

**APPLICATION FOR A LAWFUL DEVELOPMENT CERTIFICATE FOR PROPOSED USE  
OR DEVELOPMENT IN RELATION TO THE DUAL TRACKING OF THE METRO  
RAILWAY BETWEEN PELAW AND JARROW STATIONS (“THE PROJECT”)**

**SUPPORTING TECHNICAL NOTE**

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## 1. INTRODUCTION

### **Purpose of Note**

- 1.1 This Technical Note has been produced by Nexus in support of an application or applications for a Lawful Development Certificate for Proposed Use or Development ("CLOPUD") in relation to proposed development to pre-existing light and heavy rail network between the junctions of Pelaw and Bede, including Hebburn and Jarrow Stations ("the Project").
- 1.2 In particular, it provides technical information in support of the application of permitted development rights ("PDR") under the Town and Country Planning (General Permitted Development) Order 1995 (as amended) (the "GPDO"). Specifically, this is anticipated to relate to the application of one or more of the following PDR:
  - 1.2.1 Part 18 Class A of Schedule 2 of the GPDO - Development under private or local Acts or Orders ("Part 18 Class A");
  - 1.2.2 Part 8 Class A of Schedule 2 of the GPDO - Transport related development - railways ("Part 8 Class A");
  - 1.2.3 Part 4 Classes A and/or Class B of Schedule 2 of the GPDO - Temporary buildings and uses ("Part 4 Class A/Class B"); and
  - 1.2.4 Part 11 of Class B of Schedule 2 of the GPDO - Demolition of buildings ("Part 11 Class B").
- 1.3 Information set out in this Note may also support the basis of a separate application(s) for prior approval in relation to relevant use of the identified PDR.

### **Overview of current operations**

- 1.4 The Railway between Pelaw and Bede is currently divided into two independently owned, operated and maintained infrastructures. The track and supporting infrastructure used by the Tyne and Wear Metro is owned by Nexus whilst the track and supporting infrastructure used by Freight traffic is under the control of Network Rail. Network Rail's interest is programmed to be transferred to Nexus as part of the Project.

- 1.5 Both sets of infrastructures exist within the same operational footprint having been divided in 1981 to support the introduction of the Tyne and Wear Metro whilst retaining Freight access to the Jarrow Oil terminal.
- 1.6 Network Rail infrastructure is operated bi-directionally along its entire length allowing trains to operate into and out of the terminal. The Metro owned infrastructure includes 3 sections of single track with 2 passing loops at Hebburn and Jarrow Stations. Figure 1 indicates the location of the Metro's single track operation. The passing loops consist of 2 lines for Metro operation in addition to the single line for the Freight service. There are also a number of overbridges under which the tracks pass and points of access to track side for maintenance, principally at the existing Hebburn, Jarrow and Bede Stations.



Figure 11: Pelaw to Bede - Network Rail line shown Red, single-track Metro sections in Blue

- 1.7 Figure 2 is a photograph taken of the two independent infrastructures from Monkton Terrace overbridge in Jarrow, South Tyneside. On the right of the image you can see the Tyne and Wear Metro operating underneath Overhead Line Equipment ("OLE") which provides the traction power. On the Left of the image you can see the Network Rail operated infrastructure with no OLE. The Metro operates in turn in both directions on the single track sections allowing access into and out of South Shields terminus.



*Figure 22: Photo of a Metro heading towards Jarrow from Bede taken from Monkton Terrace overbridge.*

- 1.8 In addition to OLE, other supporting Metro infrastructure and structures such as equipment cabinets and signals are located at intervals along the two infrastructures.

#### Freight

- 1.9 Presently up to one Freight train operates a day into and out of the Oil Terminal at Jarrow. It arrives early in the morning approximately 6am and departs the Oil Terminal at approximately 6pm.

#### Metro

- 1.10 Currently up to 10 Metro trains an hour operate on the single track sections of Metro infrastructure and up to 5 trains an hour on each line in the passing loops between approximately 5.30am and 12am.
- 1.11 Prior to use of the lines by Network Rail and Nexus in modern times for Freight services and Metro services, most of the tracks have been in railway use for over 100 years having been created as part of the Victorian railways. Some sections of the line at the Pelaw junction were carried out by Nexus as part of the development of the Metro. Use of the land for railway purposes is unconstrained for planning purposes.

