 of the Crime and Disorder Act 1998.

To achieve the Mayor’s vision for a safe road network, increased levels of people choosing sustainable transport modes and improved air quality, inclusivity and balance must be at the heart of all design so that London’s streets are safe and pleasant for everyone who uses them:

Road Safety

The Project is intended to bring about benefits for the road safety of all road users. The design process has paid close consideration to the requirements of all other road users, in order to seek a balance between all road users’ requirements.

Ultimately, removal of the gyratory circulation effectively moves the traffic away from streets with the highest pedestrian footfall, making it safer for pedestrians and address existing collision patterns. Furthermore, safety will be improved for vulnerable road users by providing additional, improved crossings, wider pavements where possible and new segregated cycle infrastructure. These changes to the highway will help to improve road safety, and / or perceptions of safety, which is expected to have a positive impact on active travel levels.

The Proposed Development includes a significant amount of improved cycling infrastructure. It is recognised that changing provision and prioritisation of particular groups of road users over others can sometimes generate bad feeling from groups who feel that

their share has diminished. For example, car drivers may be unhappy if speed limits decrease or waiting times increase. Frustration with new measures can sometimes lead to altercations and disagreements amongst road users. This can sometimes escalate to verbal and even physical abuse or violence.

To avoid this, a robust stakeholder engagement plan has been implemented during the design process to identify potential future conflicts between different groups of road users. This is detailed in the Consultation Report and the EqIA submitted in support of this planning application.

In addition, clear delineation and signage will be introduced to minimise potential future conflicts between different road users. In particular, where parts of the scheme are significantly different to the previously existing infrastructure, new signage and delineation will be as clear as possible in order to fully explain any new instructions/conditions to all users, and to help minimise unexpected behaviour.

Natural Surveillance & CCTV

Implementing the measures to encourage more walking and cycling should increase natural surveillance to help deter criminal activity and improve safety on local streets.

In addition, improved natural surveillance at and around bus stops from likely increases in footfall and cycling should improve the sense of safety for those using the bus. This is particularly relevant at night, as buses may be the only available night-time public transport option.

In addition to enhanced natural surveillance, CCTV provision in the area will be improved to achieve sufficient coverage of the Project area. This includes a “seamless” continuity of CCTV coverage between the nearby railway stations, the main bus stops and urban realm areas.

Footways and Leftover Spaces

The Project will implement the creation of wider footways across the application site. This is beneficial for public safety, as widened footways tend to increase pedestrian movement and reduce “pinch-points” which are favoured by thieves.

TfL’s Streetscape Guidance advises that unplanned or poorly maintained spaces can create negative impressions in an area or space, similar to the broken window effect. The guidance recommends that these areas should not be designed or planned in isolation, but should be planned as a part of a wider strategy of improving leftover spaces along a designated route. As such, the Proposed Development has been designed in accordance with TfL’s Streetscape Guidance.

To assist in crime prevention, the Project design avoids creating deserted, undefined or secluded places, given that vandalism and other criminal acts tend to be concentrated in these areas. In addition, spaces have been designed to allow for all-round surveillance and incorporation of good lighting, as open and bright spaces reduce the number of potential hiding places and reduce the fear of crime.

Where the Project includes the installation of new seating areas, it is necessary to consider who is expected to be using it and its purpose. If there is no clear purpose, then the seating area may be used for undesired purposes or might attract anti-social behaviour. Any new seating or benches will include arm rest dividers to deter people from lying down or sleeping rough, and will be placed in areas of natural surveillance to minimise anti-social behaviour.

In addition, seating will not be positioned directly under trees to reduce bird fouling of the seating, which discourages its use.

Lighting

As explored in Section 5.2, the Proposed Development includes distribution of even and uniform light that avoids sudden and significant light variations, in order to assist with higher quality visibility levels. The lighting design also seeks to complement both existing and proposed CCTV in the area.

Landscaping

Where the Proposed Development includes additional planting of trees and a creation of a public open space, landscaping will be used to make places feel safer and help improve the image of an area. However, the design will ensure that trees and landscaping do not add to existing or create poorly lit areas.

