



Appendix K

Swords to
City Centre Core
Bus Corridor –
Updated Draft Preferred
Route Public Consultation
November 2020
– **Brochure**

Appendix K. Swords to City Centre Core Bus Corridor – Updated Draft Preferred Route Public Consultation November 2020

The Swords Valley to City Centre CBC – 3rd Public Consultation November 2020 is available from the NTA BusConnects Website, and can be accessed by clicking on the links below:

Link - <https://busconnects.ie/wp-content/uploads/2022/02/02-swords-to-city-centre-preferred-route-121120-fa-web.pdf>

Swords to City Centre

Core Bus Corridor Preferred Route

Third Round of Public Consultation
November 2020

2





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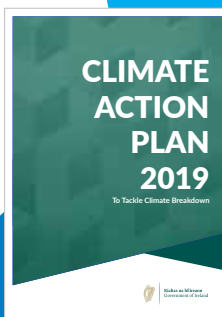
1. Introduction

1.1 What is BusConnects?

BusConnects is the National Transport Authority's (NTA) programme to greatly improve bus and sustainable transport services. It is a key part of the Government's policies to improve public transport and address climate change in Dublin and other cities. Dublin is growing and needs a bus network that works for a developing city. The aim of BusConnects is to deliver an enhanced bus system that is better for the city, its people and the environment.

BusConnects is included in the Programme for Government "Our Shared Future" 2020, as well as within the following Government strategies:

- ▶ The National Development Plan 2018 - 2027;
- ▶ Transport Strategy for the Greater Dublin Area 2016 - 2035
- ▶ The Climate Action Plan 2019.



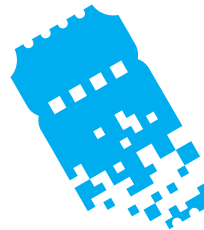
BusConnects Dublin is a programme of 9 elements

BUS → **230km** of bus priority making journeys faster and more reliable

CYCLE → **200km** of cycle routes



Transitioning to a new
low emissions bus fleet



State of the art
ticketing system

Cashless payment system



Simpler fare structure



New Park & Ride
sites in key locations

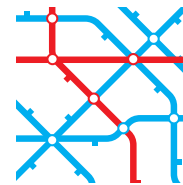


New bus livery

providing a common style across all operators



New bus stops and shelters
with better signage and information



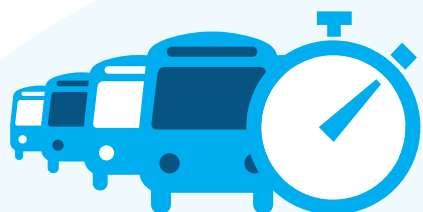
Dublin area bus network redesign

creating a more efficient network with high frequency spines, new orbital routes and increased bus services

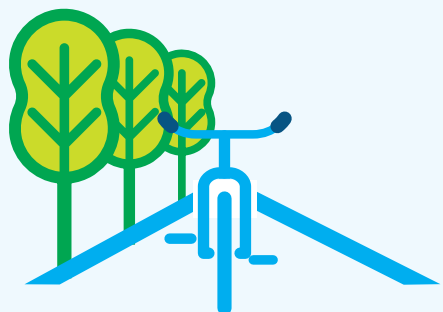
1.2 What are the aims and objectives of BusConnects Core Bus Corridors?

Aims: The aim of BusConnects Core Bus Corridors is to provide enhanced walking, cycling and bus infrastructure on key access corridors in the Dublin region, which will enable and deliver efficient, safe, and integrated sustainable transport movement along these corridors.

Objectives:



Enhance the capacity and potential of the public transport system by improving bus speeds, reliability and punctuality through the provision of bus lanes and other measures to provide priority to bus movement over general traffic movements;



Enhance the potential for cycling by providing safe infrastructure for cycling, segregated from general traffic wherever practicable;



Support the delivery of an efficient, low carbon and climate resilient public transport service, which supports the achievement of Ireland's emission reduction targets;



Enable compact growth, regeneration opportunities and more effective use of land in Dublin, for present and future generations, through the provision of safe and efficient sustainable transport networks;



Improve accessibility to jobs, education and other social and economic opportunities through the provision of improved sustainable connectivity and integration with other public transport services; and



Ensure that the public realm is carefully considered in the design and development of the transport infrastructure and seek to enhance key urban focal points where appropriate and feasible.

1.3 What has happened so far?

Between November 2018 and May 2019 the National Transport Authority (NTA) carried out the first round of public consultation regarding proposals for the Emerging Preferred Routes of 16 Core Bus Corridors (CBC) across Dublin. During this first round of consultation we received 13,000 submissions in total. These submissions were reviewed and considered as part of the design process for the Preferred Route option for each corridor.

A second round of public consultation on the Preferred Route options commenced in March 2020 and continued until mid-April 2020. Notwithstanding the Covid-19 pandemic and subsequent Government restrictions, the consultation continued due to the level of interest. The focus of public queries and submissions came through emails, post, phone conversations and online submissions as all the information was available on the BusConnects website for review.

It was decided in March that an additional third round of public consultation would take place in the latter part of this year to provide further opportunities for the public to review and submit feedback to the latest set of designs.

1.4 What is in this brochure?

This document is one of 16, each dedicated to a single core bus corridor. The document provides a written description of the Preferred Route from start to finish with supporting maps. It includes all revisions made, if any, since the last round of public consultation. It also includes a revised timeline for the progress of the programme due to Covid19 implications.

The brochures detailing the Emerging Preferred Route and the brochures from the second round of consultation earlier this year are available to view and download on our website www.busconnects.ie.

Definitions of the terminology used in the document can be found in chapter 4 of this this brochure.





1.5 A map of all 16 core bus corridors

Preferred Routes

1. Clongriffin to City Centre
2. Swords to City Centre
3. Ballymun to City Centre
4. Finglas to Phibsborough
5. Blanchardstown to City Centre
6. Lucan to City Centre
7. Liffey Valley to City Centre
8. Clondalkin to Drimnagh
9. Greenhills to City Centre
10. Tallaght to Terenure
11. Kimmage to City Centre
12. Rathfarnham to City Centre
13. Bray to City Centre
14. UCD Ballsbridge to City Centre
15. Blackrock to Merrion
16. Ringsend to City Centre



2. What has been happening over the last number of months?

Considerable design work has been continuing since the last round of consultation. This work includes the following:

2.1 Technical Design

Designs have progressed with further refinements being made to elements of each corridor such as junctions, alignments, bus stops, cycling and walking facilities, and urban realm features. Engagement with stakeholders is continuing including engagement with individual householders directly impacted. The developing design has been, and continues to be, informed by stakeholder engagement and further detailed surveys. These include the identification of underground services and detailed assessment of trees along the routes.

Draft Preferred Route Option Reports have been prepared for each CBC detailing the

development of each corridor from the Emerging Preferred Route through to the draft Preferred Route Option. These draft “Preferred Route Option Reports” are being published as part of the public consultation and will be finalised following this third round of public consultation and the inclusion of feedback received. **These draft reports are available to view and download on the website www.busconnects.ie.**

2.2 Environmental Impact Assessment

As part of the intended planning application for each corridor, the NTA will be preparing an Environmental Impact Assessment Report (EIAR) in accordance with current Irish and European legislation. This document will identify the anticipated environmental effects of the scheme during both the construction and operational stages. This assessment is being undertaken by environmental specialists on behalf of the NTA. As part of this assessment, these specialists are undertaking studies of the current condition of the receiving environment within the identified corridor extents. This involves a combination of on-site surveys and desktop study of existing records. At the time

of this public consultation, various surveys and studies are underway. The information collected will also be shared with the technical designers for consideration in the design decision making process for the infrastructure works.

Further details of the environmental assessment approach for each scheme are outlined in an individual corridor document called “Information on the Proposed Approach to Environmental Assessment”. This document gives a more in-depth description of the determination of the extents of anticipated impacts and how the cumulative impacts of adjacent core bus corridors and other construction projects will be assessed.

These draft reports are available to view and download on the website www.busconnects.ie.

2.3 Transport Impact

The transport assessment of the core bus corridor proposals is focussed on the “movement of people” rather than, solely, the “movement of vehicles”. In order to adequately determine the impact on public transport, active modes (walking and cycling), and general traffic, a comprehensive suite of transport models have been developed.

An extensive set of traffic counts were undertaken in late 2019 and early 2020 and this data, along with other sources, has been used to calibrate and validate the models to assist in the evaluation of the core bus corridors. On a strategic level, the Eastern Regional Model has been used to forecast the modal split for future years. At a more refined level, a Local Area Model has been developed to examine the potential displacement of traffic. In addition, detailed modelling is ongoing in terms of junction and corridor analysis tests and to quantify the effect on the movement of people through each junction and along the corridor itself.

Each EIAR will contain a section on the potential traffic and transport impacts associated with the construction and operational phases of the core bus corridors. This assessment will be informed by the following reports:

- ▶ Transport Impact Assessment (TIA)
 - this will include the comprehensive assessment of each core bus corridor covering all modes and will include a cumulative assessment of all corridors; and



- ▶ Transport Modelling Report – this will detail the model development, data inputs, calibration and validation, and forecast model development for the set of models used to support the assessment.

A draft, work-in-progress version of the “Transport Modelling Reports” for each core bus corridor, together with a summary of the work-in-progress strategic modelling results to-date, are being published as part of the public consultation and will be finalised following this third round of public consultation and the inclusion of feedback received. **These draft reports are available to view and download on the website www.busconnects.ie.**

2.4 Urban Realm

In tandem with the technical design work on finalising the road alignment in the urban cross sections across the core bus corridors, planning has also progressed for refining the Urban Realm design proposals. These designs are being developed in consultation with the local authorities to ensure tie-in to existing schemes and initiatives. The NTA is focusing on finishing the layout of spaces, considering desire lines (how people want to move through spaces) and

the placement of urban furniture (trees, bins, bollards, benches, bike stands, railings, etc.)

Urban Realm improvement opportunities along the routes present themselves through the civil/physical works needed to reach the BusConnects objective to provide bus priority, along with improved cycling and pedestrian facilities. All put together, the core bus corridors provide an opportunity for lots of continuous interventions that, together, can give a general city-wide lift.

The Urban Realm improvement opportunities are spread out along the core bus corridors and need to respond to and reflect specific locality and context. In the design of the urban spaces we will be using appropriate materials and urban furniture that comply with standards for use, durability and maintenance as well as carbon footprint considerations.

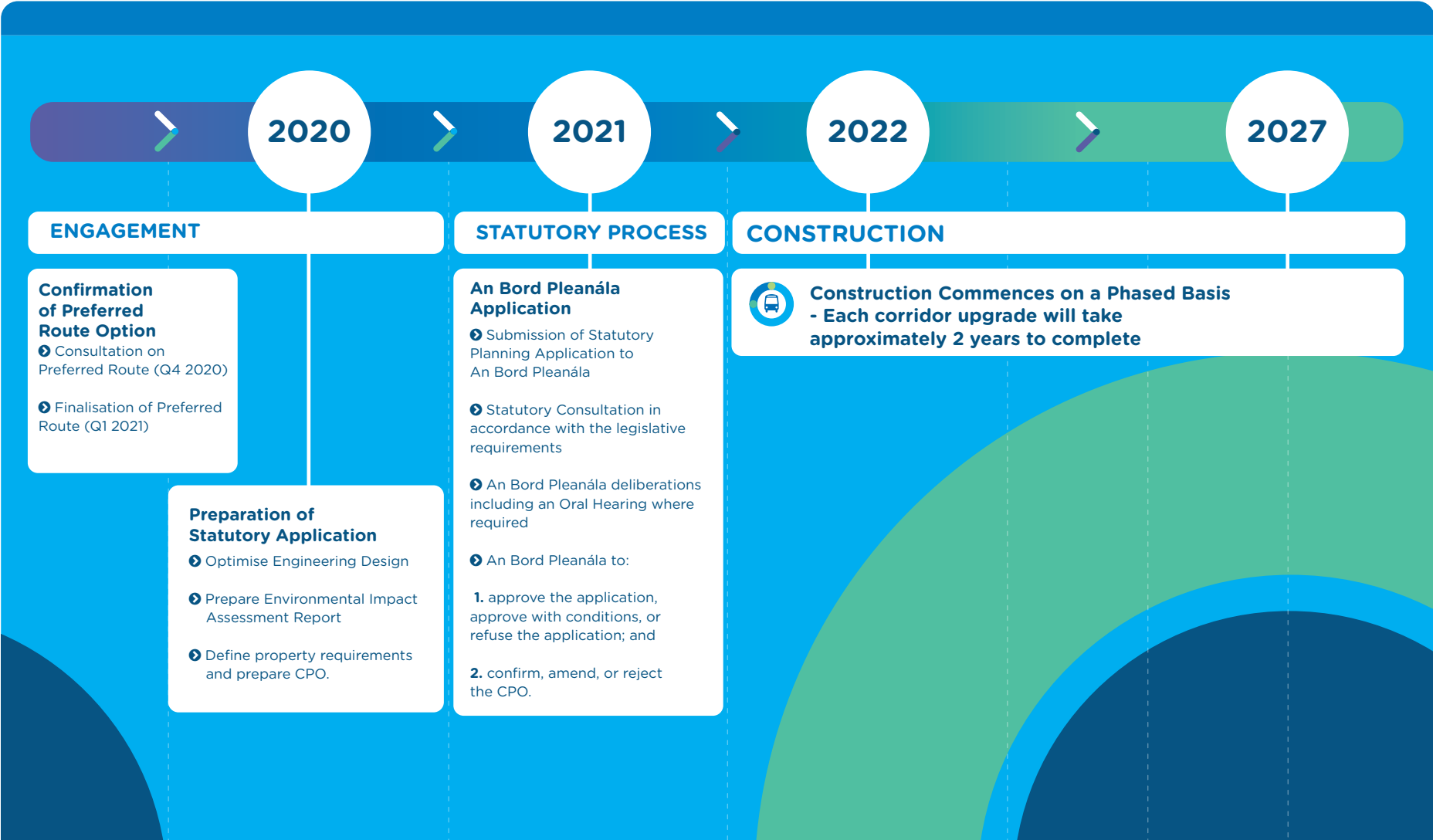
Further details of the urban realm design approach can be found in a document called “BusConnects Urban Realm Concept Design” published as part of the public consultation. **This document is available to view and download on the website www.busconnects.ie.**

2.5 Compulsory Purchase Maps & Schedules

In tandem with the technical design work the designers will be starting the work of preparing the various maps and schedules of areas that are proposed to be acquired under the statutory compulsory purchase order process (CPO). The attached Maps in this brochure indicate Proposed New Boundaries (Possible Land Acquisition) represented by broken red lines. These boundaries are indicative of potential areas for permanent CPO, and are not yet finalised. As detailed plots are finalised the designers will be continuing to seek to meet those with an interest in the impacted areas.

In some cases there may also be a need to realign driveways and/or redo the landscaping of property front gardens, or reorganise business accesses and/or loading areas. Some of these works may be outside the permanent CPO area, and consequently there may be a need to put in place temporary arrangements to ensure access during construction to carry out necessary accommodation works. Similar to the permanent CPO development, the designers will be continuing to seek to meet those with an interest in the impacted areas.

2.6 Timeline for the Core Bus Corridor Process



3. How to take part in the public consultation

This brochure provides details of the proposed Preferred Route Option for this core bus corridor. These proposals are subject to a third non-statutory round of public consultation, and subsequent design refinement and environmental impact assessment, before a formal statutory application will be made by the NTA to An Bord Pleanála for approval.

Virtual consultation rooms for each Core Bus Corridor can be found on www.busconnects.ie. These rooms will provide a description of each Preferred Route from start to finish with supporting maps and include information of all revisions made, if any, since the last round of public consultation as well as other supporting documents.

3.1 General queries

The project website www.busconnects.ie has a dedicated section for the Core Bus Corridor


project. All previous emerging preferred route brochures are available on the website. Users can access the site to find out more about the project and download copies of the key documents.


General queries can be directed to a dedicated Freephone – **1800 303 653** or by email to cbc@busconnects.ie

3.2 How to engage

We are inviting submissions in relation to the Preferred Route Options set out in this document. The closing date for submissions is stated on the website.

Written submissions and observations may be made by:

 cbc@busconnects.ie

 BusConnects Core Bus Corridors
National Transport Authority,
Dún Scéine, Harcourt Lane, Dublin 2
D02 WT20

3.3 What happens next?

Following the third round of public consultation, the NTA will finalise the Preferred Route Options for all sixteen corridors. The scheme designs will be finalised, transport and environmental impact assessments will be completed.

This will culminate in the preparation of an Environmental Impact Assessment Report (EIAR) for the scheme together with details of land to be acquired. This will be submitted to An Bord Pleanála in 2021 for its consideration and determination. A formal statutory consultation process will be undertaken as part of that process.



4. Preferred Route Description

4.1 Overview

The Swords to City Centre Core Bus Corridor (CBC) commences on the Swords Road at the Pinnock Hill junction and is routed along Swords Road, Drumcondra Road Upper & Lower and Dorset Street to the junction with North Frederick Street. This CBC is then routed via North Frederick Street and Parnell Square East, where it will join the existing traffic management regime in the City Centre. Priority for buses is provided along the entire route, consisting primarily of dedicated bus lanes in both directions.

The following paragraphs will describe each section of the CBC in more detail, identifying the key design revisions which have been incorporated into the design since the publication of the Preferred Route Option in March 2020.

4.2 Pinnock Hill Junction to Airport Roundabout – Swords Road

The CBC commences south of Swords on the R132 Swords Road at Pinnock Hill. The existing roundabout at Pinnock Hill will be modified to a fully signalised junction with pedestrian and cyclist facilities. Between the Pinnock Hill and

Cloghran junctions, the existing bus lanes will be maintained, the existing footpath will be upgraded, and segregated cycle tracks will also be provided.

The junction of Kettles Lane and the R132 will be signalised to permit right turning traffic on the R132 northbound.

South of the Cloghran Roundabout, current provisions for cars and buses northbound will remain unchanged and a new southbound bus lane will be provided. Segregated one-way cycle facilities are provided on both sides of the R132. Southbound cyclists will be able to cross the R132 at the Coachman's Inn to a two-way cycle path on the western side of R132.

It is proposed to maintain the Airport Roundabout as a signalised junction with some amendments. The cycle facilities through the Airport junction will be upgraded with a two-way cycle track on the western side of the junction, crossing the airport access road via a signalised Toucan Crossing.

To provide this upgraded road infrastructure along this section, it may be necessary to take

some land from adjacent private property. This may be particularly relevant at the following locations:

- Around the Airside junction;
- Limited areas between Airside junction and Kettles Lane; and
- Between Stockhole Road and the Airport Roundabout.

The indicative extents of this land take are included in the Appendix of this brochure.

4.3 Airport Junction to Coolock Lane Junction – Swords

To maintain bus priority for northbound traffic through the Airport junction, it is proposed to provide Signal Controlled Priority on the southern roundabout approach. South of the Airport Roundabout the existing northbound shared cycle lane and pedestrian walkway is converted to a dedicated footpath and two-way cycle track as far as South Corballis Road. From this point, cyclists will cross the R132 to return to the eastern side of the road.

Between Collinstown Cross Industrial Estate and Coolock Lane, improved cycle facilities will be provided. Signal Control Bus Priority is proposed between Northwood Avenue and Coolock Lane to reduce the impact on properties. An alternative northbound cycle route through Santry Park and adjacent to Morton Stadium has also been provided.