#### **Relevant background to the Project**

*The aims and objectives of Metro Flow*

- 1.12 Nexus has developed a strong outline (DfT approved) business case for “Metro Flow”, a project named such because it will deliver:
- 1.12.1 **More capacity:** an estimated 24,000 additional spaces per day across the system to transport more customers in greater comfort;
  - 1.12.2 **More frequency:** a 20% uplift in daytime services network wide each week, reducing overall customer journey times; and
  - 1.12.3 **More resilience:** improvement in service recovery in the area of the network which is most affected, meaning a reduced impact on our customers during times of disruption.
- 1.13 Metro Flow will also deliver:
- 1.13.1 An additional 10.9 million passenger kilometres travelled on Metro and a reduction of 3 million car kilometres at opening year 2022/23;
  - 1.13.2 An additional 1.7 million passenger journeys on the network by 2030;
  - 1.13.3 A reduction of 517,000 kg<sup>1</sup> of CO<sub>2</sub> and 38,000 kg of NO<sub>2</sub> per annum;
  - 1.13.4 Journey time benefits for commuters/non-business users of £177m<sup>2</sup>;
  - 1.13.5 Transport Economic Efficiency benefits of £182m<sup>3</sup>; and
  - 1.13.6 Wider Economic Impacts of £90m<sup>4</sup>.
- 1.14 These significant economic, environmental and social benefits will be delivered through a relatively modest rail scheme which will dual the remaining 5% of the network which is single-track in South Tyneside, and merge Metro and Network Rail’s infrastructure to extract better value from both assets within a cost-benefit ratio in the order of 2.3.

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<sup>1</sup> <https://www.gov.uk/government/publications/greenhouse-gas-reporting-conversion-factors-2019>

<sup>2</sup> Present values discounted to 2010, in 2010 GDP deflator real market prices

<sup>3</sup> Present values discounted to 2010, in 2010 GDP deflator real market prices

<sup>4</sup> Present values discounted to 2010, in 2010 GDP deflator real market prices

- 1.15 Each journey made on the Metro is worth £8.50 to the local economy<sup>5</sup>, a significant benefit to the region's wider economy. Whilst delivering significant economic benefits, this project also opens up opportunities for further expansion of the system, as outlined in the Metro and Local Rail Strategy 2016<sup>6</sup>.

*The importance of the Metro system to Tyne and Wear*

- 1.16 Metro is the light rail network for the Tyne and Wear area of North East England. It delivers accessible, sustainable transport, fulfilling 36.4 million passenger journeys in 2018/19. With a fleet of 89 trains serving 60 stations, Metro is a vertically-integrated system, owned and operated by Nexus, the Tyne and Wear Passenger Transport Executive. More than £350m of capital investment is renewing and improving network infrastructure between 2010 and 2021, and between 2021 and 2024 a £362m new train fleet will replace the current Metro trains.
- 1.17 Metro is part of everyday life in Tyne and Wear, an essential part of the fabric of the region and accessible to over 40% of the population. Nearly 14 million commuter journeys are made on the Metro each year, and over 4 million journeys connect residents to education. Nearly 50% of Metro journeys are made for leisure, shopping and socialising, allowing residents and visitors to the region to enjoy seaside towns and vibrant city centres.<sup>7</sup> Metro's existence is integral to the region's ability to host high profile special events that generate considerable contributions to the regional economy. The Tall Ships and Airshow at Sunderland in 2018 generated £19 million, the Heineken Cup rugby final in Newcastle generated an estimated £35 million and each year the Great North Run which relies on Metro to transport over 90,000 runners and spectators is worth at least £26 million. Each week, Metro supports regular sporting events such as Premier and League football at St James' Park and the Stadium of Light, and rugby union at Kingston Park. Metro is the backbone of the Tyne and Wear transport system and will be vital for the future.
- 1.18 As the region grows, an expanded Metro system can connect to a further 70,000 jobs, support the growth of 11,000 new jobs and connect to 9,500 new homes<sup>8</sup>. It will offer local connections as the region's national and international connectivity develops. Newcastle International Airport expects to serve an additional 4 million passengers

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<sup>5</sup> VfM, Economic Value of Metro and Local Rail to the North East, 2018

<sup>6</sup> <https://www.nexus.org.uk/our-major-projects/metro-futures/metro-and-local-rail-strategy>

<sup>7</sup> Business Intelligence, Nexus

<sup>8</sup> Internal Nexus analysis based on local plans and planning information

each year by 2035<sup>9</sup>, with at least half a million of those passengers getting to and from the airport by Metro. The delivery of HS2 and the ambitions of Northern Powerhouse Rail would generate 8 million more rail journeys to and from Newcastle Station, doubling the current total. As data indicates 25% of heavy journeys from/ to Newcastle connect via Metro, this would result in an additional 2 million Metro journeys per year.