Newly planted trees will be positioned to avoid the obscuring of any lighting or CCTV, and maintaining clear lines of sight. In addition, the species selection of trees and shrubs will lend to future ease of maintenance so that it complements on-going site security. For instance, slow-growing plants which require less maintenance will assist with mitigating the longer term establishment of hidden or dark spaces.

Materials

The design language of the new scheme will comply with TfL’s accessibility and sustainability principles. Within the town centre the materials palette will support the character and identity of the civic and public space, the high street and adjacent residential neighbourhoods.

Footways will set out to enhance the existing buildings, be from a limited palette of simple and durable concrete, natural stone and asphalt. The material types will depend upon the project budget. Most footways within the red line boundary are likely to be re-surfaced and

the replacement footways will be thoughtfully tied in with existing surfacing to be retained. The carriageway is likely to be resurfaced.

All footway areas within the site boundary will be de-cluttered, with every piece of equipment having a clear reason for being retained or installed. New and repositioned street furniture will largely be restricted to the street furniture zone and comply with TfL's Streetscape Guidance.

Management and Maintenance

Litter clearance and street maintenance are instrumental in promoting a sense of security within a community. As a result, a collaborative, partnership approach across boroughs and agencies will be essential. Responsibilities of care will be agreed at the earliest opportunity during the development process and will be documented to prevent future disagreements between relevant parties.

A robust maintenance regime will be implemented, ensuring that any damage of facilities or surfaces (whether criminal or not) is repaired quickly. This will create a well-maintained environment decreasing the fear of crime and discouraging vandalism.

Materials used will be robust and easy to maintain. Surfaces will be made as graffiti resistant as possible and easy to clean (i.e. vandal-resistant glazing will be used, incorporating sacrificial films to protect from scratch graffiti where relevant). TfL street furniture will also be locked with bespoke keys to prevent vandalism and theft.

5.2 Lighting

To enhance night-time use, economy and enjoyment, and to provide safe passage across Catford for all road users, TfL will provide street lighting across the TLRN. Street lighting provides many benefits to the network, including:

- Reducing night-time accidents and personal injuries;
- Reducing crime and fear of crime;
- Promoting personal physical fitness and sustainability by encouraging walking and cycling after dark;
- Supporting the 24-hour leisure economy promoting economic development;
- Providing safe access to educational facilities supporting lifelong learning;
- Assisting emergency services to identify locations and thus reduce response times;
- Permitting the effective use of CCTV during the hours of darkness;
- Maintaining and/or improving the quality of life and personal wellbeing; and

- Providing an aesthetically pleasing appearance during the day and night.

As discussed in Section 5.1, the Proposed Development has been designed to allow for all round surveillance and incorporation of good lighting, as open and bright spaces reduce the number of potential hiding places and reduce the fear of crime. This includes distribution of even and uniform light that avoids sudden and significant light variations, in order to assist with higher quality visibility levels.

White light will be prioritised where possible, as this can improve colour rendering qualities for CCTV and can have a positive impact on users by reducing feelings of insecurity and fear of crime.

TfL embraces innovation and the latest technological advances to provide the benefits discussed and these include the implementation of a lighting Central Management System (CMS) and use of the latest light source technology.

All lighting schemes on the TLRN must meet the relevant British Standard requirements, including but not exclusively:

- BS 5489: Code of practice for the design of road lighting
- BS EN 13201: Road lighting
- BS EN 40: Lighting columns
- PD 6547: Guidance on the use of BS EN 40-3-1 and BS EN 40-3-3
- BS 7671: Requirements for Electrical Installations
- BS 7430: Code of practice for protective earthing of electrical installations.

During the next design stage, key public realm areas will undergo further assessments to ensure that the right level of lighting is provided to encourage enjoyment and use of the space while ensuring safety and security.

Street Lighting Central Management System

TfL has introduced CMS on all TLRN street lights. This system allows TfL to remotely monitor and manage street lighting, allowing for dynamic control of lighting levels. This will allow lighting levels to be aligned better with traffic flows and road use, reducing energy consumption and carbon emissions without compromising safety or security. The system will also remotely record failures, allowing maintenance crews to ensure lighting levels are restored in a timely manner.