To facilitate these transport infrastructure improvements, some limited land take may be required at the following locations:

- West side of the Airport Roundabout junction;
- Between Collinstown Cross Industrial Estate & Turnapin Lane;
- Airways Industrial Estate;
- Furry Park Industrial Estate; and
- Within Morton Stadium and Santry Park for the off road cycle route

The indicative extents of this land take are included in the Appendix of this brochure.

4.4 Coolock Lane Junction to Omni Park Shopping Centre Entrance – Swords Road

Between Coolock Lane and the entrance to Omni Park Shopping Centre, it is proposed to extend continuous bus lanes and cycle tracks in both directions. This may require some limited land take from adjacent properties on both sides of the existing road and the removal of existing on-street car parking.

To facilitate these transport infrastructure improvements, some limited land take may be required at the following locations:

- Some properties between the Coolock lane and Magenta Crescent junctions; and
- Some land take between junction with Magenta Crescent and the Omni Park junction on both sides of the road.

The indicative extents of this land take are included in the Appendix of this brochure.

4.5 Omni Park Shopping Centre Entrance to Shantalla Road Junction – Swords Road

It is proposed to maintain the two-way general traffic lanes and introduce continuous bus lanes in both directions with footpaths maintained on either side of the road through Santry Village. This will require some land take from adjacent properties on both sides of the existing road in Santry Village and the removal of existing on-street car parking.

It is proposed to redirect cyclists through Lorcan Road and Shanrath Road where a Quiet Street Treatment will be implemented. This alternate cycle route commences at the junction with Omni Park Shopping Centre and connects with the Swords Road at the junction with Shantalla Road. A two-way cycle track is proposed to connect this route from Shanrath Road through the Shanrath junction connecting to the existing layout along the off-slip.

A dedicated bus lane has been proposed along the Shantalla Road Bridge eastbound and a general traffic lane is maintained in both directions. The Shantalla Road junction will be

upgraded to accommodate the bus lane and cycle and pedestrian movements.

To facilitate these transport infrastructure improvements, some limited land take may be required from some properties on both sides of the Swords Road in Santry village between Omni Park Junction and Shantalla Road junction. The indicative extents of this land take are included in the Appendix of this brochure.

4.6 Shantalla Road Junction to Granby Row – Drumcondra Road and Dorset Street

From Shantalla Road to the junction with North Frederick Street, a continuous bus lane will be provided in both southbound and northbound directions. It is proposed to use the existing bus lanes and provide a segregated cycle track and footpath between these junctions in both directions. An alternative layout of the northbound diverge ramp after Whitehall Church is proposed to avoid impacts on the adjacent green area.

The following junctions will be upgraded with improved pedestrian, cycle and bus priority facilities:

- Collins Avenue;
- Griffith Avenue;
- Richmond Road;
- Botanic Avenue;
- Clonliffe Road;
- North Circular Road;
- Gardiner Street Upper; and
- North Frederick Street.

It is proposed to upgrade the Collins Avenue junction to better facilitate bus priority and provide bus lanes to the stop lines with Signal Controlled Priority.

To facilitate these improvements, it is proposed to utilise limited land take at the following locations:

- Whitehall Holy Child Church (car park only);
- Whitehall GAA lands (boundary walls);

- Plunkett Colleges lands;
- Lands on the Swords Road, north of Highfield Hospital;
- Highfield Hospital;
- Private properties around Griffith Avenue; and
- Lands between Milmount Avenue and Botanic Avenue.

The indicative extents of this land take are shown in the Appendix of this brochure.

In Drumcondra, a separate structure to accommodate pedestrians and cyclists is proposed at the Frank Flood Bridge over the River Tolka.

As part of the proposal, the intention is to provide on-street parking at the following locations:

- 96 & 112 Upper Drumcondra Road;
- 4 & 12 Upper Drumcondra Road;

- 45 & 55 Lower Drumcondra Road;
- Between Clonliffe Road and Whitworth Road; and
- Between Belvedere Road and North Circular Road.

On-street parking elsewhere may need to be removed to accommodate the proposed works.

It is proposed to provide new turning restrictions at the following junctions:

- Left turn ban from Dorset Street to Synott Place; and
- Left turn ban from Dorset Street to Hardwicke Place.

This end of the CBC ties with the existing street layout at the junction of Granby Row and Dorset Street Upper.

On this section of the route, a number of loading bays will be affected by the proposed works although most will be realigned and retained. Details of these loading facilities will be developed as part of the next design phase.

4.7 North Frederick Street to Parnell Square

On North Frederick Street, the existing bans on left turning traffic from Dorset Street Lower and straight-through traffic from Blessington Street will be maintained. North Frederick Street will have one southbound bus lane and one northbound traffic lane from the junction of Dorset Street to Gardiner Row. South of Gardiner Row the existing southbound traffic lane and bus lane will be maintained and additional cycle facilities will be provided in both directions. On street parking will be removed and improved bus stop facilities are proposed. This section of the CBC ties into the existing street layout at Parnell Street.

Northbound buses will use Parnell Street, Parnell Square West and Granby Row to access Dorset Street Upper. Bus lanes will be provided along these roads to facilitate northbound buses.

4.8 Key Changes from the Preferred Route Published in March 2020

- The junction of Kettles Lane and the R132 is now signalised to permit right turning traffic on the R132 northbound.
- Signal Control Bus Priority is proposed between Northwood Avenue and Coolock Lane to reduce the impact on properties. An alternative northbound cycle route through Santy Park and adjacent to Morton Stadium has also been provided.
- An alternative layout of the northbound diverge ramp after Whitehall Church is proposed to avoid impacts on the adjacent green area.

- ▶ A separate structure to accommodate pedestrians and cyclists is proposed at the Frank Flood Bridge in Drumcondra.
- ▶ Bus stop locations have been modified in this revised proposal – with some bus stops relocated or removed to achieve a better spacing between stops, while also ensuring that each stop is sited in the best location to serve surrounding neighbourhoods. These proposals will also ensure a more efficient bus network operation. The stops which have been identified for relocation are presented in drawings in the Appendix of this brochure.

4.9 Key Facts

- ▶ Approximate number of properties that may be impacted **95**
- ▶ Approximate number of designated on-street parking spaces that may be removed **65**
- ▶ Approximate number of roadside trees that may be removed **195**
- ▶ Approximate route length: **12.5kms**
- ▶ Approximate new cycle route length: **12.5kms**
- ▶ Current bus journey time: **71 mins**
- ▶ BusConnects journey time: **40 mins**
- ▶ Future Bus journey time without BusConnects: **80 mins +**

5. Understanding the terminology

1. Core Bus Corridor (CBC):

Part of the overall BusConnects Programme is to create 16 radial core bus corridors (CBC). A CBC is an existing road with bus priority so that buses can operate efficiently, reliably and punctually. This generally means full length dedicated bus lanes on both sides of the road from start to finish of each corridor or other measures to ensure that buses are not delayed in general traffic congestion. The bus lanes will be alongside segregated cycle lanes/tracks where feasible and general traffic.

2. Segregated Cycle Tracks:

A segregated cycle track is a separate section of the road dedicated for cycling only. This space will generally be isolated from other vehicular traffic by a physical kerb. Where it is not physically possible to have segregated cycle tracks there will be the option of quiet roads and shared cycling on reduced speed roads for cyclists.

3. Emerging Preferred Route (EPR):

The NTA published outline plans for each of the 16 CBCs in a non-statutory public consultation process in 2018/2019. The options were called Emerging Preferred Routes (EPR), in some cases with multiple sub-options, to inform the public of the likely layout of the roadway with the necessary CBC infrastructure in place. They included possible impacts on front gardens, and likely changes to how traffic will operate to facilitate bus priority.

4. Preferred Route Option (PRO):

Following consideration of the public submissions about the 16 EPR's, the core bus corridor proposals have been reviewed and amended. They are now being presented as the Preferred Route Option (PRO) and are subject to a further round of non-statutory public consultation.

They are not final proposals as they are subject to further consideration from this round of public consultation and also subsequent examination in the context of environmental impact assessment.

5. Bus Gate



A Bus Gate is a sign-posted short length of stand-alone bus lane. This short length of road is restricted exclusively to buses, taxis and cyclists plus emergency vehicles. It facilitates bus priority by removing general through traffic along the overall road where the bus gate is located. General traffic will be directed by signage to divert away to other roads before they arrive at the bus gate. To see an animation of how a Bus Gate will work, please visit our website www.busconnects.ie.

6. Signal Controlled Priority (SCP):

Signal Control Priority uses traffic signals to enable buses to get priority ahead of other traffic on single lane road sections, but it is typically only effective for short distances. This typically arises where the bus lane cannot continue due to obstructions on the roadway. An example might be when a road has pinch-points where it narrows due to existing buildings or structures that cannot be removed to widen the road to make space for a bus lane. It works through the use of traffic signal controls (typically at junctions) where the bus lane and general traffic will be stopped at the signal to allow the bus pass through the narrow section first, when the bus has passed the general traffic will then be allowed through the lights. To see an

animation of a how Signal Controlled Priority will work, please visit our website www.busconnects.ie

7. Toucan Crossing:

A Toucan Crossing is a roadway crossing designed to enable both pedestrians and cyclists to cross the road with purposefully designed signal controls.

8. Quiet Street Treatment:

Where CBC roadway widths cannot facilitate cyclists without significant impact on bus priority, alternative cycle routes are explored for short distances away from the CBC bus route. Such offline options may include directing

cyclist along streets with minimal general traffic other than car users who live on the street. They are called Quiet Streets due to the low amount of general traffic and are deemed suitable for cyclists sharing the roadway with the general traffic without the need to construct segregated cycle tracks or painted cycle lanes. The Quiet Street Treatment would involve appropriate advisory signage for both the general road users and cyclists.

9. Urban Realm:

Urban Realm refers to the everyday street spaces that are used by people to cross, shop, socialise, play and use for activities such as walking, exercise or commuting to/from work. The Urban Realm encompasses all streets, squares, junctions and other rights-of-way in residential, commercial and civic use areas as well as seating, trees and other enhancements. When well designed and laid out with care in a community setting, it enhances the everyday lives of residents and those passing through.

Signal Controlled Priority (SCP)



1. Traffic proceeds as normal.

2. As the bus approaches, the light signal changes to halt general traffic.

3. The bus has priority to proceed.

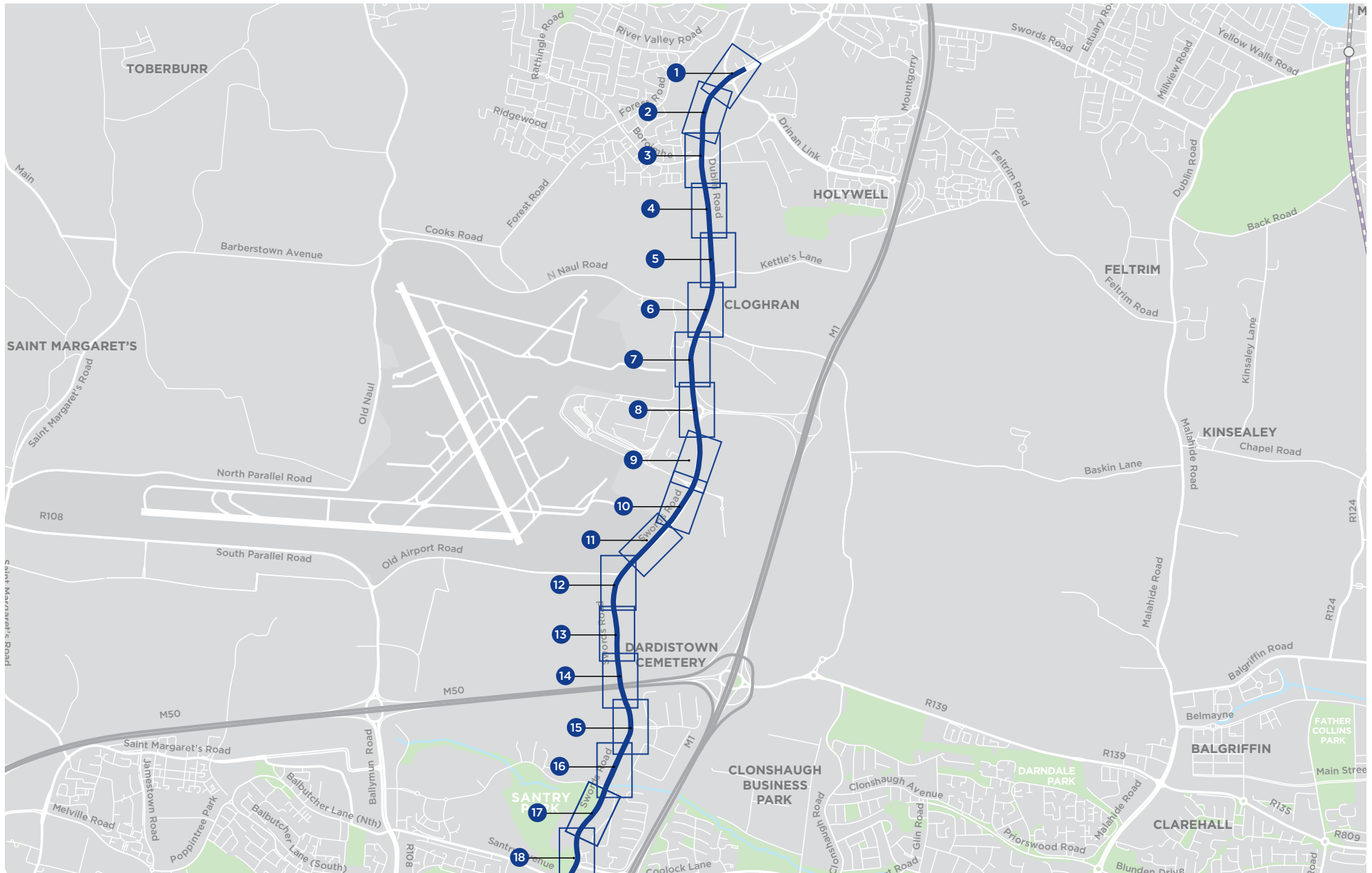
4. When the bus has cleared the junction, general traffic proceeds.