*The need for planning certainty*

- 1.19 The strength of this Project, which directly aligns to the Nexus vision of ‘making public transport great for our environment, economy and communities’, was acknowledged on 11<sup>th</sup> March when the Chancellor of the Exchequer announced the scheme would be funded through the Transforming Cities Fund (TCF).<sup>10</sup> The fund, which will support the delivery of public transport infrastructure projects across the country, has a challenging completion date of March 2023. The programme for Metro Flow is aligned to this date and will require careful management to successfully deliver the scheme.
- 1.20 To date, the funding case for the project is underpinned by an Outline Business Case that Nexus prepared and submitted to the Department for Transport (DfT). A Final Business Case (FBC) is required to be submitted to the DfT to confirm the funding requirements which is expected to be submitted in the next 12 months. As part of the FBC, it will be essential to have certainty of the costs and delivery plan of the Project. The primary area of spend for the Project, estimated to be £60 million, is the delivery of the multi-disciplinary infrastructure works to dual the track in South Tyneside. The Project will be tendered and the procurement process must commence in September 2020 to maintain current programme. Based on experience, Nexus is keen to establish the land and consents arrangements in advance of releasing the contract to the market as this will be essential in mitigating risk, controlling cost and maintaining the challenging timescales of this Project.
- 1.21 In seeking the CLOPUD at this stage, and particular prior approval(s), Nexus will have project certainty in this critical area before commencing the tender process. This step is also considered to be an important milestone to support the FBC submission.
- 1.22 The Project will be tendered as an NEC4 Option C Design and Build contract based on the outline scheme and designs provided by Nexus to the appointed contractor. It is the outline scheme and design (detailed in this Technical Note) that show the general arrangements of the proposed works that form the basis of the CLOPUD application.

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<sup>9</sup> Masterplan 2035 : Newcastle International Airport, 2019

<sup>10</sup> <https://www.gov.uk/government/publications/apply-for-the-transforming-cities-fund>



Approval of the CLOPUD is therefore sought on the basis of an envelope of development against a description of works. With limited exceptions (where prior approval is needed under the GPDO) the final design to be determined by the appointed Design and Build contractor (following a value engineering exercise and which will take account of pre-construction investigations and survey) will not be subject to further approval of the local planning authority, unless the proposed works (operational development) extends beyond the development envelope covered by the CLOPUD. To the extent that any constraints have already been incorporated or known to exist these are addressed in this Technical Note, as part of the description of the proposed works. Any additional works required to be carried out in conjunction with the Project that are beyond the operational boundary of Nexus or Network Rail which constitute operational development and are more than *de minimis* will be the subject of separate applications for planning permission if Permitted Development Rights (PDR) are not available.

## 2. SUMMARY OF POWERS

- 2.1 Each CLOPUD application will set out a full explanation of the genesis and basis for reliance on PDR. It is without prejudice to any alternative PDR available to Nexus and/or Network Rail.
- 2.2 This Technical Note sets out below a summary of the principal PDR (Part 18 Class A) expected to be relied upon by Nexus, in order to provide greater context for the other information set out later in this Note. It also addresses the potential relevance of Part 11 Class B (demolition of buildings).
- 2.3 Any CLOPUD applications relying upon PDR under Part 8 Class A and/or Part 4 Class A and/or Class B will be supported with additional explanation as to the basis for their application.

### Part 18 Class A

- 2.4 Part 18 Class A of the GPDO sets out the form of development for which planning permission is deemed to be granted, subject to limitations and conditions and permits:

*Development authorised by –*

- (a) a local or private Act of Parliament;*
- (b) an order approved by both Houses of Parliament, or*
- (c) an order under section 14 or 16 of the Harbours Act 1964 (orders for securing harbour efficiency etc, and orders conferring powers for improvement, constructions etc or harbours)*

*which designates specifically the nature of the development authorised and the land upon which it may be carried out.*

- 2.5 As will be set out in the CLOPUD Application, the Proposed Development is authorised by one or more of the following Acts of Parliament:

- 2.5.1 North-eastern Railway Company's (Pelaw and other Branches) Act 1865;
- 2.5.2 Tyneside Metropolitan Railway Act 1973; and
- 2.5.3 The Tyne and Wear Passenger Transport (Sunderland) Order 1998.