5.3 Sustainable Urban Drainage Scheme (SuDS)

By its very nature, the Catford Town Centre Highway Realignment project seeks to promote modal change by supporting sustainable

transport modes with greater capacity for cycling and higher quality public realm to promote walking. In addition, the Project supports travel by sustainable public transport modes by protecting bus journey times and reliability through the town centre.

The Proposed Development will consider the impacts of climate change and seek to reduce any potential in-combination climate impacts.

Crucially, the Project will contribute to the creation of a greener and more climate resilient town centre by planting trees, landscaping, and through introduction of a Sustainable Urban Drainage Scheme (SuDS).

This section provides further details of the technical elements of the SuDS scheme to be incorporated within the Project.

5.3.1 SuDS Strategy

During operation, new impermeable surfaces will be present within the application site, and to ensure that there is no likelihood of increasing the flood risk on or off the application site, a Sustainable Drainage Systems (SuDS) strategy will be implemented. The objective of the strategy is that impermeable areas first drain into SuDS features rather than conventional drains and sewers, in line with the Mayor's Transport Strategy.

In accordance with the requirements of the National Planning Policy Framework and the supporting guidance Flood Risk and Coastal Change (2022), a Flood Risk Assessment (FRA), Surface Water Management Plan (SWMP) and SuDS Strategy have been submitted in support of the planning application.

The SuDS strategy has been developed to offset the increase in impermeable surfaces by proposing, for example, the use of cycle lanes as permeable surfaces and making use their attenuation properties.

In areas where the footway has been widened to improve the public realm or provide better physical separation between pedestrians, cycles and motor vehicles, the strategy proposes that opportunities be taken for new green infrastructure (including SuDS planters, raingardens and tree pits) to further offset permeable area loss.

In accordance with Environment Agency climate change allowance for peak rainfall in the London Management Catchment, a 40% allowance on rainfall has been included within the design.

The SuDS Strategy includes the following core components:

Permeable Pavements

In order to provide freely draining pavements, permeable paving with interlocking tiles will be used for the proposed build-outs and pavement where possible.

A typical system consists of interlocking tiles installed on top of a permeable bedding layer, which is in turn laid onto aggregate filter material. A permeable or impermeable membrane is used to separate the aggregate from the undisturbed soil. The exact make-up of a permeable pavement will depend on many factors, including structural and geological design, and the depth of existing utilities.

Permeable pavements will be specified to freely drain in excess of a 100-year storm event (300mm/hr) when partially obstructed.

Rain Gardens

A key component of the SuDS Strategy for the Project will be the construction of rain gardens. Rain gardens are bio-retention systems consisting of a landscaped depression that allow runoff to filter through the vegetation and underlying soil and may also pond temporarily on the surface onto the soil becomes fully inundated.

Figure 59. Rain Gardens on TLRN Under Construction in Tolworth (Source: TfL, 2023)



The rain gardens will comprise the following features:

- **Vegetation:** influences the performance of the system through direct uptake of pollutants and by facilitating physical and chemical processes in the soil that remove nutrients. Vegetation will also prevent erosion of the surface soil layers and help maintain the permeability of the filter medium.
- **Freeboard:** provides potential water storage space, above the topsoil.
- **Planting Medium:** consists of a sand-based filter media, sufficiently permeable to allow water to pass through it, so that the rain garden does not become waterlogged. It will also contain sufficient organic material and plant nutrients to support the proposed vegetation.
- **Transition Layer (Coarse Sand):** each rain garden will be provided with an intermediate layer of coarse sand between the filter medium and the drainage layer underneath.
- **Sub-Base (Drainage Layer):** collects water from the filter medium and infiltrates into the native soil underneath/allows water to reach the perforated under-drain easily.
- **Under-Drain Pipes and Perforations:** the use of perforated pipes to drain the sub-base will be essential where the native soil is impermeable and the rain garden serves a large catchment, to enable the rain garden to drain-down within a reasonably short time period to ensure that they do not become water-logged and have enough capacity available for the next storm event.
- **Under-Drain (Flow Control):** the flow limitation provided for each SuDS will depend solely on the flow control provided at the outfall chamber, as this is where maintenance can be easily carried out without specialised equipment.
- **Under-Drain Pipe Rodding:** all under-drain pipes shall be either provided with a dedicated rodding eye, or connect to the previous outfall chamber, where SuDS are provided with multiple outfall locations, so that the pipes are accessible for rodding and jetting.