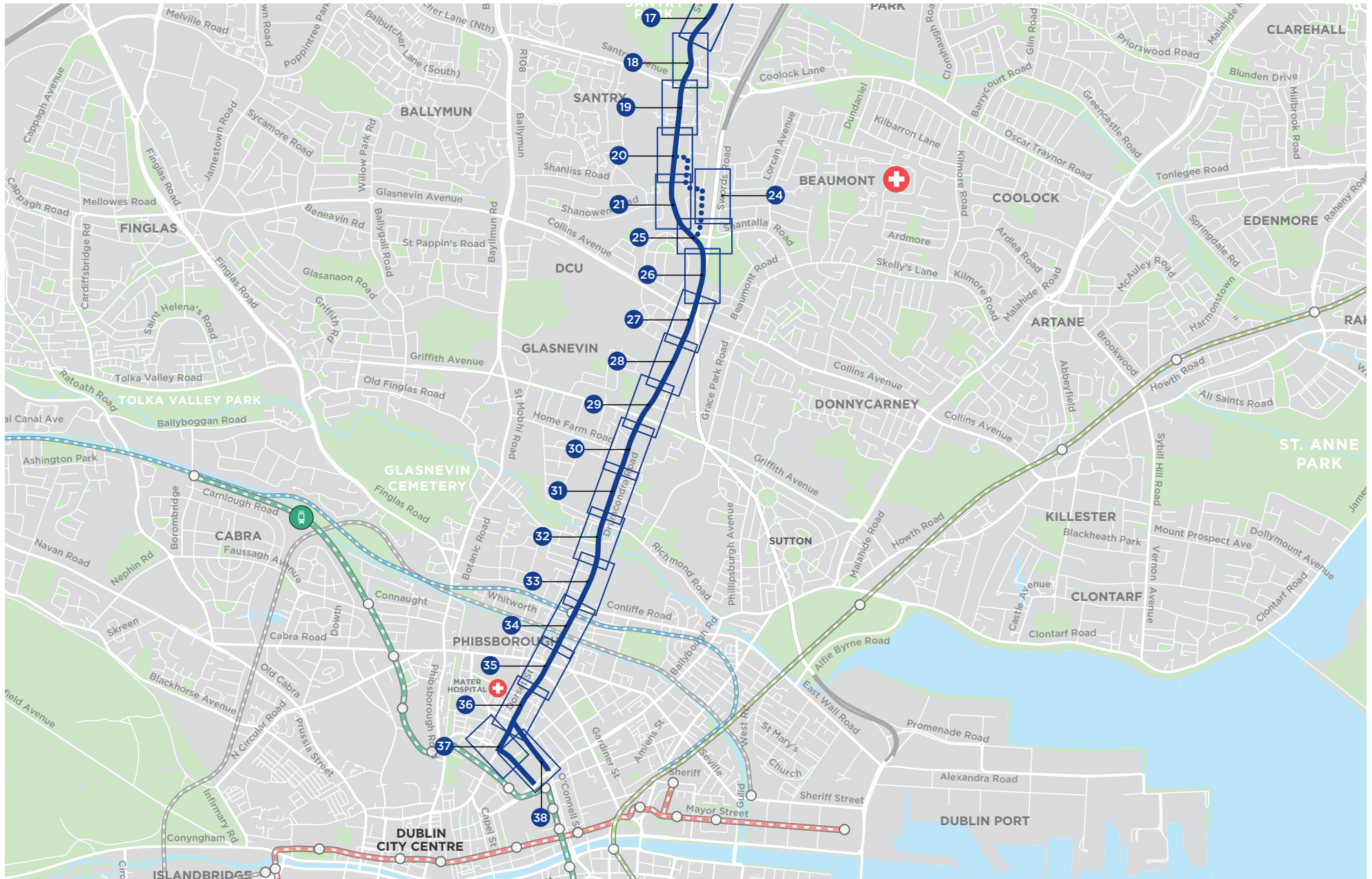
6. Appendices

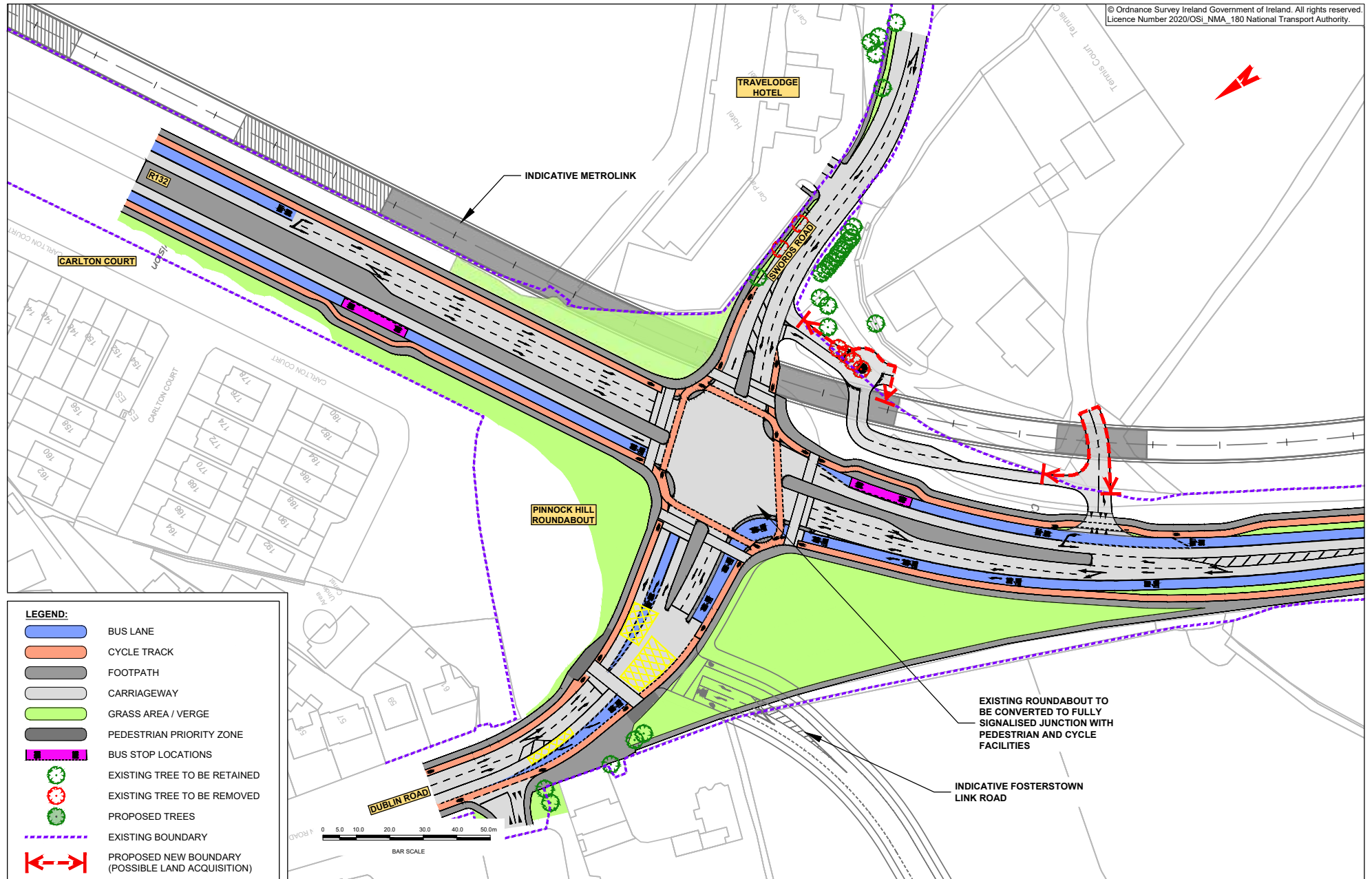
Index maps
Route maps



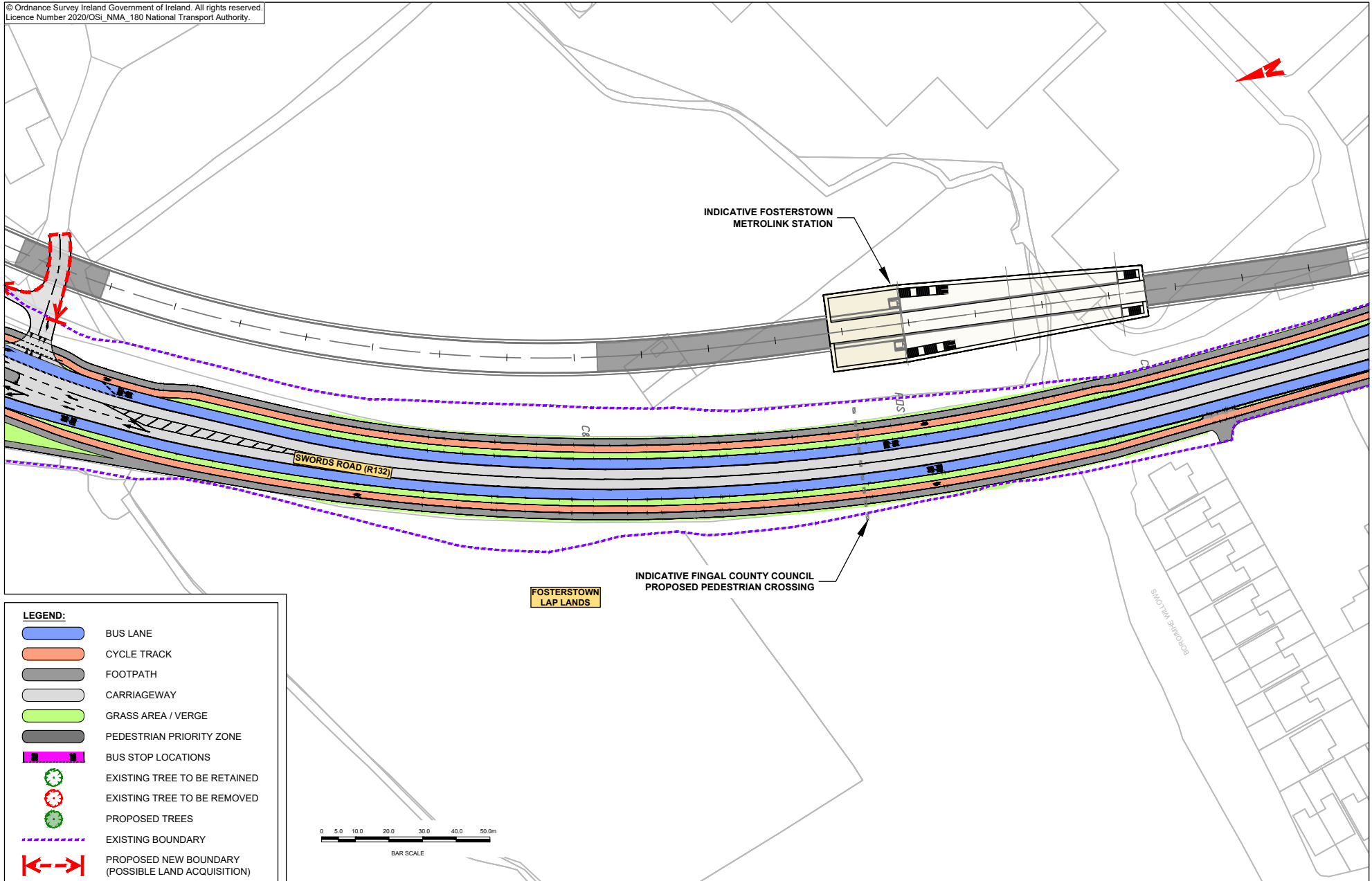


NOTE: The Preferred Route shown on the following drawings is indicative only and is subject to change following consultation and as part of the design development process.

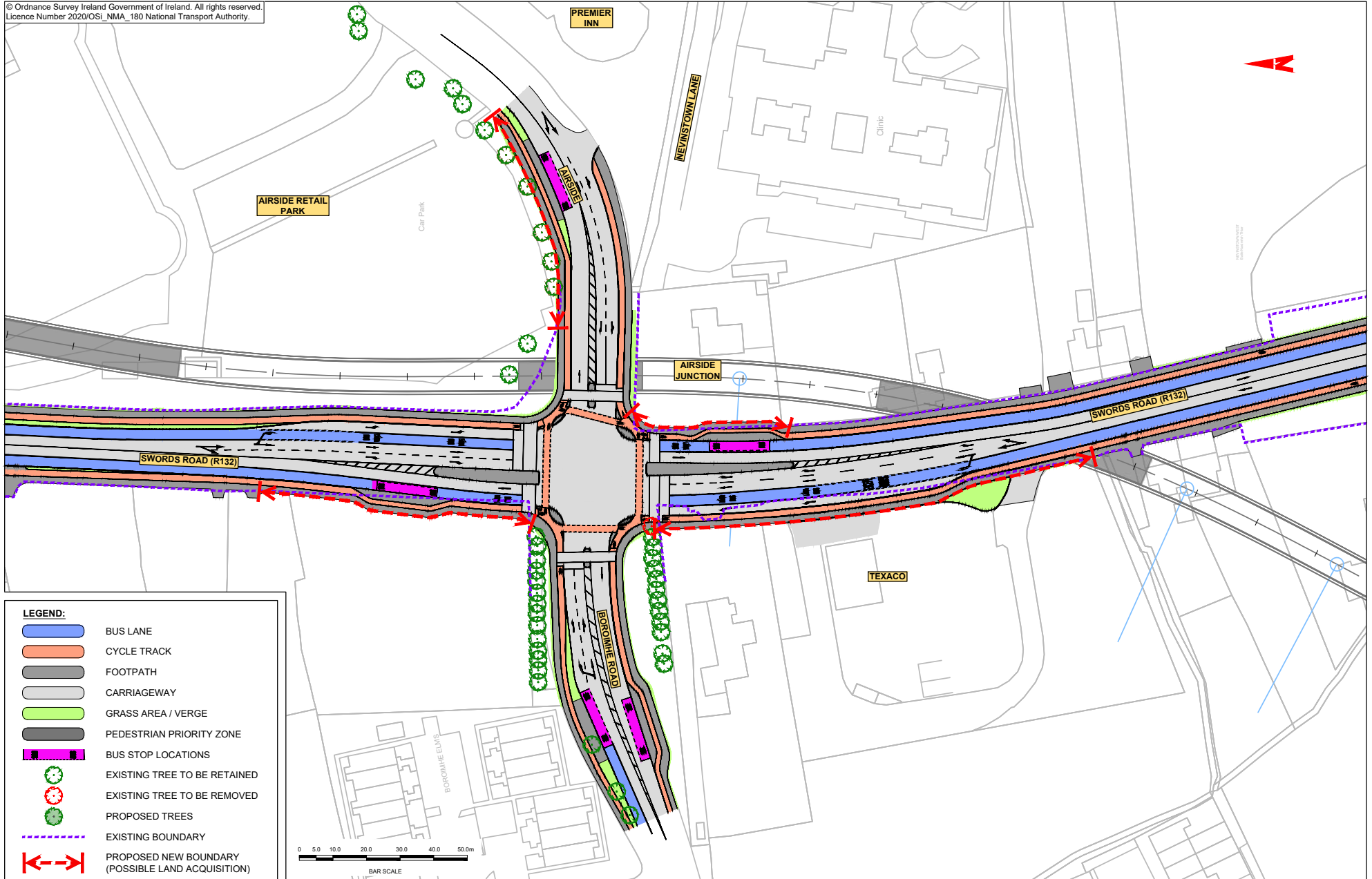


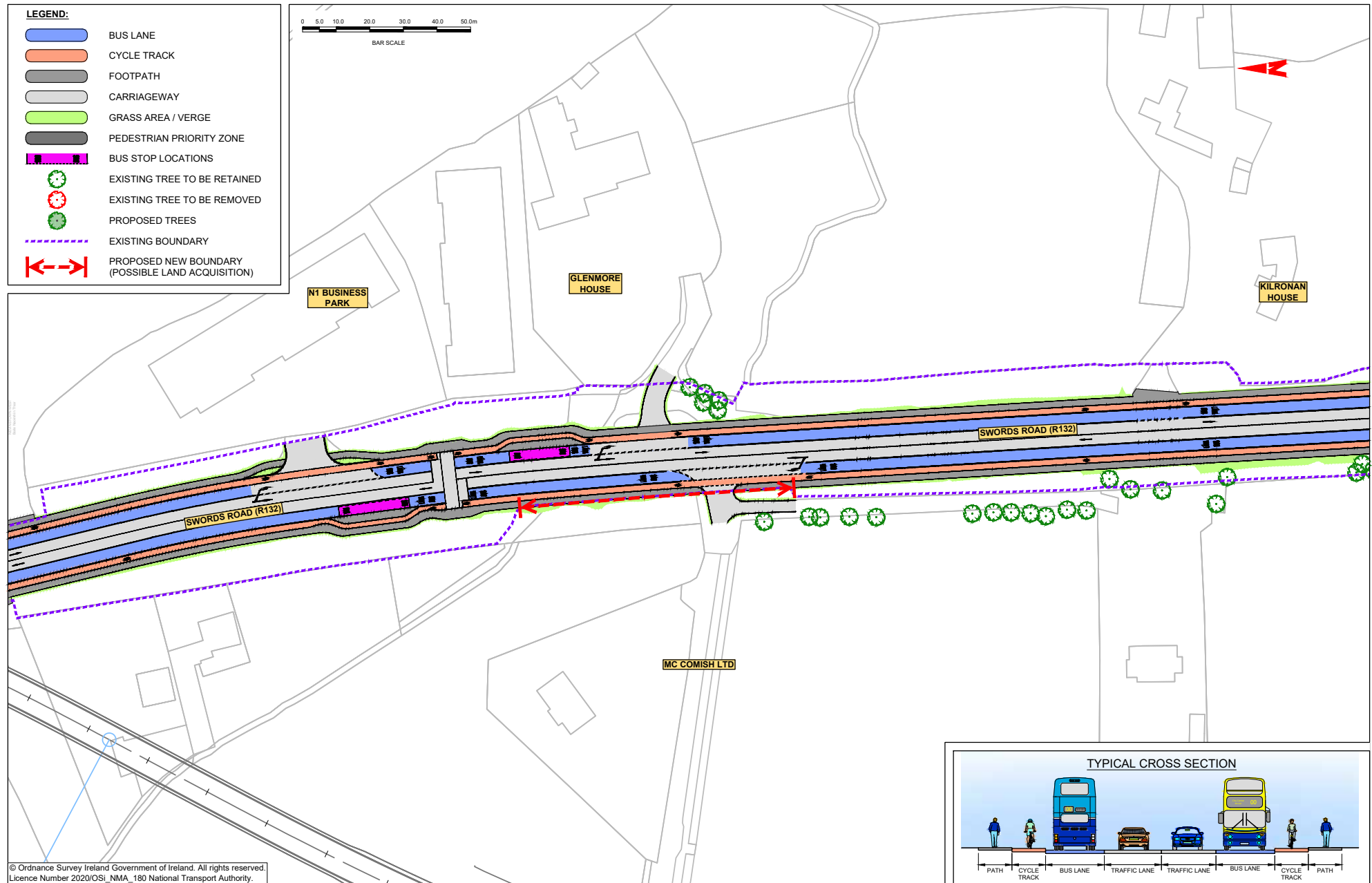


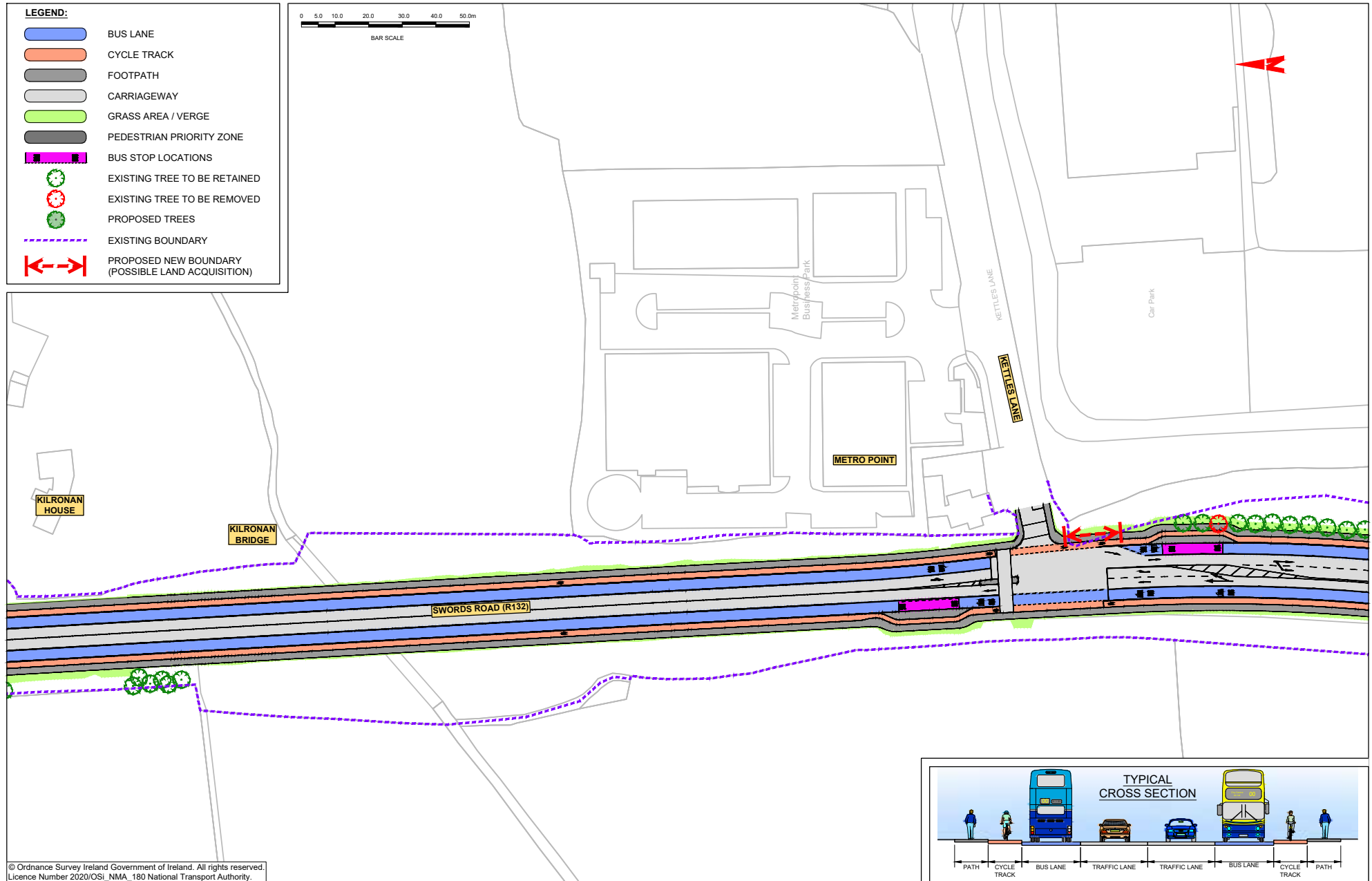
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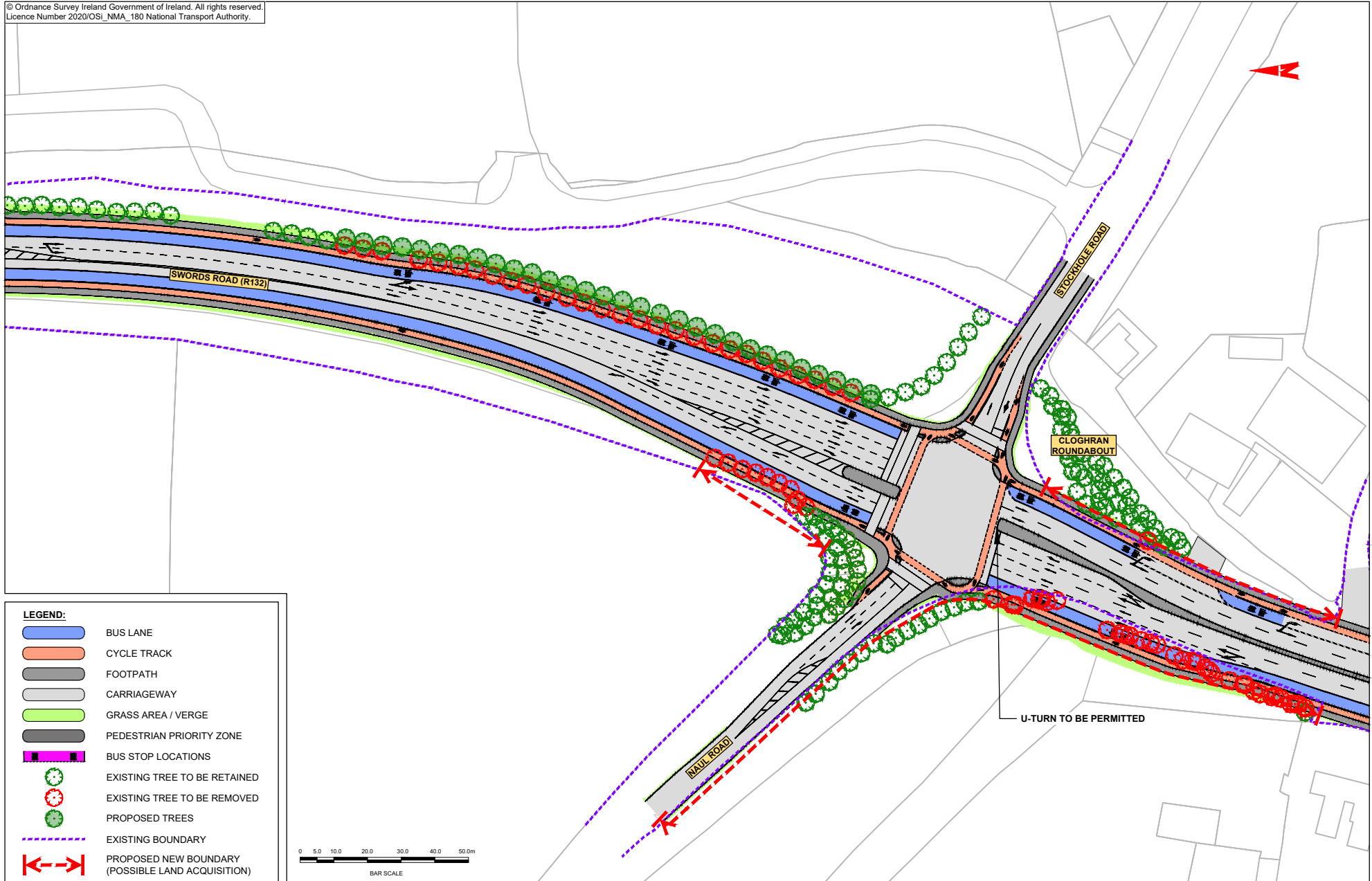
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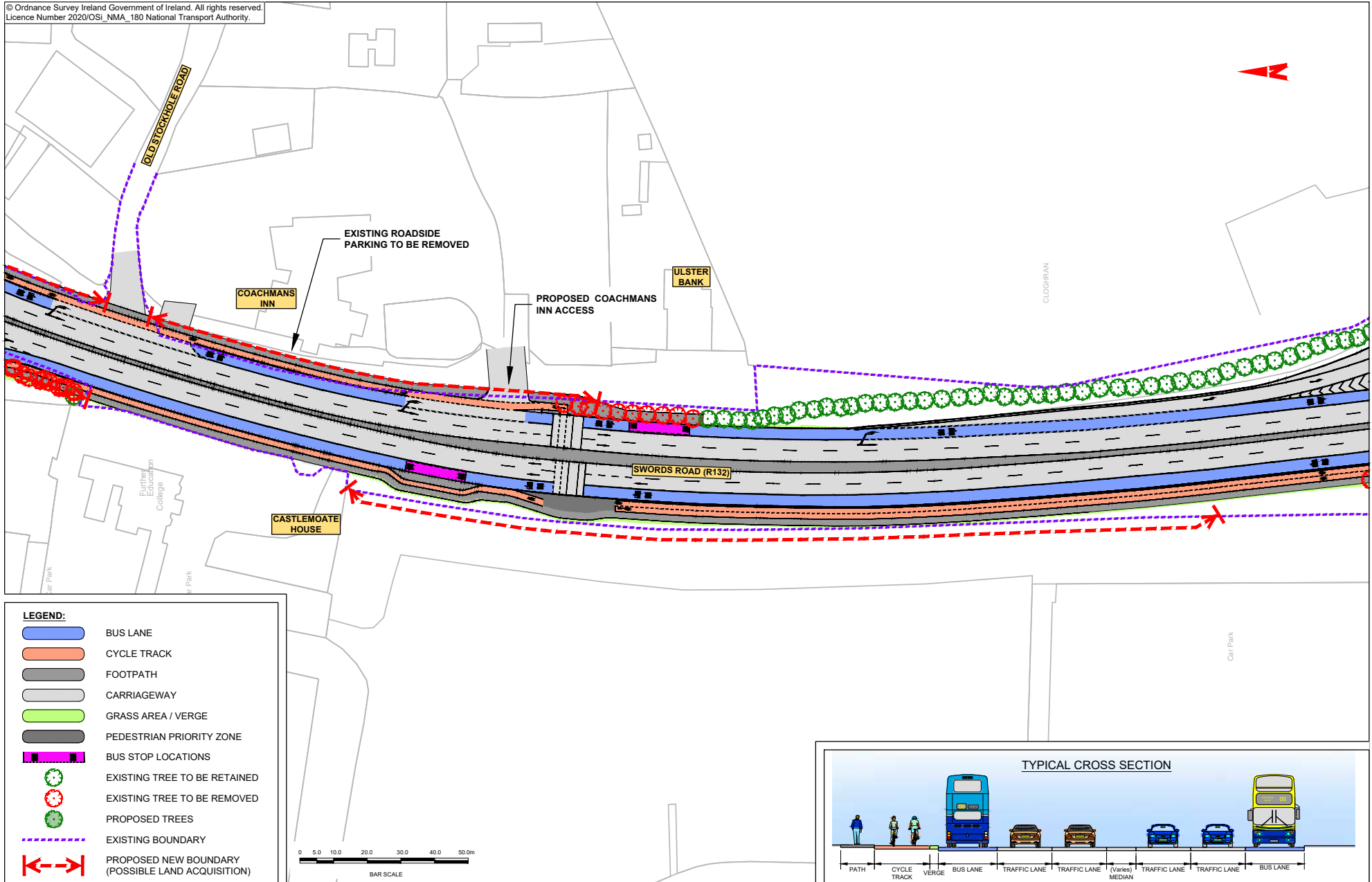