- 2.6 There are two conditions to the application of Part 18 Class A. The first condition states that:

*A.1 Development is not permitted by Class A if it consists of or includes –*

- (a) *the erection, construction, alteration or extension of any building, bridge, aqueduct, pier or dam; or*
- (b) *the formation, laying out or alteration of a means of access to any highway used by vehicular traffic,*

*unless the prior approval of the appropriate authority to the detailed plans and specifications is first obtained.*

- 2.7 A "building" for the purpose of the GDPO is defined as "*any structure or erection*" but does not include "*plant or machinery*".
- 2.8 Of the Proposed Development, based on the outline scheme and general arrangement plans supporting the CLOPUD application, only proposed works related to construction of new formations at Hebburn Station to provide a new extended platform is considered to fall within the first condition.
- 2.9 Limited proposed works are also expected at Jarrow Station resulting in the reduction in the existing platform width and height (in situ lowering and reduction). At this stage, they are not expected to be of a magnitude, extent or nature to amount to a new formation or to be of such material alteration to an existing structure to meet the threshold in Condition A.1. This will be kept under review with the contractor as part of detailed design. Similarly, some works are proposed to the underbridges but is limited to essential structural repair not considered to be of the order or magnitude to be classed as "alteration or extension".
- 2.10 The Project will also rely upon a number of existing tracks and accesses to provide pedestrian, machine and vehicle access track side to carry out the Proposed Development. The tracks and accesses do not form part of the Proposed Development on the basis that they are existing and are not presently expected to require any alteration or extension beyond ordinary repair for maintenance as part of their use with the Project. Any apparatus used in connection with access (such as temporary barriers or vehicle load support mats) do not require planning permission and will be removed after construction. This will be kept under review with the contractor. As such, use of the existing tracks and accesses are not expected to require planning permission and in turn do not require prior approval.
- 2.11 Section 3 of this Note includes details of the plans and specifications of the outline scheme relevant to the Proposed Development. This includes details of the options for the platform at Hebburn Station considered feasible by Nexus to be taken forward by the appointed contractor subject to detailed design. Details of the limited works for platform reduction at Jarrow are also provided.

2.12 The second condition under Part 18 Class A states:

*A.2 The prior approval referred to in paragraph A.1 is not to be refused by the appropriate authority nor are conditions to be imposed unless they are satisfied that -*

*(a) the development (other than the provision of or works carried out to a dam) ought to be and could reasonably be carried out elsewhere on the land; or*

*(b) the design or external appearance of any building, bridge, aqueduct, pier or dam would injure the amenity of the neighbourhood and is reasonably capable of modification to avoid such injury.*

2.13 The final option and precise location of the platform alterations at Hebburn Station (determined with reference to the outline plans and specifications) will be determined by the contractor. An application for prior approval will at that time or before such development commences provide details of the requirements and issues that have informed Nexus' determination of suitable and feasible options to determine that the proposed works at Hebburn Station should reasonably be carried out at that location together with an appropriate amenity assessment of those options.

2.14 The nature of the considerations relevant to determination of prior approval support Nexus' view that the extent and nature of the limited platform reduction works at Jarrow Station do not merit consideration as a matter for prior approval.

#### Part 11 Class B

2.15 Part of the Proposed Development includes the removal of pre-existing materials and parts of existing formations, as well as apparatus. As such, the Project works include development in the form of demolition.

2.16 Whilst such works are considered to fall within the scope of Part 18 Class A, alternative PDR exists in Part 11 Class B for demolition of buildings (including structures and fixed objects) which permits:

*Any building operation consisting of the demolition (of the whole) of a building*

Where Part 11 Class B applies and is relied upon, prior notice of demolition will be given to the local planning authority to determine whether or the authority requires further details to be submitted as part of a prior approval application as to the method of construction and restoration of the land. The "restoration" details will however essentially comprise the balance of the Proposed Development.