It should be noted that certain rain gardens will be crossed by existing utilities that will be shallower than the depth of the rain garden. In these instances, part of the rain garden will be built with a shallower depth, to retain the utilities in place and avoid utility diversion. However, it shall be ensured that the whole attenuation volume is slowly emptied within 24 hours from the end of the storm event, either by infiltration or by an obstructed path to the under-drain pipe.

All retention systems and each of their components will be detailed and specified in accordance with the relevant standards and design

guidance, in particular with the CIRIA Report C753 (The SuDS Manual, Chapter 18).

Tree Pits

The design criteria used for tree pits is similar to those of a rain garden, as they are both structures which rely on some water passing through the planting soil material, provide storage for storm water, and are provided of a form of under-drain and overflow to prevent soil being inundated for extended periods of time.

For the design of the tree pits, the design process considered the following key criteria:

- Runoff area connected to each tree pit is suitable for the proposed trees (i.e. trees do not risk being overwatered);
- Soil volume is sufficient to support a healthy tree root growth;
- Determine where buried services clash with proposed tree pits;
- Determine the flow route for water from the catchment into the structure, and determine requirement for a dedicated under-drain and overflow system, or whether the tree pit is provided with an under-drain arrangement in common with other adjacent SuDS;
- Ensure that, where suitable, multiple tree pits are connected together to maximise the attenuation volume and allow for more tree root growth; and
- Identify if there is a requirement for root protection system.

SuDS tree pits have been incorporated into the Project adjacent to permeable pavements, which will be provided with an under-drain system. Typically, a tree pit will be deeper than the permeable paving, however it is considered acceptable for the bottom part of the tree pit to be slowly drained into the underlying ground through a permeable geotextile, where practicable, while the under-drain pipe should provide drainage from a depth of approximately 800mm from ground level.

CONCLUSIONS

6. Summary of the Project

This DAS has been prepared by AtkinsRéalis on behalf of TfL in support of a planning application to LB Lewisham for conversion of the A205 South Circular one-way gyratory system to two-way working within the Catford Town Centre and associated works.

This DAS has presented TfL's design and accessibility proposals for the Catford Town Centre Highway Realignment works, setting out how the design has evolved and the key issues / evaluation that have informed the design development.


In summary, the Proposed Development involves realignment of the A205 approach to the town centre from the west to a new more southerly alignment, comprehensive highway and public realm improvements and replacement access to the St Dunstan's College Jubilee Ground sports fields.

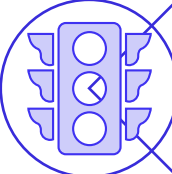
The Project design has been developed by TfL, informed by close engagement with LB Lewisham, in order to support its ambitions to transform and regenerate Catford Town Centre. Crucially, the Catford Town Centre Framework (2021) relies on the provision of a comprehensive set of interventions to the highway to improve transport and create better places for people. In particular, the Town Centre Framework confirms the Council's aspiration to re-align the A205 to support significant redevelopment within the town centre – as is the subject of this planning application.


The Project align with national, regional and local policies to support London's sustainable growth and promote active travel, whilst also enabling LB Lewisham's vision for a green, accessible, vibrant town centre by making provision for the creation of new public spaces along the existing alignment of Catford Road east of Thomas Lane.


The works are currently anticipated to take approximately 24 months and to commence in March 2025 with completion by March 2027, subject to timely approvals and land acquisition.


As demonstrated throughout the DAS, the Proposed Development will provide the following key benefits and improvements for Catford Town Centre:


- 

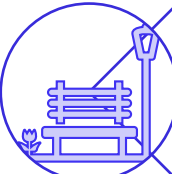
Widening of more than 450m footways, including along A205 at key locations such as western approach to the town centre.
- 

Improvements to wayfinding and creation of 20 improved controlled crossings, including new wider crossing for Catford Bridge Station.
- 

Delivery of 750m of segregated cycle tracks and improved crossing arrangements.
- 