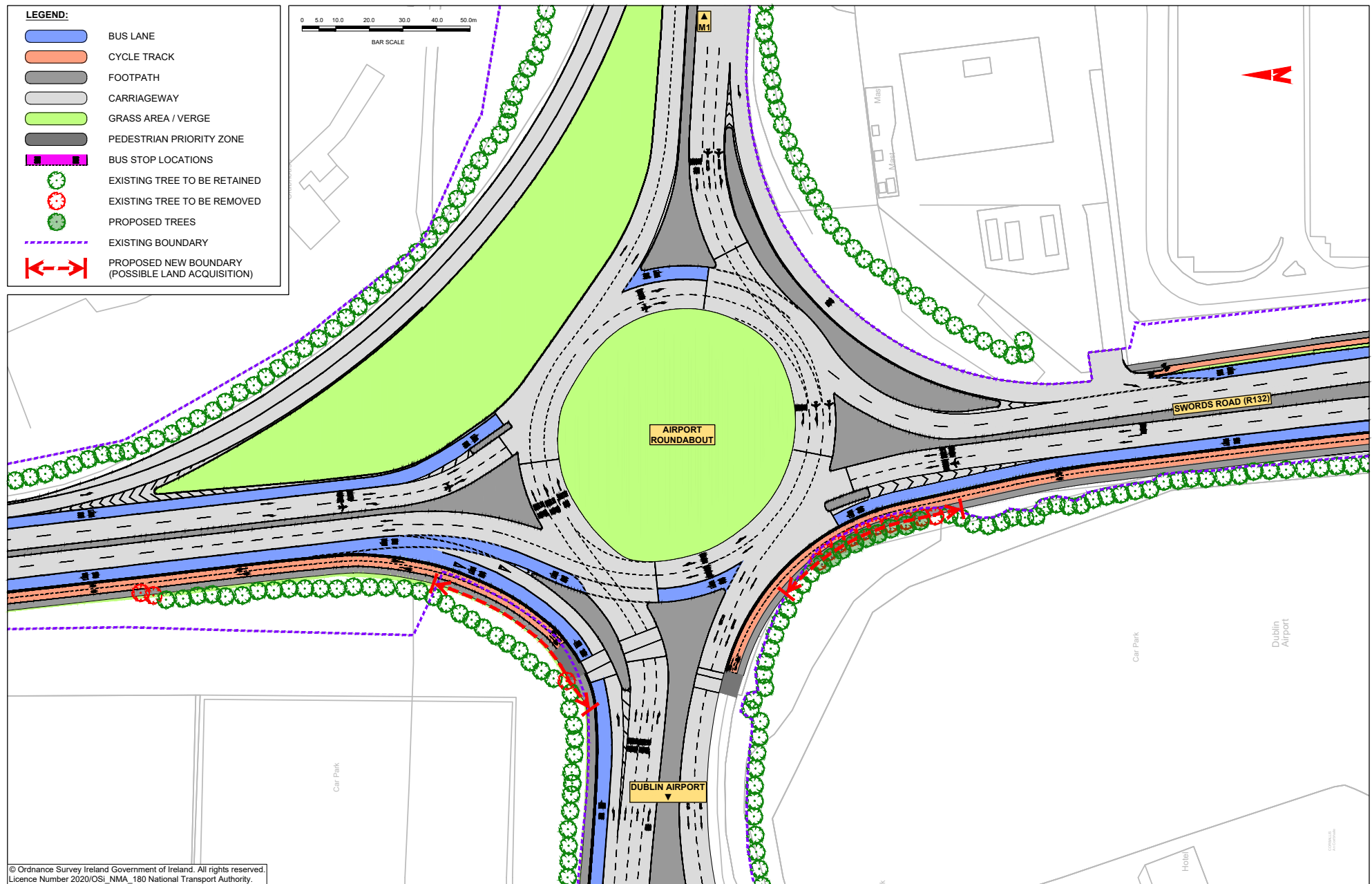


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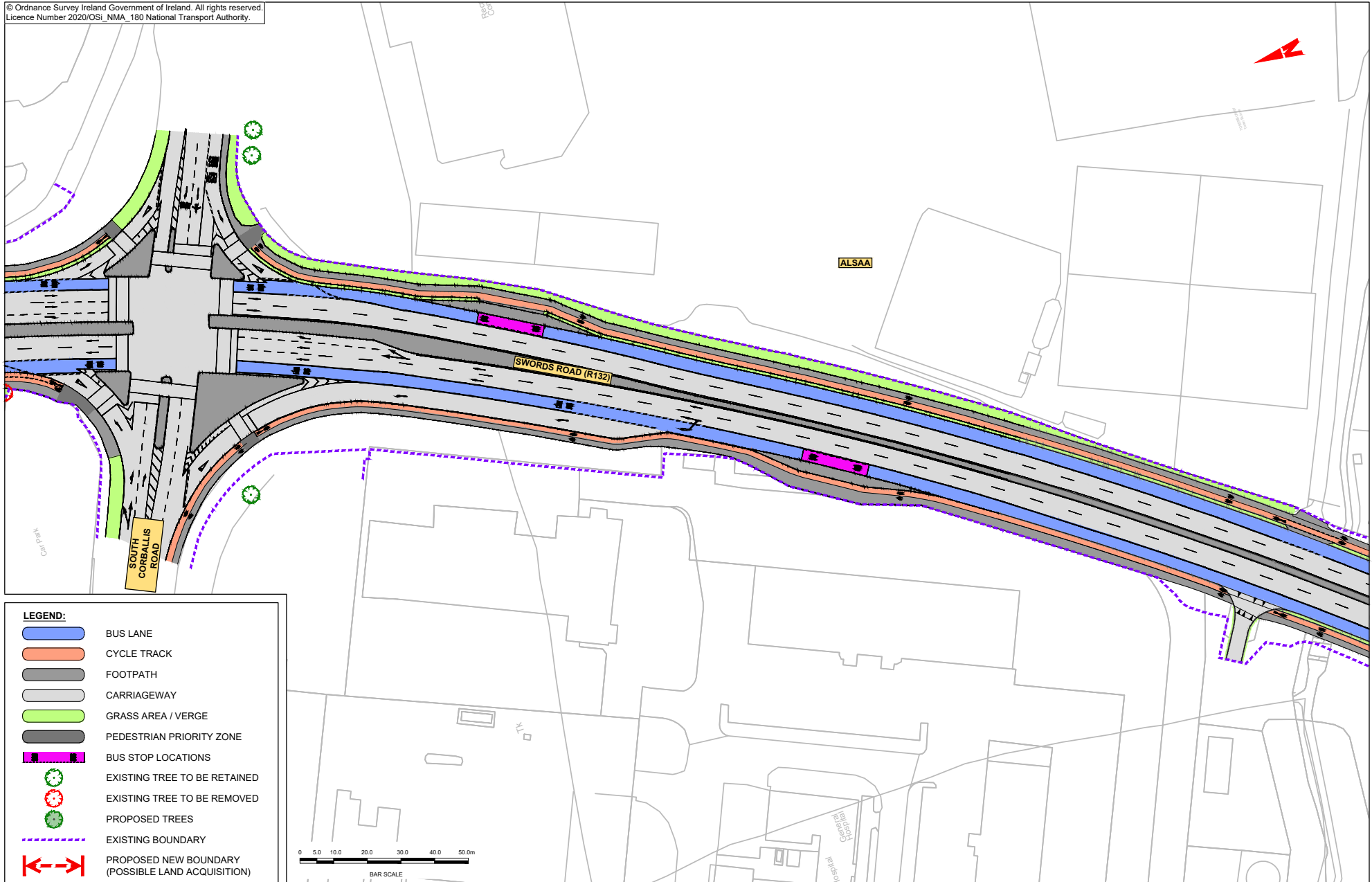


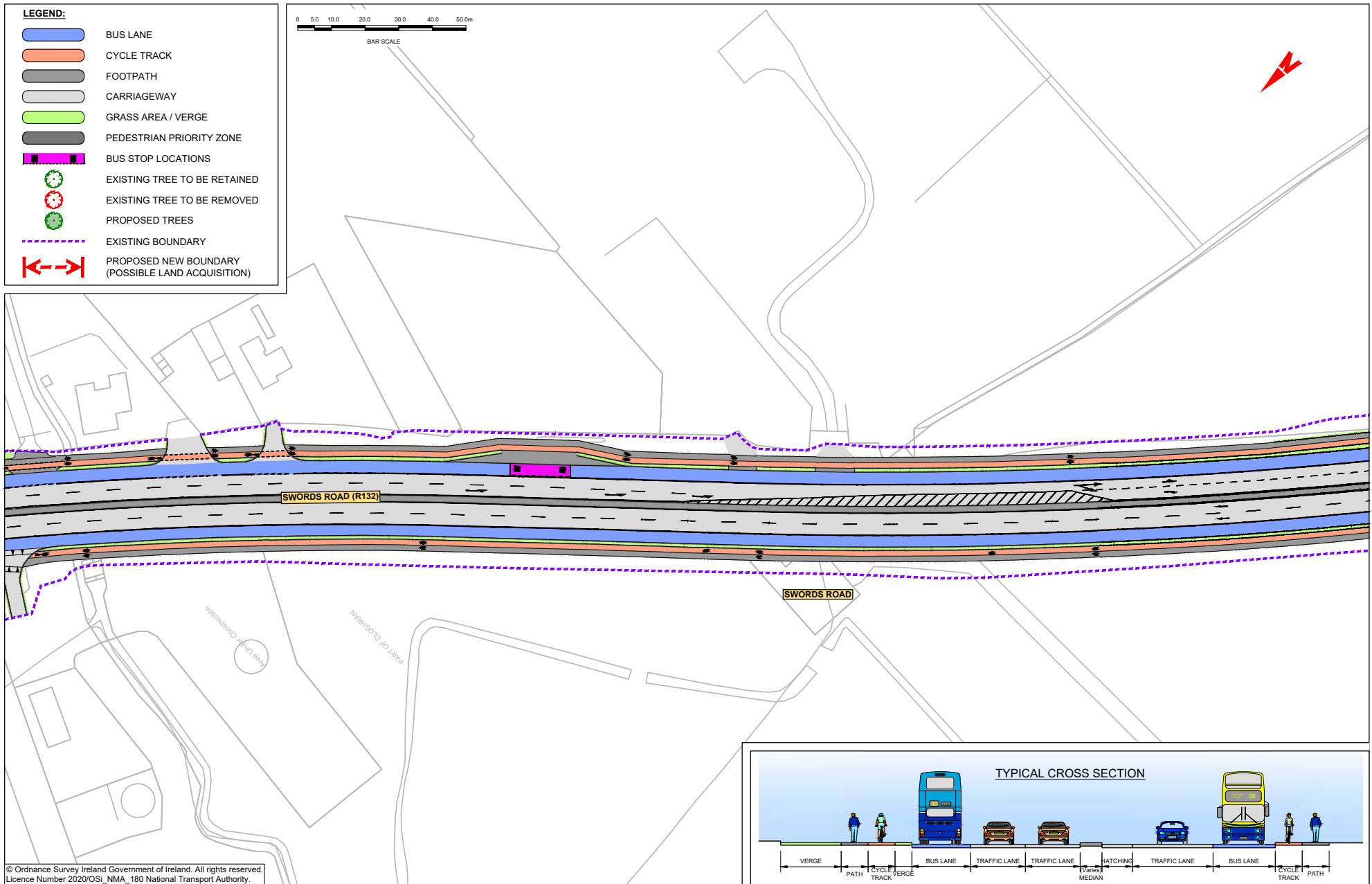
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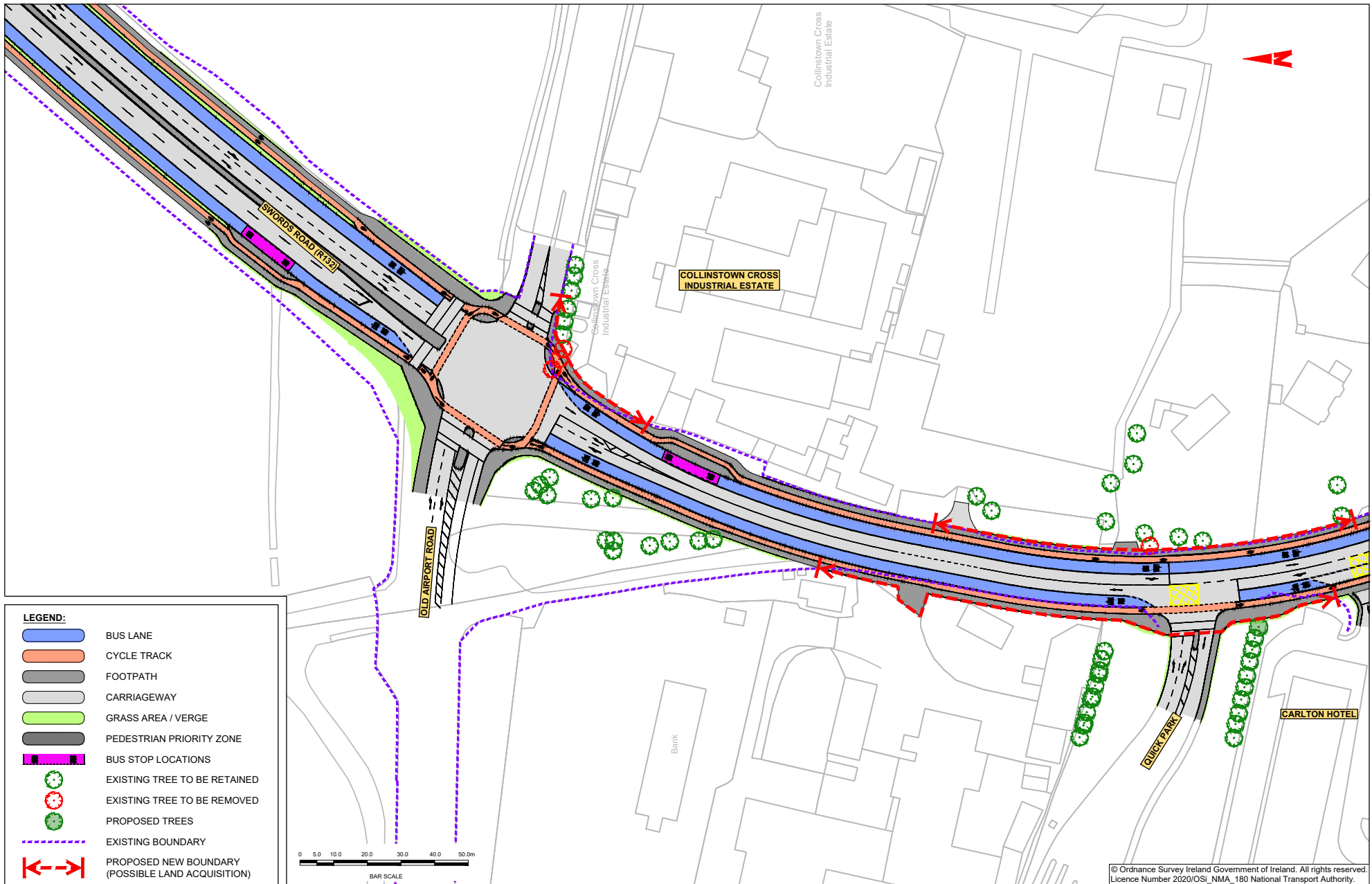