### 3. PLANS AND DRAWINGS SUPPORTING THE CLOPUD APPLICATION

3.1 The description of Proposed Development (in Section 4 of this Note) is supported and supplemented by a number of plans/drawings, a list of which is set out below and copies of which are provided in Appendices to this Note, specifically Appendix 1. These plans/drawings delineate the area of the Development (by red line boundary) and the general arrangements of the Proposed Development in outline form - commonly referred to as Form A works. The outline scheme is subject to further detail design by the contractor appointed by Nexus.

3.2 The plans/drawings comprise details of existing and proposed works and are cross referenced in the Details of Proposed Development in Section 4:

#### Location Plans and Red Line Boundary Drawings

- BB025-20200610-001 (2020 06 11)
- BB025-20200610-002(1) (2020 06 11)
- BB025-20200610-002(2) (2020 06 11)
- BB025-20200610-002(3) (2020 06 11)

Technical Note	Drawing Number
Bridges	10033113-ARC-00-XX-DR-CE-100001&2
Bridges	10033113-ARC-00-XX-DR-CE-200001&2
Bridges	10033113-ARC-00-XX-DR-CE-300001&2
Bridges	10033113-ARC-00-XX-DR-CE-400001&2
Stations	10033113-ARC-00-XX-DR-CE-500001
Stations	10033113-ARC-00-XX-DR-CE-500002
Stations	10033113-ARC-00-XX-DR-CE-500003
Stations	10033113-ARC-00-XX-DR-CE-500004
Stations	10033113-ARC-00-XX-DR-CE-500005
Stations	10033113-ARC-00-XX-DR-CE-500006
Stations	10033113-ARC-00-XX-DR-CE-600001
Stations	10033113-ARC-00-XX-DR-CE-600002

Stations	10033113-ARC-00-XX-DR-CE-600003
Stations	10033113-ARC-00-XX-DR-CE-600004
Earthworks & Signalling Structures	10033113-ARC-00-XX-DR-CE-700011 to 70044
Overhead Line	10033113-ARC-00-XX-DR-OL-10009 to 100013
Track and Track Drainage	10033113-ARC-00-XX-DR-RT-000004
Track and Track Drainage	10033113-ARC-00-XX-DR-RT-000005
Track and Track Drainage	10033113-ARC-00-XX-DR-RT-000006
Signalling	10033113-ARC-00-XX-DU-MS-RS-000001&2

#### 4. DESCRIPTION OF PROPOSED DEVELOPMENT

##### Description of Proposed Development

- 4.1 With reference to the general arrangements as shown on the plans and drawings detailed in Section 3 of this Note, the description of Proposed Development to be carried out and thereafter operated within the boundary of the Plans, forming the scope of the Proposed Works in the CLOPUD application comprises:
- 4.1.1 Demolition and removal of materials, waste and apparatus
  - 4.1.2 Site clearance including removal of trees and vegetation;
  - 4.1.3 Use of areas for laydown/compound/temporary storage of materials/waste;
  - 4.1.4 Track realignment;
  - 4.1.5 Track lowers;
  - 4.1.6 Platform extension(s) at Hebburn Station;
  - 4.1.7 Platform reduction works at Jarrow Station;
  - 4.1.8 All associated earthworks;
  - 4.1.9 All associated track drainage;
  - 4.1.10 Installation of new and replacement signalling;
  - 4.1.11 Installation of new and replacement Overhead Line Equipment (OLE);
  - 4.1.12 All associated electrical connections;
  - 4.1.13 Boundary treatment including temporary removal and replacement of fencing and gates;
  - 4.1.14 Replacement landscaping;
  - 4.1.15 Bridge strengthening repairs; and
  - 4.1.16 All associated enabling and other engineering works.
- 4.2 Bridge strengthening repairs are essentially maintenance to ensure the integrity of the structure remains suitable for on-going operation of the railways in conjunction with the

Proposed Development. The works are expected for the most part to comprise like for like repair or to be of a nature that they will not alter the external appearance of the existing bridge(s) and as such may not amount to operational development under Section 55(2)(a)(ii) of the Town and Country Planning Act 1990. These works are nonetheless included in the Description of Development in an abundance of caution.