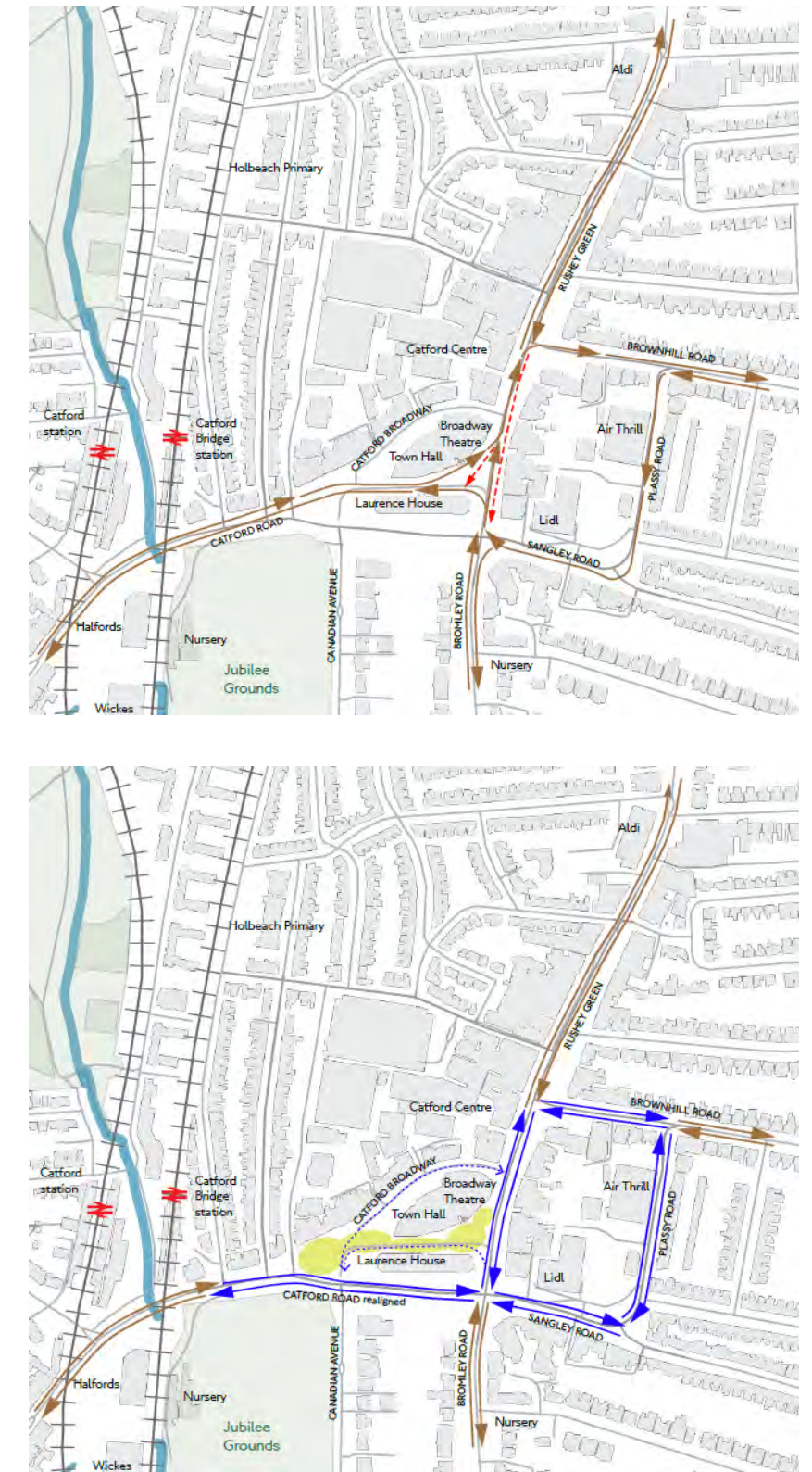
Introduction of bus priority measures including re-provision of 700m dedicated bus lanes and relocation of bus stops in response to highway realignment.
- 

Streamlining traffic flows to minimise queuing within town centre and improve ambience for pedestrians and cyclists.
- 

Comprehensive landscaping to create a greener town centre, including extensive tree/shrub planting and a new SuDS strategy.
- 

Provision of more integrated and welcoming green spaces on Rushey Green, including introduction of natural landscape features.

Figure 60. Existing and Proposed Alignments of the A205 South Circular Road (Source: TfL, 2023)



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