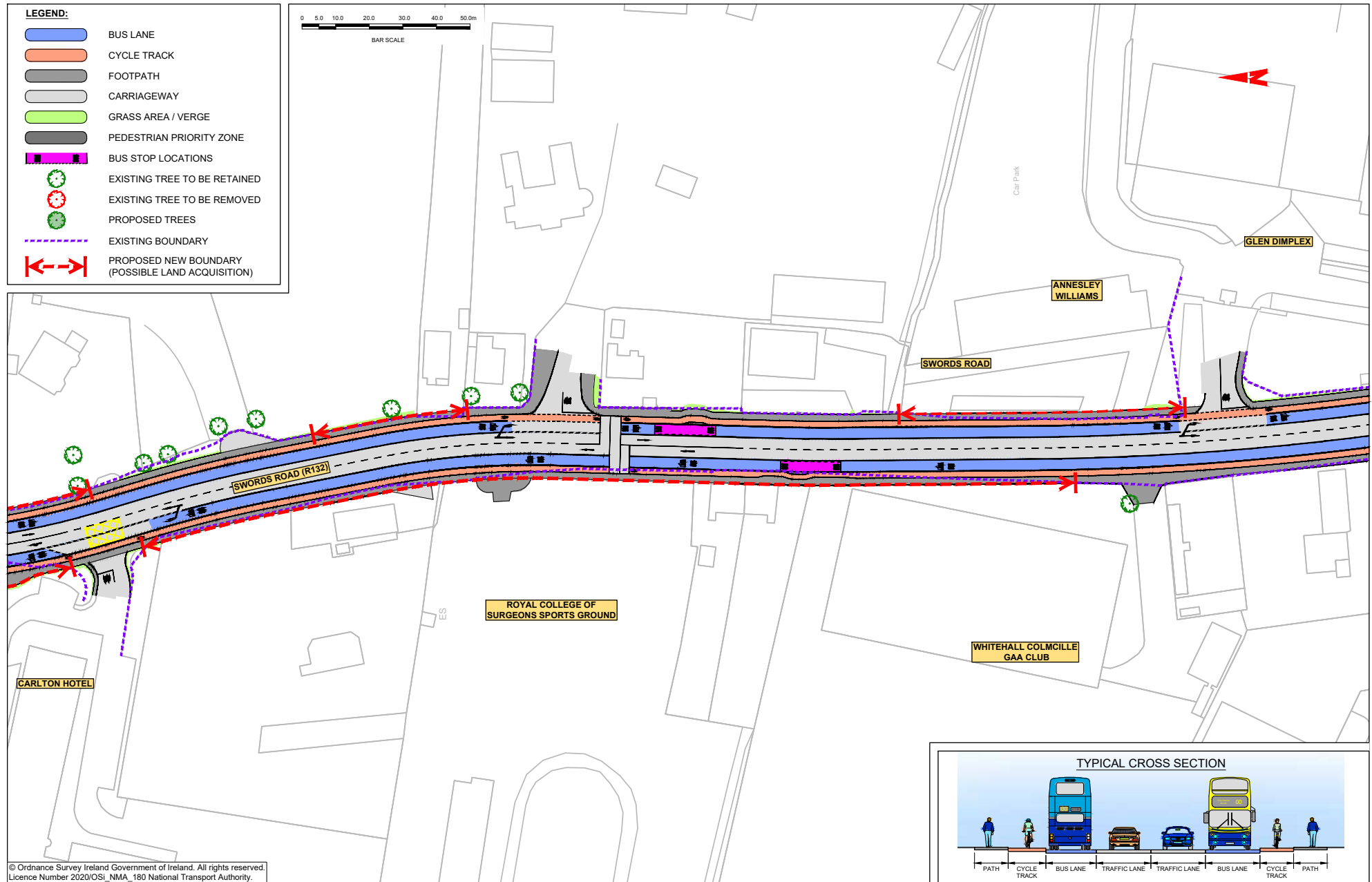


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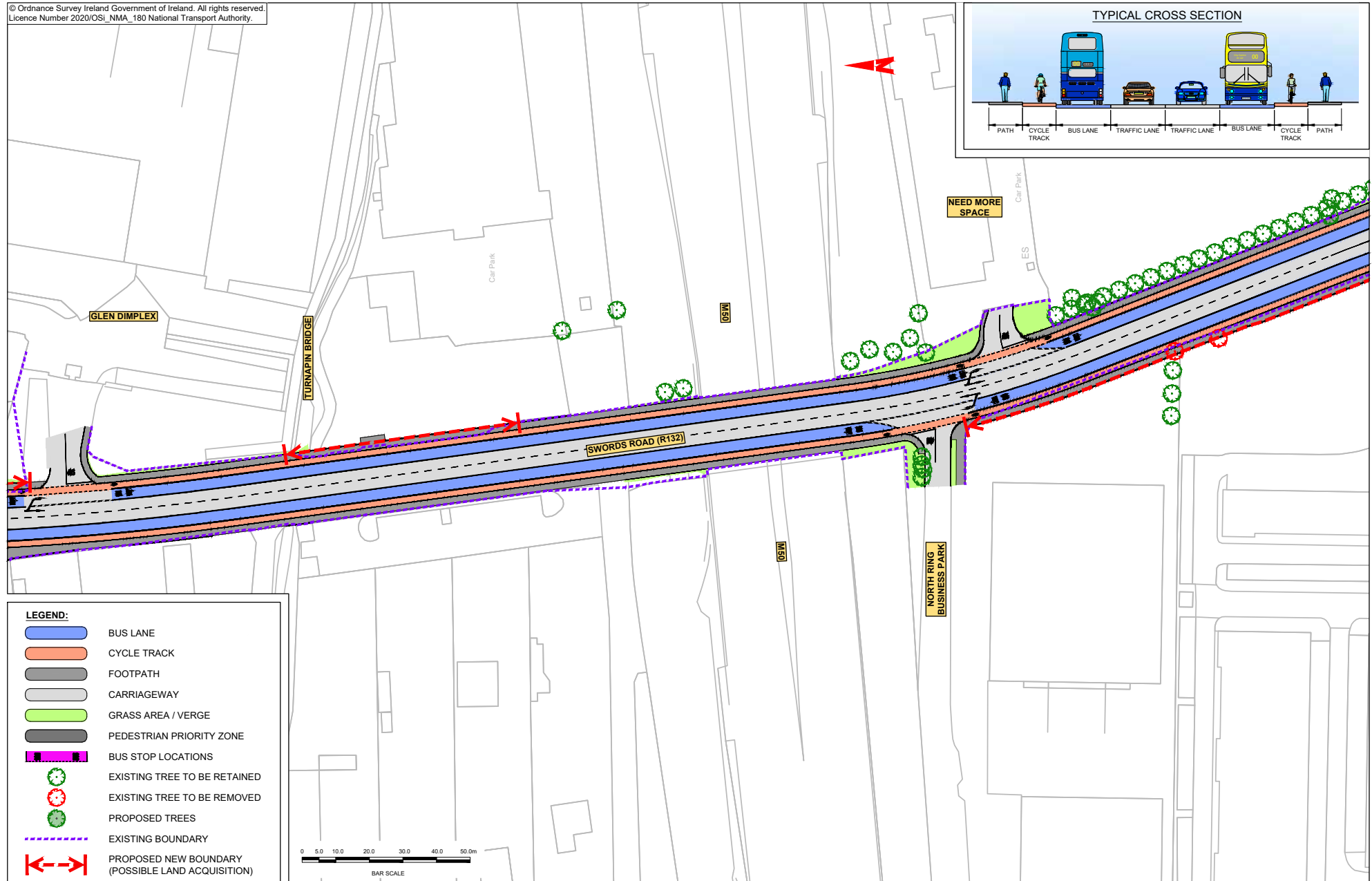




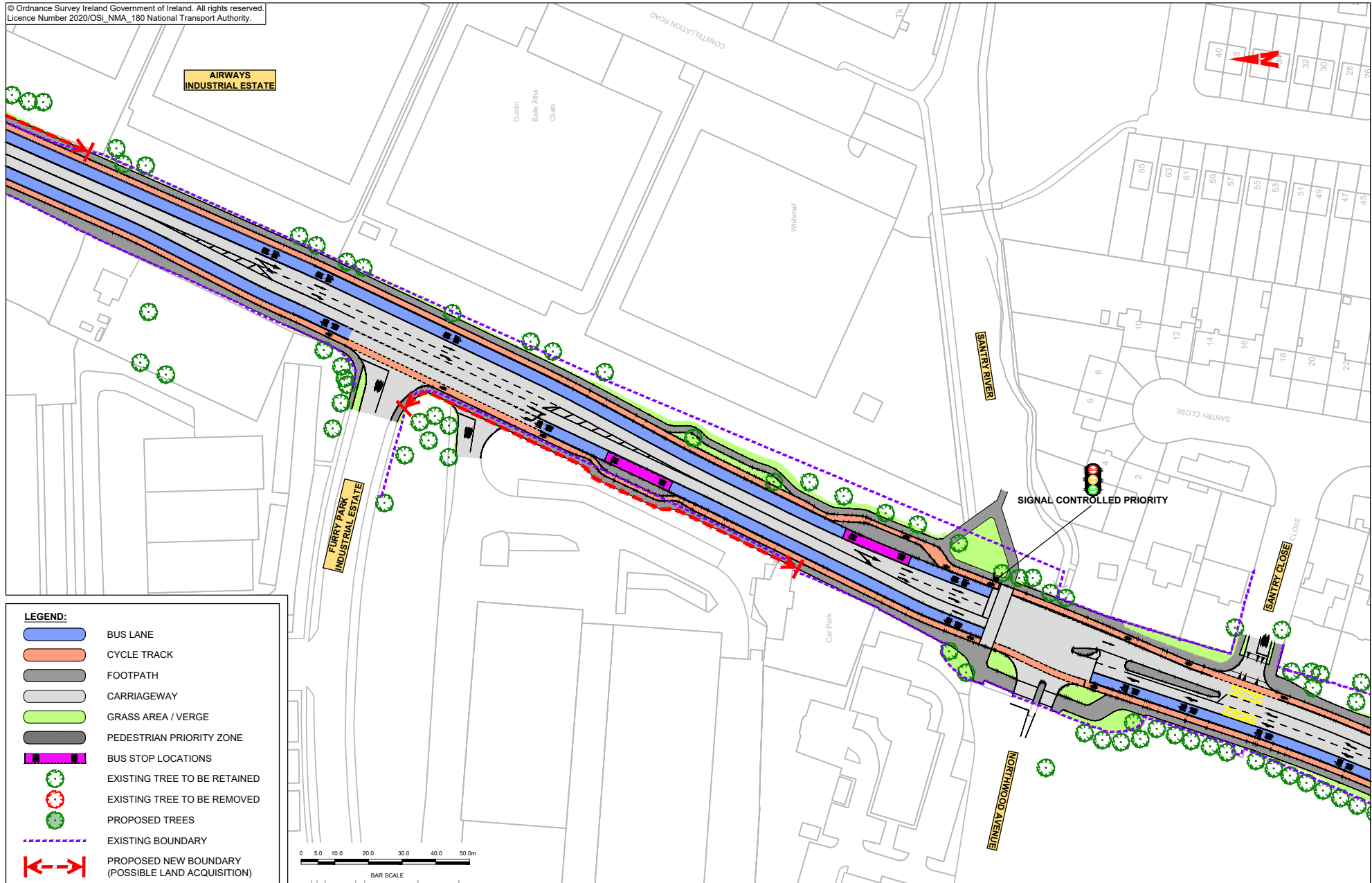




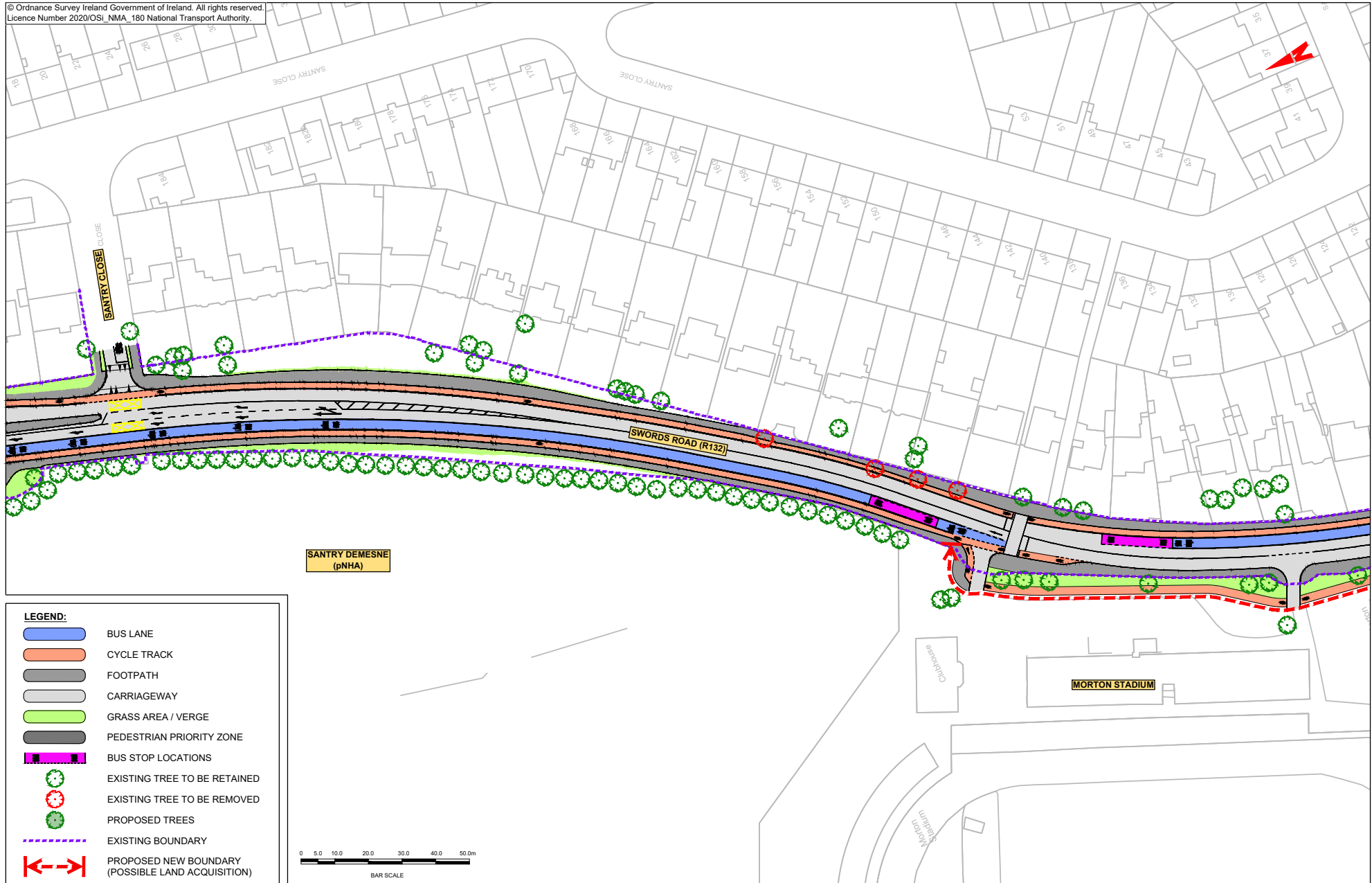
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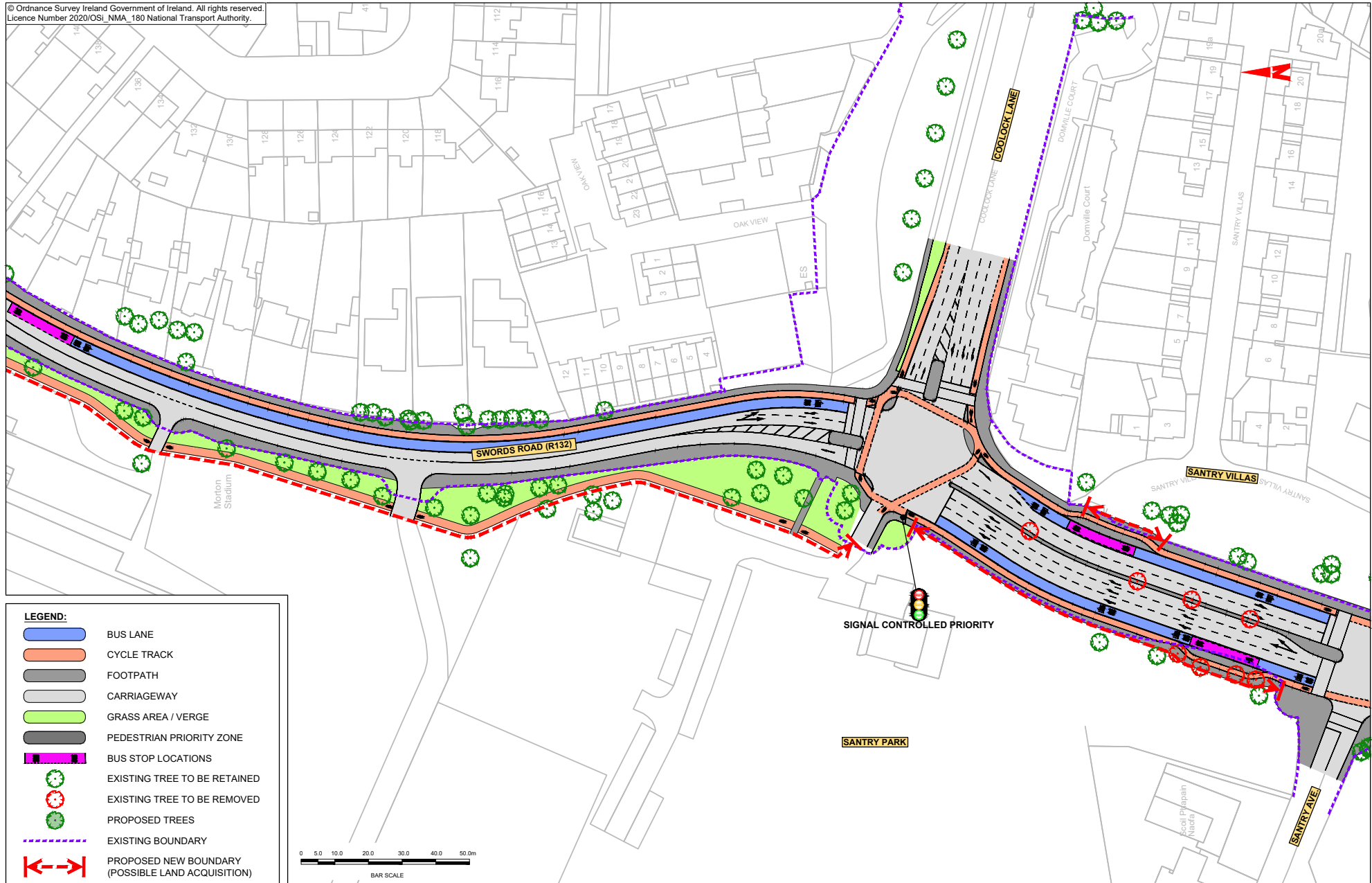
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