- 4.3 All of the Proposed Development is expected to be carried out within the existing operational boundary of the railway. Materials, waste, vehicles and employees/contractors of/on behalf of Nexus will arrive at, visit, be kept on and removed and/or leave the site boundary (as relevant) as part of the construction phase. During the operational phase the Proposed Development will be visited by employees or contractors in vehicles or on foot (with or without plant and machinery) to inspect, maintain and repair the works.
- 4.4 The final layout and design of the Proposed Development will be determined by the appointed contractor but will otherwise be required to be carried out within the operational red line boundary shown on the drawings/plans. Any other development will be the subject of separate applications for planning approval as is necessary.

#### **Works not included in the Description of Proposed Development**

##### *Track access for construction and operation*

- 4.5 As explained at Paragraph 2.10, the Proposed Development will utilise existing tracks and accesses without the need for any operational development and are therefore excluded from the Proposed Development. Details of the accesses that are currently anticipated to be used in conjunction with the Project are set out in a detailed Technical Note in Appendix 2 (see Paragraph 4.12 below).

##### *Other Compounds/Laydown Areas*

- 4.6 Part of the existing operational boundary includes two areas that will be used as laydown areas for the temporary storage of materials and waste as well as assembly of apparatus and works to be installed as part of the Proposed Development. A small area at Jarrow Station within the existing operational boundary may also be used for laydown and is included within the red line boundary. These areas are included in the Description of Proposed Development.
- 4.7 Use of other land (not identified on the plans/drawings or in the Detailed Technical Notes in Appendices 1 and 2) as temporary laydown and compounds are likely to be



required to deliver the Project. This will principally be a matter for the appointed contractor, if not Nexus, to determine and to promote any related applications for planning permission unless relying upon other PDR. Such additional areas will also include areas for temporary parking of vehicles for contractors/sub-contractors as well as delivery and loading/pick up. Such compounds may also be located adjacent to the operational boundary such that temporary track access can be taken directly. Other compounds would serve the Project via other existing accesses to track side. If any new accesses are proposed by the contractor, necessary planning approvals will be promoted. In summary, to the extent that accesses and compounds are to be created as part of the Project that are not existing or within or on the existing operational boundary, such works will be the subject of separate applications for planning permission, as is relevant and necessary.

- 4.8 Given the extent of pre-existing developed land surrounding the existing operational railway, there are limited pre-existing storage or operational compounds in existence or in all appropriate locations or of sufficient capacity to serve the whole of the Project without the promotion of other areas to be used during the construction phase. Given the extended linear nature of the Proposed Development, a number of smaller compounds are anticipated to be promoted for use to supplement a smaller number or single main compound site(s).
- 4.9 The final determination of compound options is invariably a product of availability of land that is suitable for temporary adaption and sufficiently proximate to the Proposed Development to be afford direct track access or is adequately serviced by road access to carry materials track side via one or more track accesses. All compounds will need to be sufficiently accessible by relevant classes of construction vehicles and/or will be subject to a suitable Construction Transport Management Plan to manage the classes and routeing of vehicles to and from the compounds to track accesses. New or improvement accesses to public highways from proposed compounds will be promoted at the same time including off-site highway improvements, if any are necessary.
- 4.10 Where possible, Nexus will look to contractors to utilise available parts of its operational car parks and other land for laydown/compounds, which also afford opportunities for direct track access. For example, it is presently anticipated that some use of parts of Hebburn and Jarrow Station car parks and other parts of these Stations may be used. However such use of these Stations is not included within the Description of Proposed Development at this stage. If required to be utilised by the appointed

contractor, they will be the subject of separate applications for consent, as is necessary, prior to their use in conjunction with the Proposed Development.

## **Further Details of the Proposed Development**

### Proposed use

- 4.11 The railway (and stations) the subject of the Proposed Development have been in unrestricted and unconstrained rail use for many years. Most of the section of track dates back to 150 years. Part of the junction at Pelaw was widened more recently by Nexus as part of the development of the Metro around 20 years ago. Proposed use by Nexus in conjunction with the Proposed Development would not result in a material change of the use of the railway, Stations or any other part of the railway. The Proposed Development is therefore limited to operational development and no approval for a material change in use of the operational land is expected or sought.