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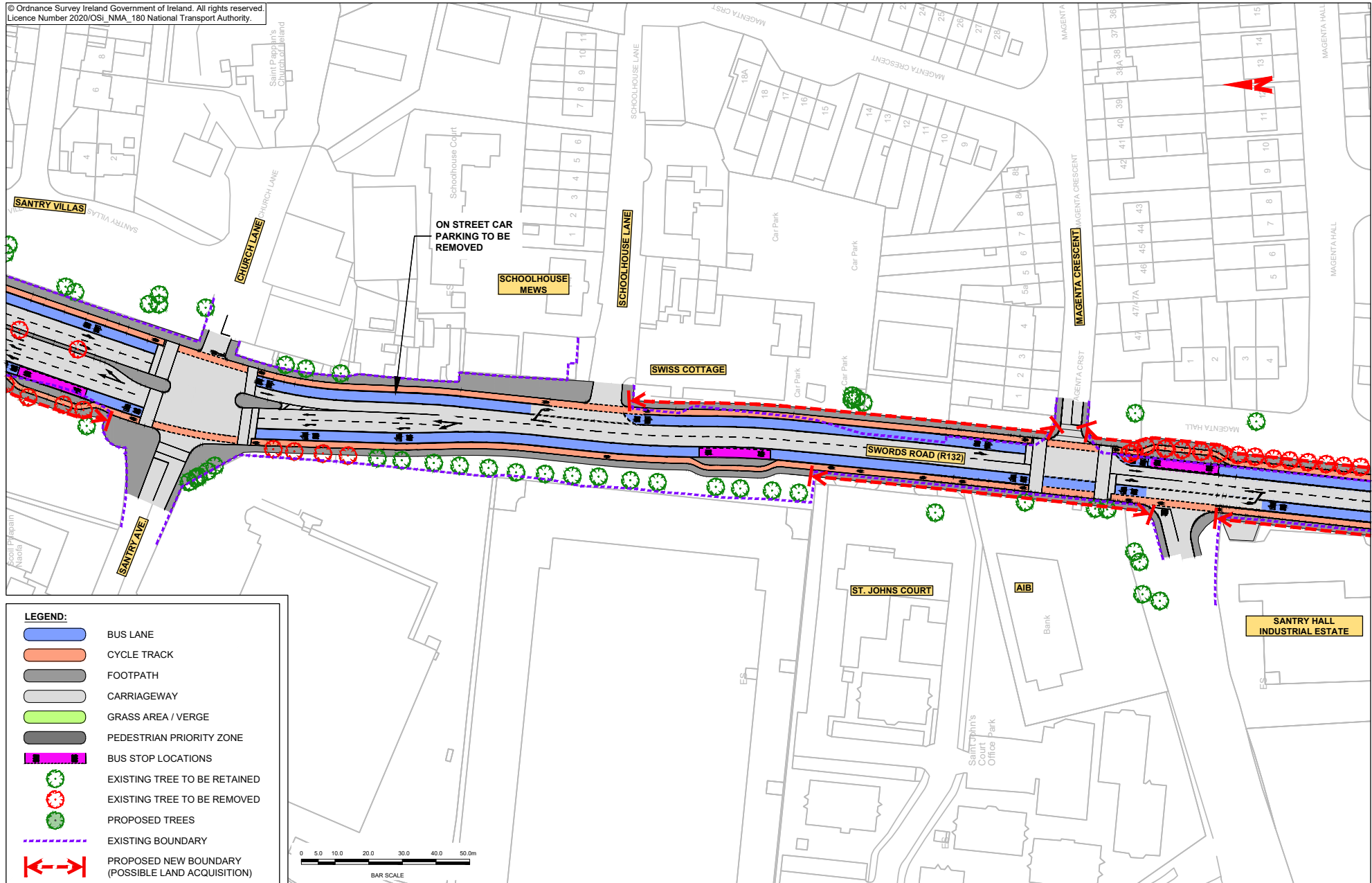


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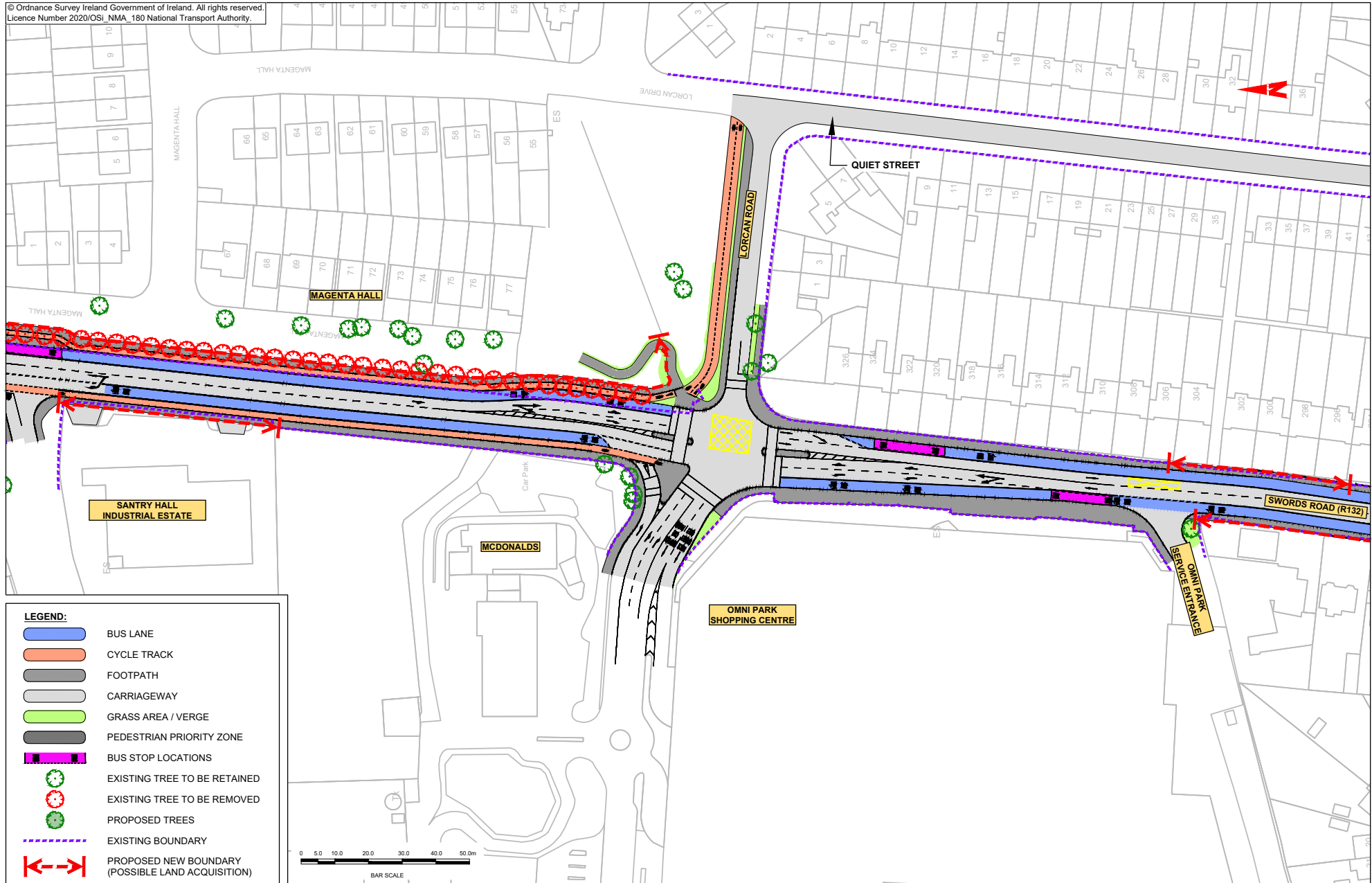
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-  CYCLE TRACK
-  FOOTPATH
-  CARRIAGEWAY
-  GRASS AREA / VERGE
-  PEDESTRIAN PRIORITY ZONE
-  BUS STOP LOCATIONS
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-  EXISTING TREE TO BE REMOVED
-  PROPOSED TREES
-  EXISTING BOUNDARY
-  PROPOSED NEW BOUNDARY (POSSIBLE LAND ACQUISITION)



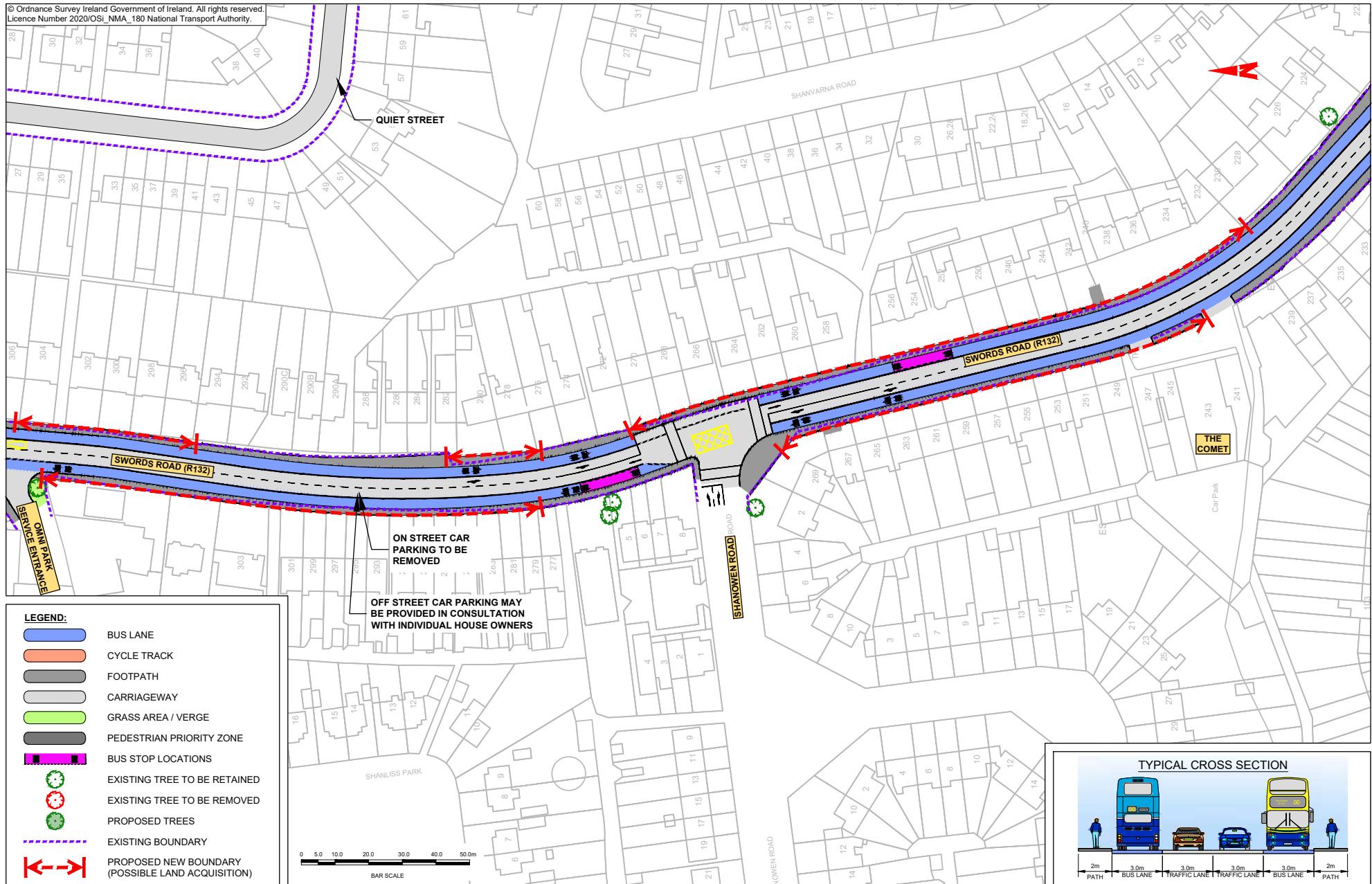
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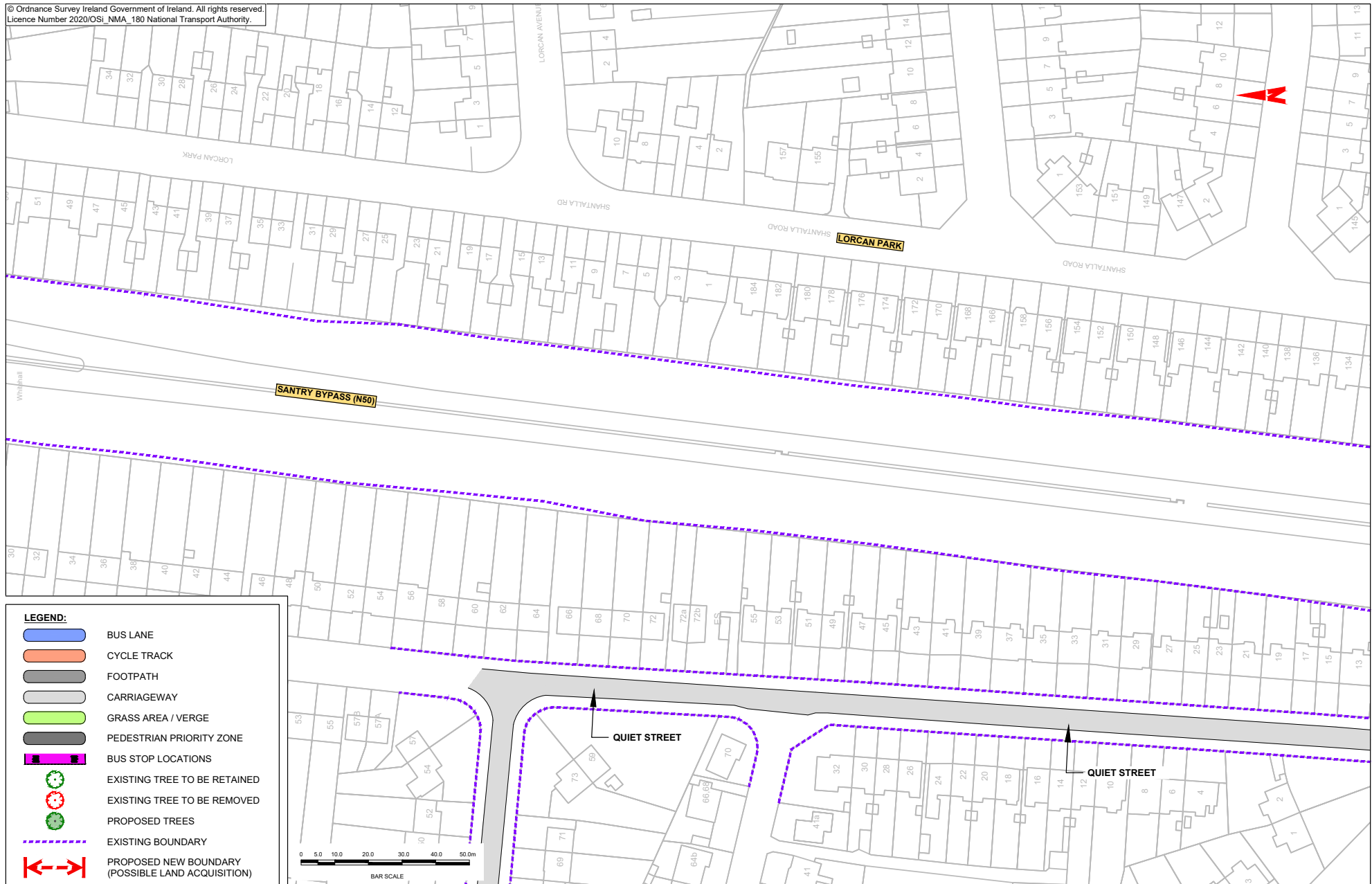




