### Proposed operational development

- 4.12 The extent of each of the main activities comprising the Description of Proposed Development is set out in a series of more detailed summary technical notes, in Appendix 2 to the Appendices. They describe in more detail to the extent to which the outline scheme is expected to be carried out and requirements and status in terms of:
- 4.12.1 Design - with reference appropriate standards and any requirements;
  - 4.12.2 Quantum - with reference to the requirement for materials, impact of waste as summarised below in the "Materials and Construction Activity" subsection (set out further below);
  - 4.12.3 Scale - details of upper dimensions (i.e. building envelope);
  - 4.12.4 Layout – details of changes to the existing asset and with reference to drawings where relevant;
  - 4.12.5 Scope for deviation - details of any anticipated variation (i.e. micro-siting) as part of the detailed design exercise to be carried out by the appointed contractor; and
  - 4.12.6 Construction/Installation methods - details of potential methodology is described.

4.13 These summary notes should be read in conjunction with the drawings and plans cited in Section 3 and they are provided (Appendix 2) under the following headings:

- 4.13.1 Fencing and Vegetation;
- 4.13.2 Track (realignment and lowers);
- 4.13.3 Earthworks;
- 4.13.4 Track drainage;
- 4.13.5 Overhead Line Equipment (OLE);
- 4.13.6 Signalling;
- 4.13.7 Station works;
- 4.13.8 Bridge works; and
- 4.13.9 Construction access\*;

4.14 \*The note on Construction access is provided to explain details of the existing track and other accesses expected to be used as part of the Project. They do not however form part of the Proposed Development for reasons explained earlier in this Note.

#### **Materials and Construction Activity**

4.15 The precise quantum and type of materials required and waste generated for and by the Project will be dependent upon a number of factors including the final design, availability and the construction and installation methods chosen or determined to be appropriate by the appointed contractor.

4.16 The Project will generate the need for visits to the site by Nexus, the appointed contractor and its employees/sub-contractors during construction and to a much lesser extent during the operational phase (for inspection, maintenance and repairs). The number of estimated full time employees expected to be involved in the delivery of the Project is a matter for the appointed contractor. Employees and contractors may travel on foot, by public transport or vehicle (private and/or commercial vehicles).

4.17 The Project will therefore require the use of vehicles utilising the surrounding highway network including for the movement of people, materials, waste, plant and machinery to and from the site for working - from the surrounding areas or from compounds. The

precise quantum and class of vehicle movements will be dependent on a number of factors including final design, availability and the construction and installation methods chosen or determined to be appropriate by the appointed contractor. The frequency and timing of movements will be determined by the contractor's programme and any other statutory regime limitations.

- 4.18 These are not matters that are regulated by the conditions to the PDR under Part 18 Class A. Nonetheless, set out below (under the heading of "Indicative Materials and Movement Estimate") details are provided of Nexus' present estimates of material requirements for the Project and associated vehicle movements on a realistic worst case scenario basis. This is provided for information only and the final quantum of materials and vehicles is likely to be different but is not expected to be materially in excess of the forecasts. This will however be a matter for determination of the appointed contractor who will ordinarily look to for opportunities for efficiencies as part of value engineering.
- 4.19 In appointing a contractor, Nexus will seek confirmation and assurances from the contractor as to certain matters to ensure that it is operating as a responsible contractor including compliance with all relevant and necessary legislative or licenced codes of practice. It will also be for the contractor to agree with relevant authorities any associated codes of construction practice - such as a Code of Construction Practice (COCP) and/or Construction Traffic Management Plan (CTMP). However, these are matters that fall outside of the determination of the application of the PDR.

*Indicative Materials and Movement Estimate (for information only)*

*Materials/Waste*

- 4.20 The Proposed Development includes part demolition or removal of existing materials and apparatus - including the removal of the single line sections, existing OLE and signalling systems together with associated earthworks. This will generate multiple waste streams.
- 4.21 The Project also generates a requirement for new materials, such as ballast as well as new track and other rail infrastructure and apparatus. Such materials will invariably be brought to site via compounds, and may also be directly taken to site where direct track access is taken. The table below provides an example of the materials for one discipline, track, by way of example

**Metro Flow, PWay  
Measures**

	<b>Qty</b>	<b>unit</b>	<b>Spoil, t</b>	<b>Top Ballast, t</b>	<b>Bottom Ballast, t</b>	<b>Sleepers, nr</b>	<b>rail, m</b>	<b>Scrap sleepers</b>	<b>Scrap rail</b>
Cat F Renewal	4643	m	16852	6332	10286	6633	9286	6633	9286
CAT H TBTS	3832	m	5226	5226	0	0	0		
Skim / Lower	1040	m	4667	1418	3147	1486	0	1486	
Crossover removal	6	nr	5116						
CX13 Crossovers	5	nr		1282	2845				
CV24 Crossovers	1	nr		341	554				
DV10-75 Turnout	1	nr		245	405				
Isolated IBJ Install	10	nr					360		
Waybeam Timber Renewal	8	nr							
<b>Totals</b>			<b>31861</b>	<b>14844</b>	<b>17237</b>	<b>8119</b>	<b>9286</b>	<b>8119</b>	<b>9286</b>

4.22 An assessment of the total quantum of materials and waste has been used to generate an estimate of the number of associated vehicle movements.