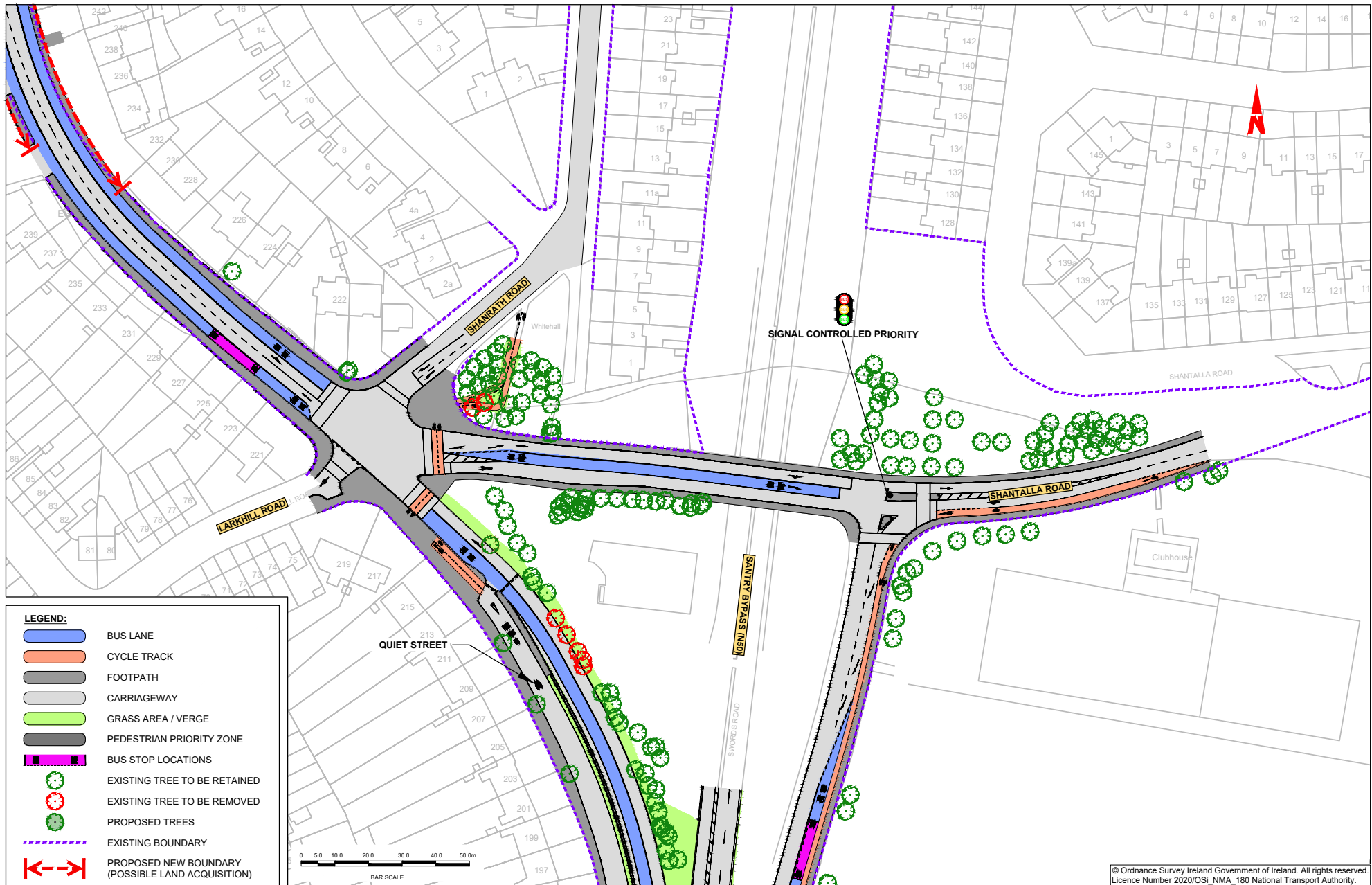
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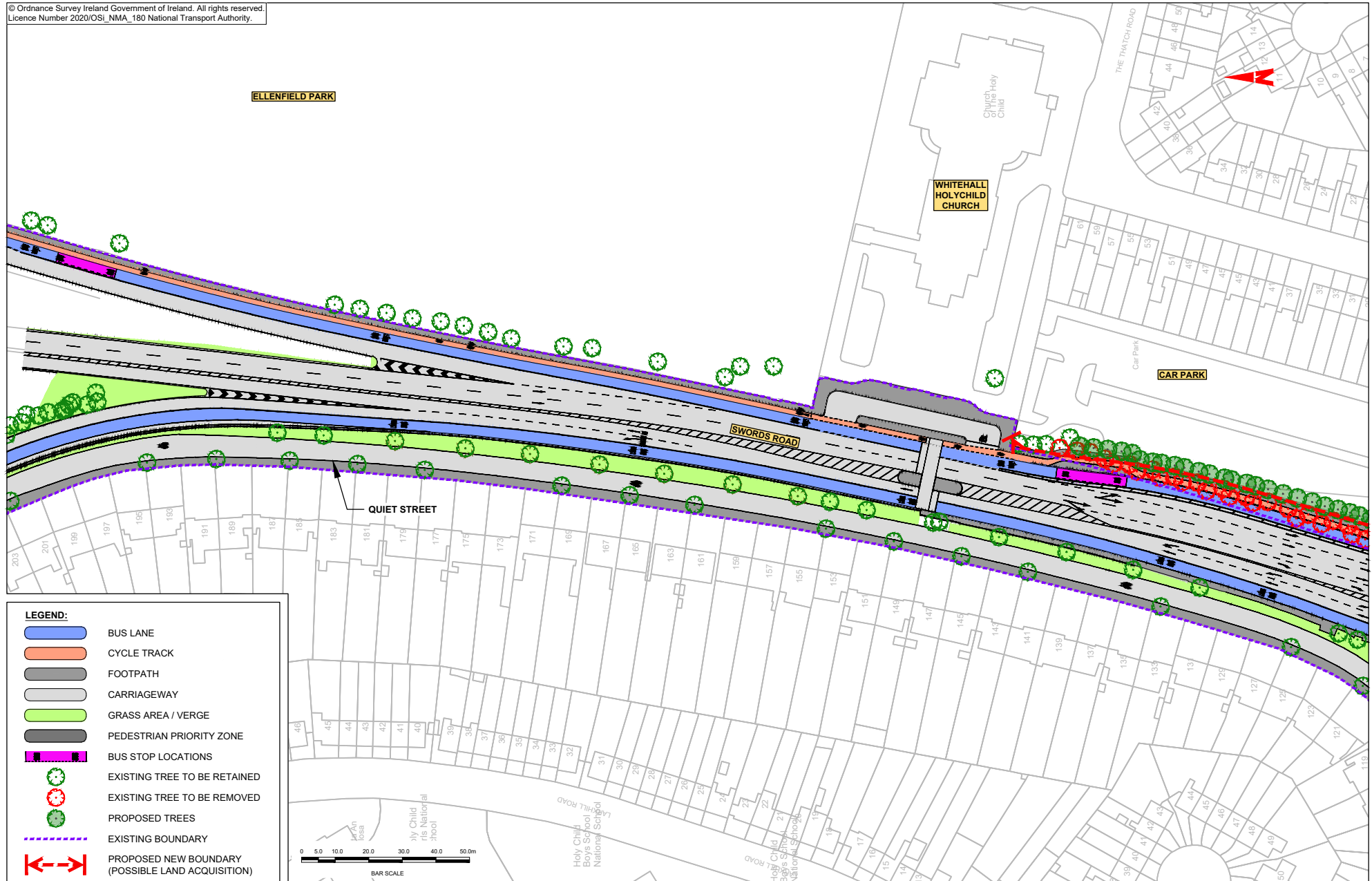
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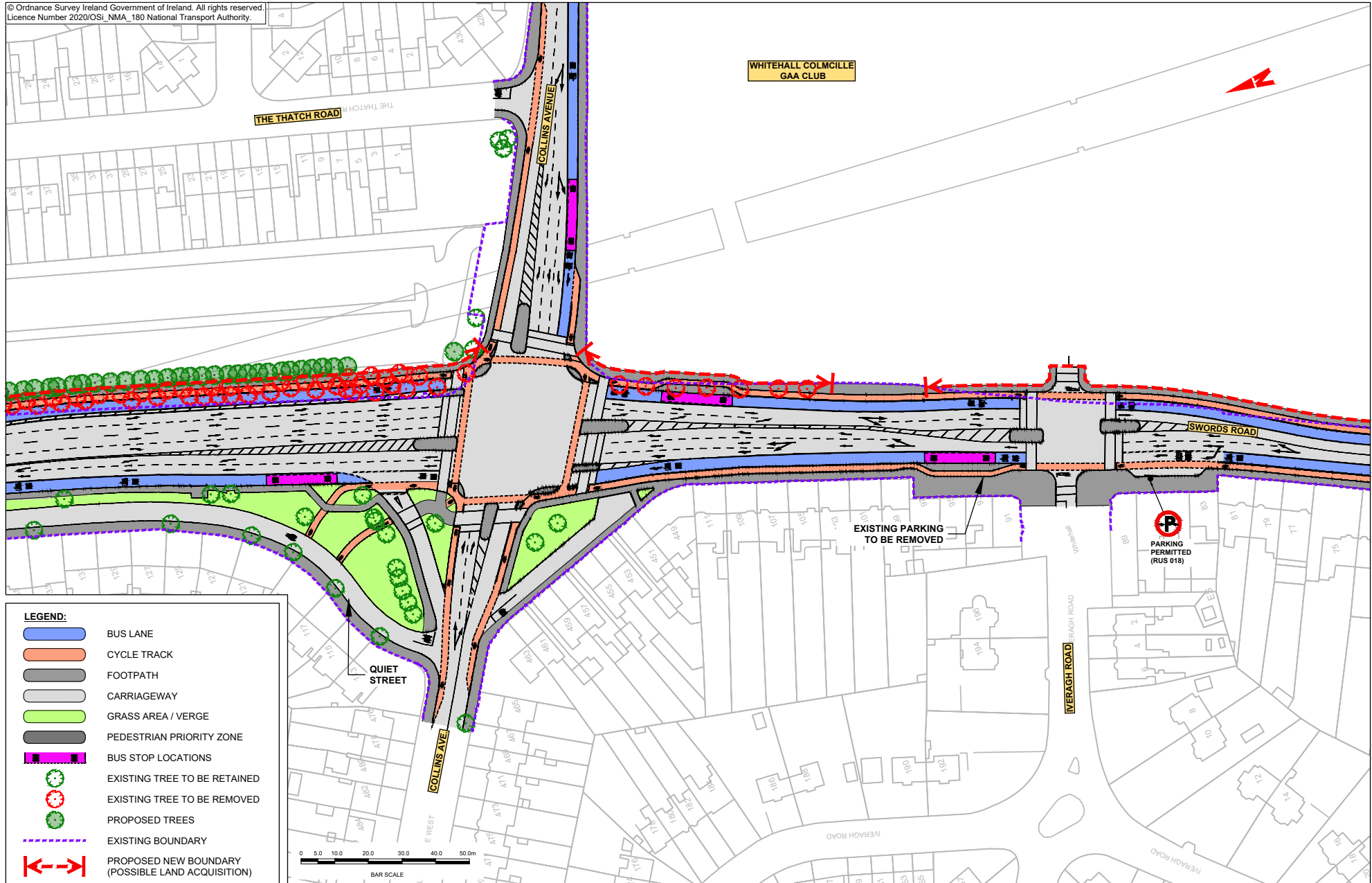




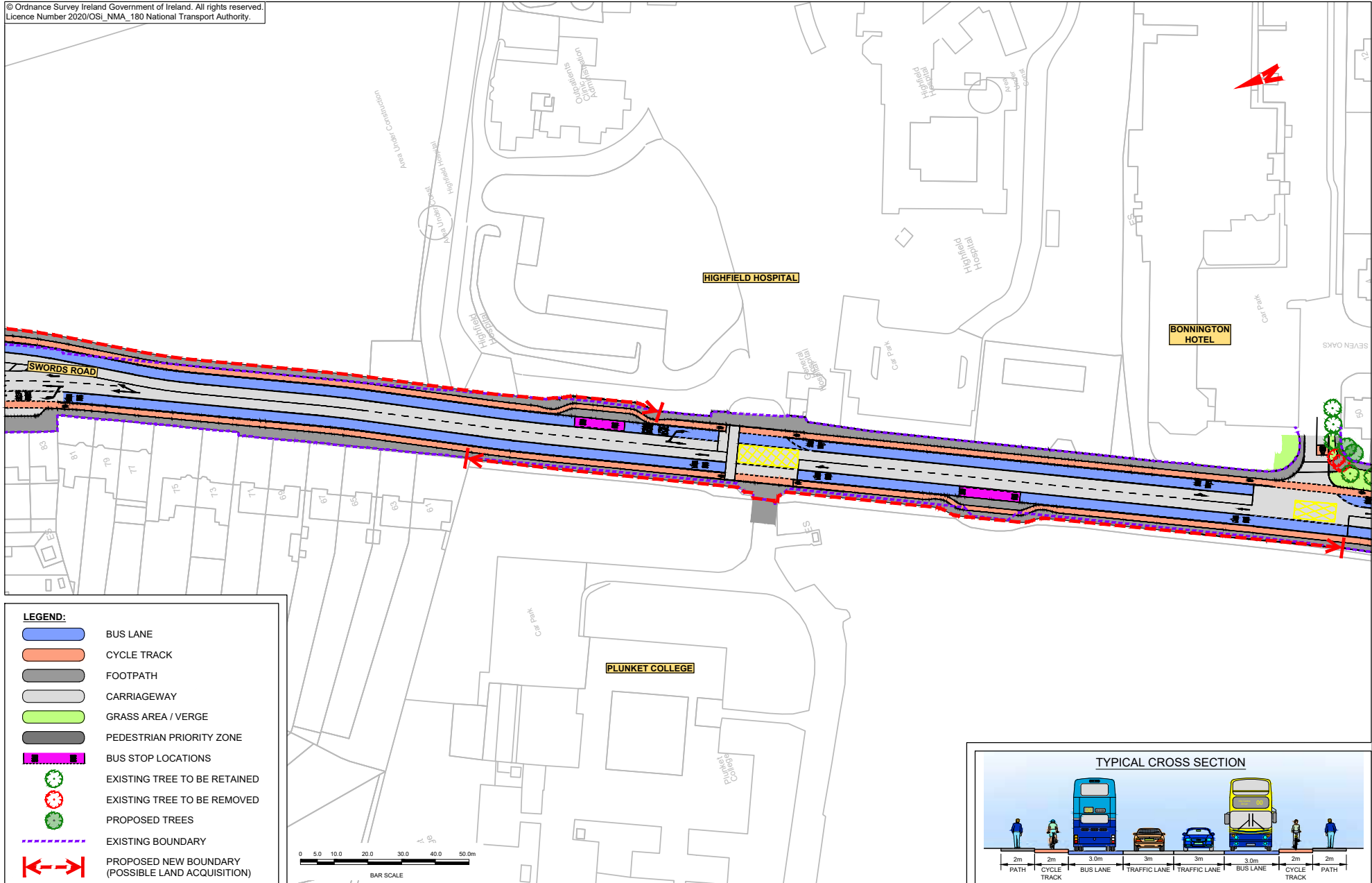
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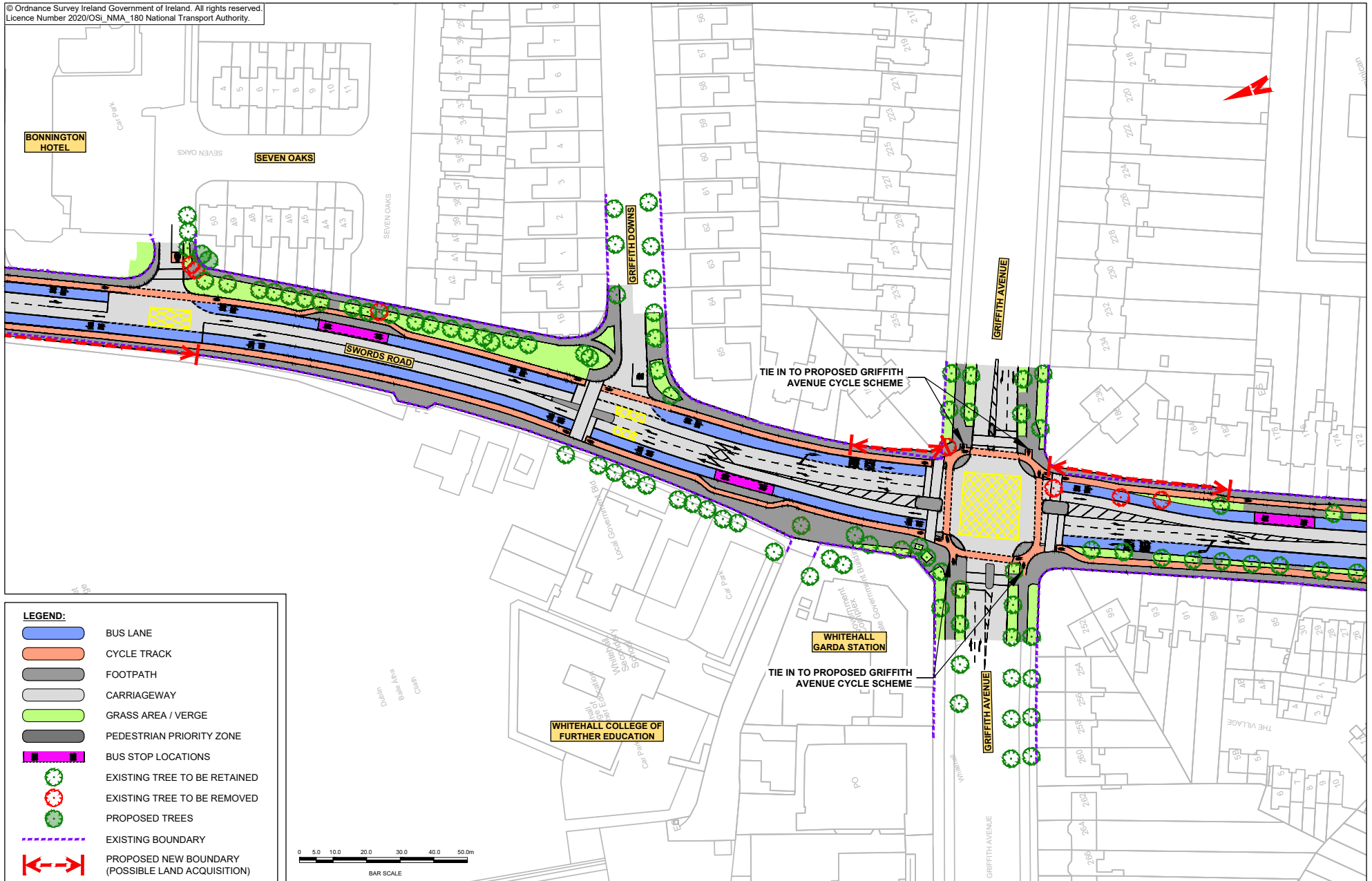
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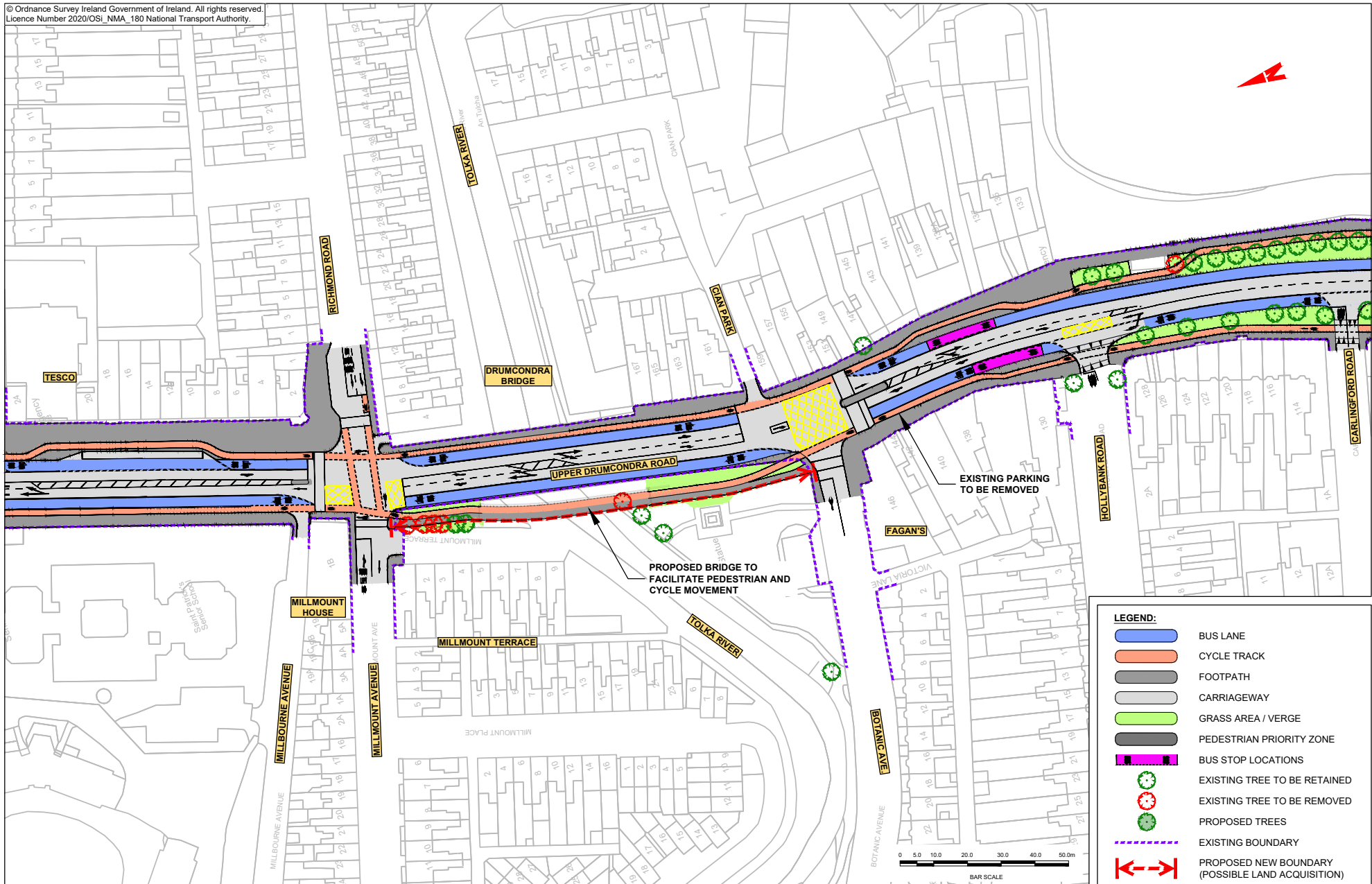
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












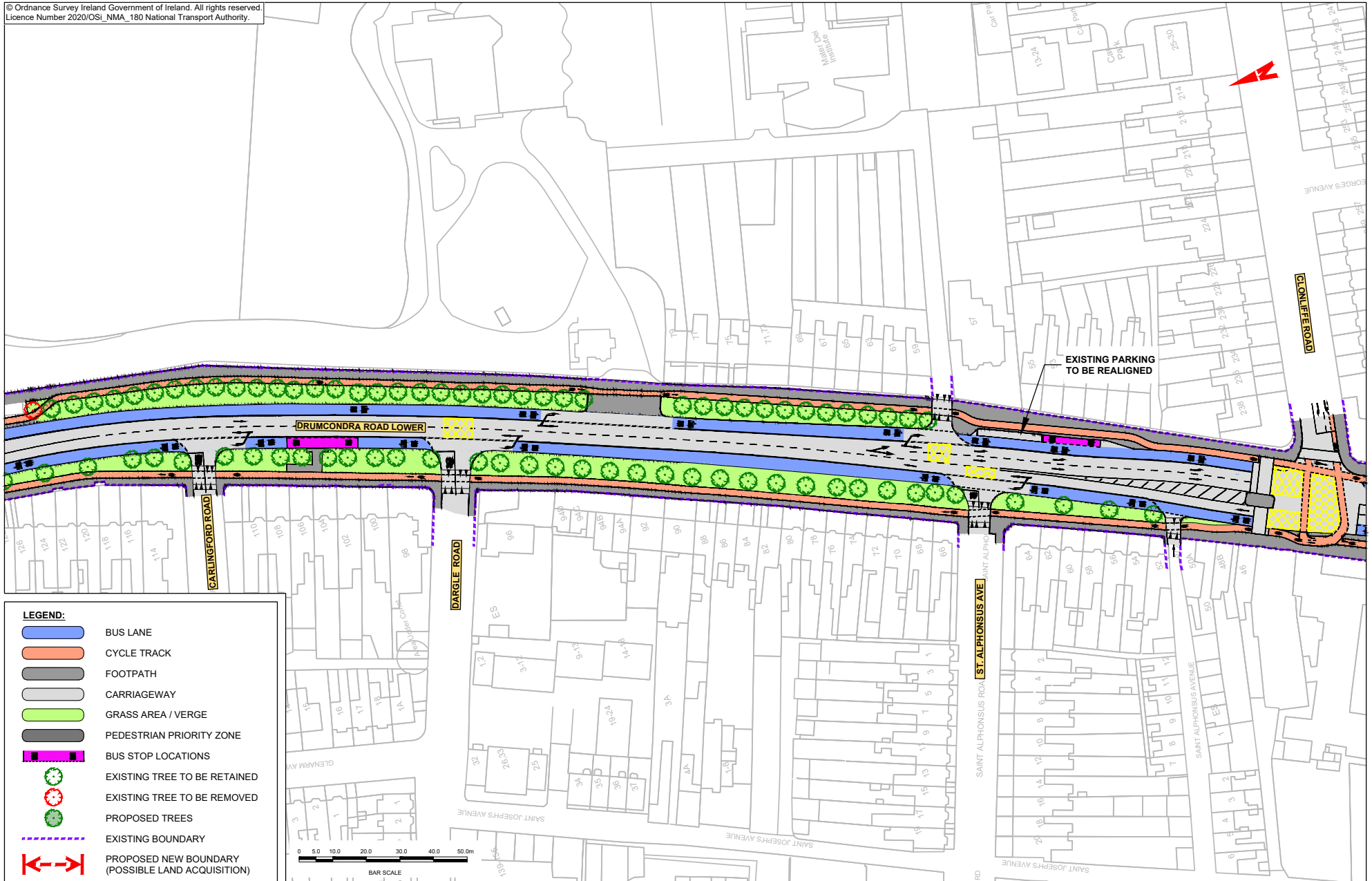
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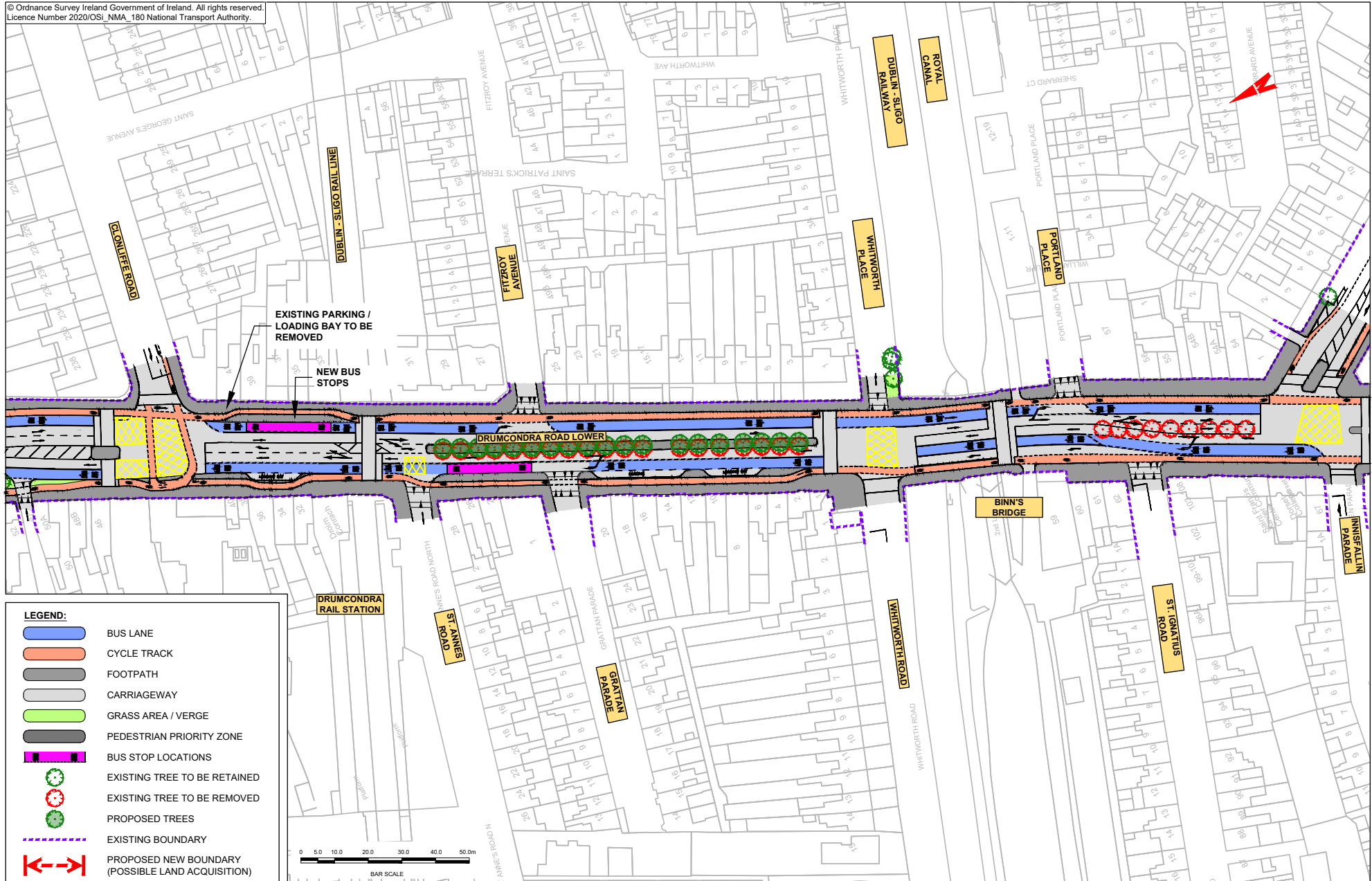
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-  BUS LANE
-  CYCLE TRACK
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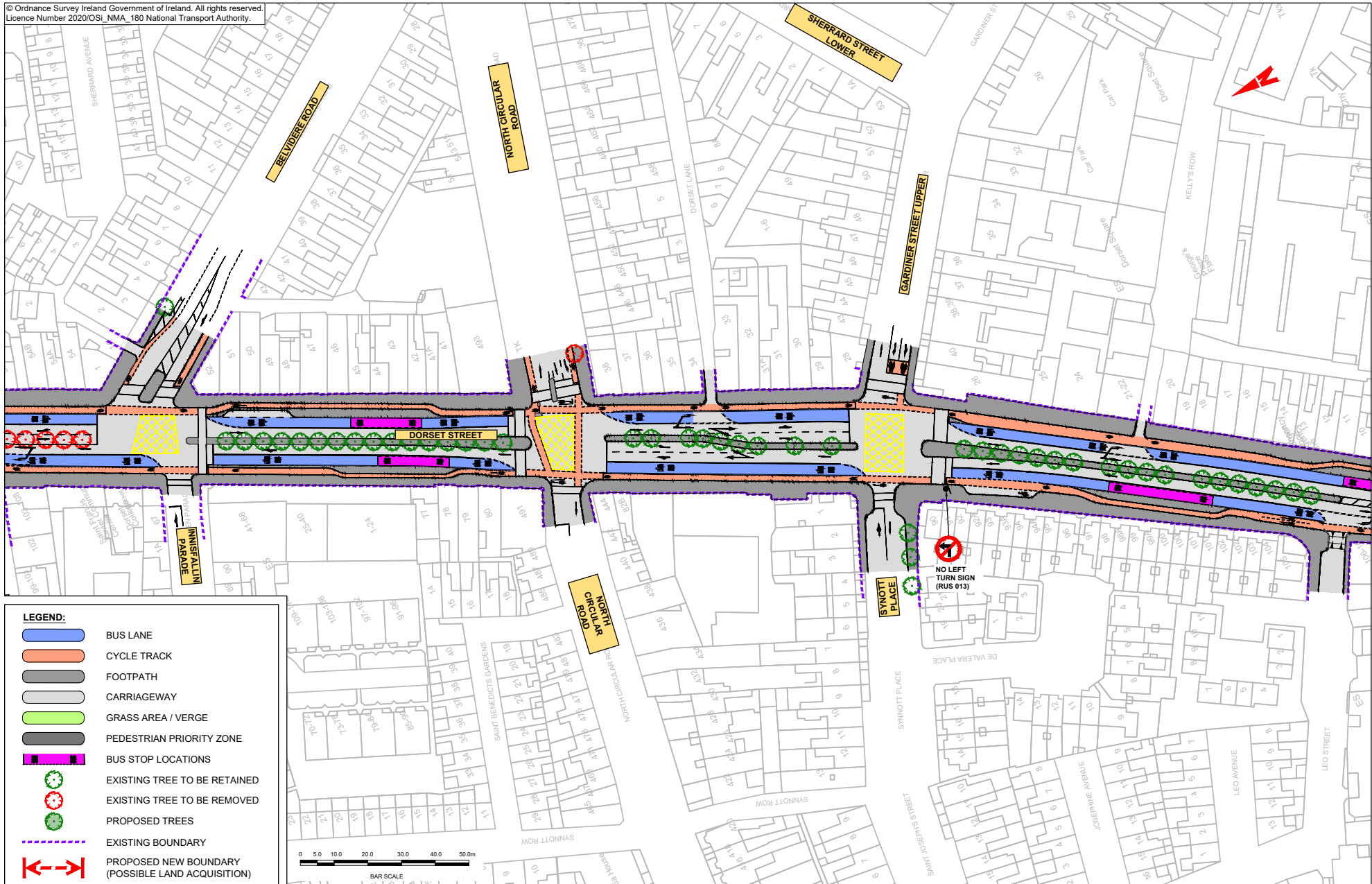


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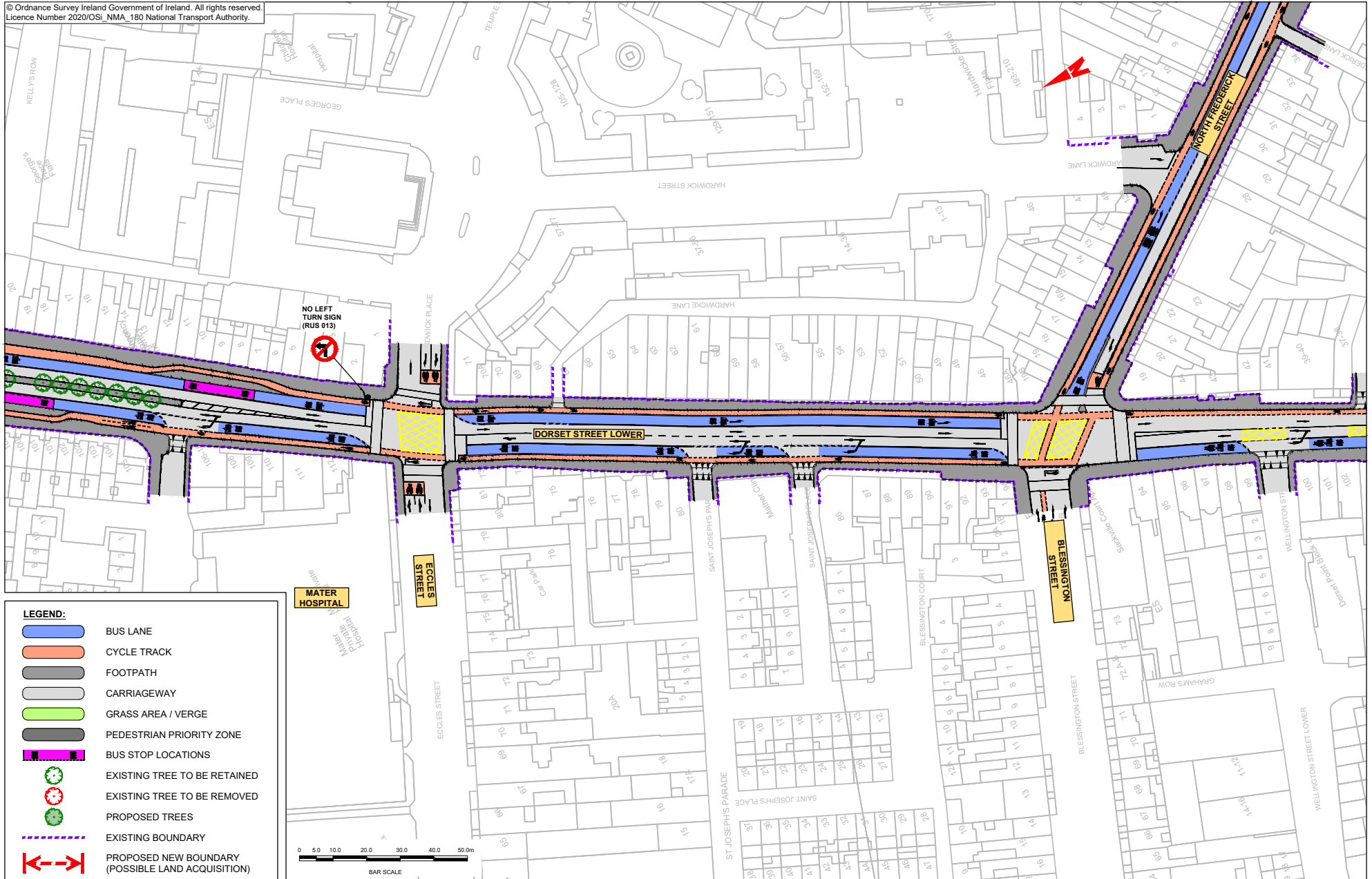
















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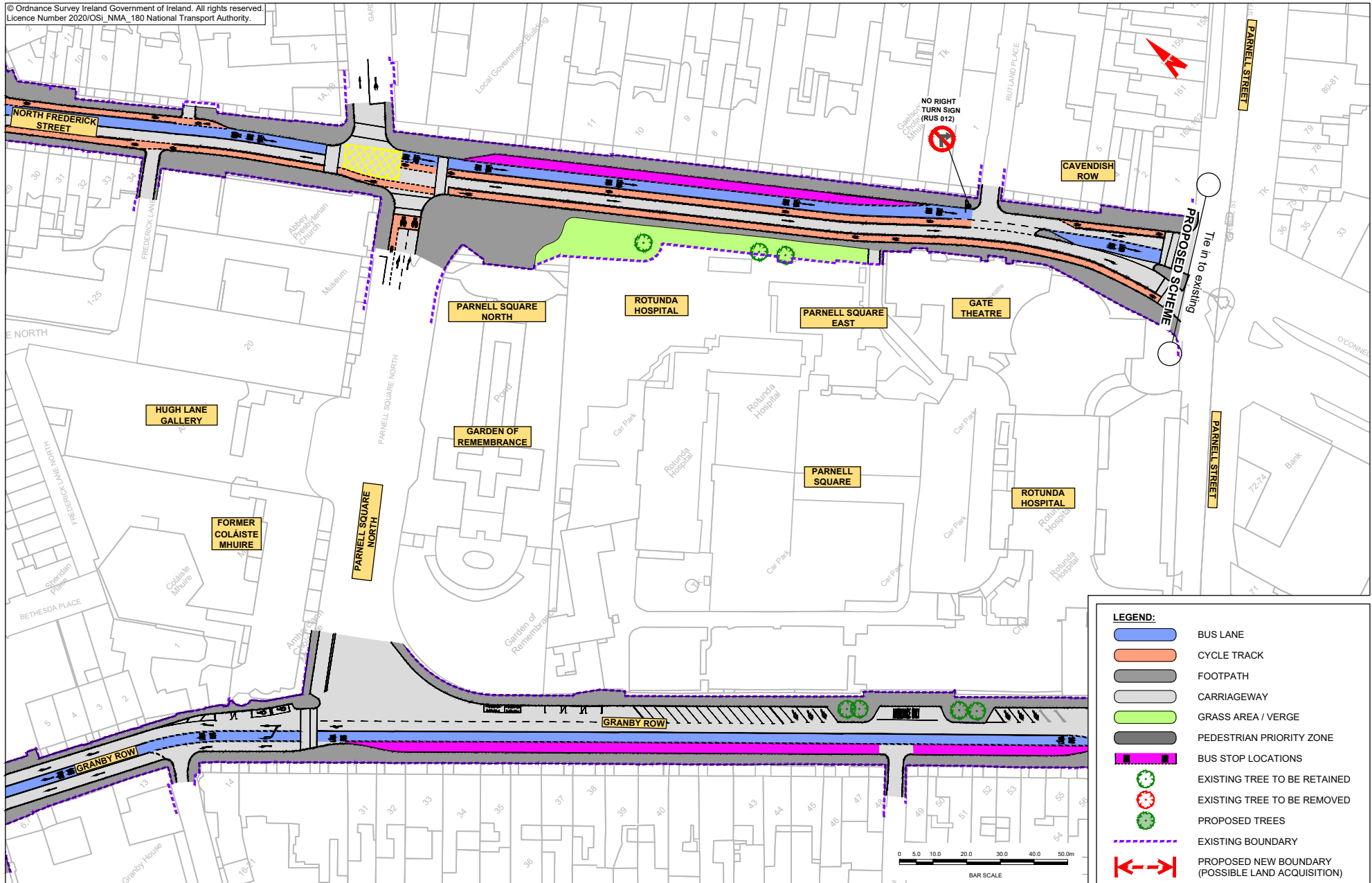
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