4.23 A table is provided below which summaries the likely vehicle movements related to materials being removed from site and those being delivered to site. The table distinguishes those materials movements required for the direct construction of the works and an estimate of movements expected to be required in conjunction with the compounds. This is to provide a fuller understanding of the movements of the Project. There is also an allowance for the movement of materials from compounds to access points to track side or between compounds (intra-site movements) which will most likely be the case for high value or fragile materials which need to be controlled centrally from a smaller number of main compounds. The numbers in the table do not include figures for any take-off of waste materials at take-off for the station works at Hebburn and Jarrow. However, this material is not expected to generate additional movements in excess of about 5% of the total predicted trips set out in the table, and is therefore considered to be within a natural tolerance level, noting that these figures

are expected to be on the upper end of those generated - yet to be adjusted downwards by value engineering and detailed programming and project management.

<b>Materials</b>	<b>Removal Off-site</b>		<b>Delivery to site</b>		<b>Total Movements</b>
	<b>Rigid</b>	<b>Articulated</b>	<b>Rigid</b>	<b>Articulated</b>	
<b>Vehicle Movements</b>					
<b>Works related</b>	1358	127	1748	459	<b>3692</b>
<b>Compound related</b>	1475	0	1475	0	<b>2950</b>
<b>Intra-site</b>	136	13	175	46	<b>369</b>
<b>Total Movements</b>	<b>2969</b>	<b>140</b>	<b>3398</b>	<b>505</b>	<b>7011</b>

4.24 The appointed contractor will be expected as part of responsible construction practice and in line with appropriate standards to maximise the opportunities during the works to:

4.24.1 implement purchasing strategies or methods of work aimed at reducing waste;

4.24.2 investigate the on-site reuse or recycling of site-gained materials; and

4.24.3 minimise the disposal of waste to landfill by segregating waste to maximise recycling opportunities.

4.25 At this stage in the Project, a detailed strategy for material and waste management is not settled and so the table above outlines the potential movements (on a realistic worst case basis) associated with the removal of waste and movement of materials to site required for the Project.

*Other vehicle movements*

4.26 In addition to vehicle movements required for materials and waste, other drivers of vehicle movements have been assessed as part of the Project to include:

4.26.1 Plant deliveries/ collections directly to and from site access points;

4.26.2 Staff (employees, sub-contractors) travelling to and from work – Journeys for individuals coming to work/ leaving work which are assumed will be car based;

4.26.3 Compound servicing – Visits for cleaning, office supplies, waste collection etc. assumed by van;

4.26.4 Intra site journeys – This covers the movement of plant and materials by lorry from compound to site, dispersal of workforce by van and site visits by staff using car. It assumes:

4.26.4.1 Hi value plant/ materials will be stored at a main compound for security reasons and "double handled" out to remote site access points;

4.26.4.2 All personnel will sign in/out a main compound regardless of work location;

4.26.4.3 Labour will be transported to discrete work sites by mini-bus where possible to reduce parking pressure at site access points; and

4.26.4.4 Supervisory staff and managers will park locally at site access points to allow management of multiple worksites.

4.27 The table below summaries the estimated total of all vehicle movements for the Project based on the above assumptions.

<b>Vehicle Movements</b>	<b>Rigid</b>	<b>Articulate</b>	<b>Van</b>	<b>Car</b>	<b>Total</b>
<b>Works related</b>	3107	960	0	0	<b>4067</b>
<b>Compound related</b>	4613	90	2728	29260	<b>36691</b>
<b>Intra-site</b>	311	59	23040	23040	<b>46449</b>
<b>Total</b>	<b>8030</b>	<b>1109</b>	<b>25768</b>	<b>52300</b>	<b>87206</b>

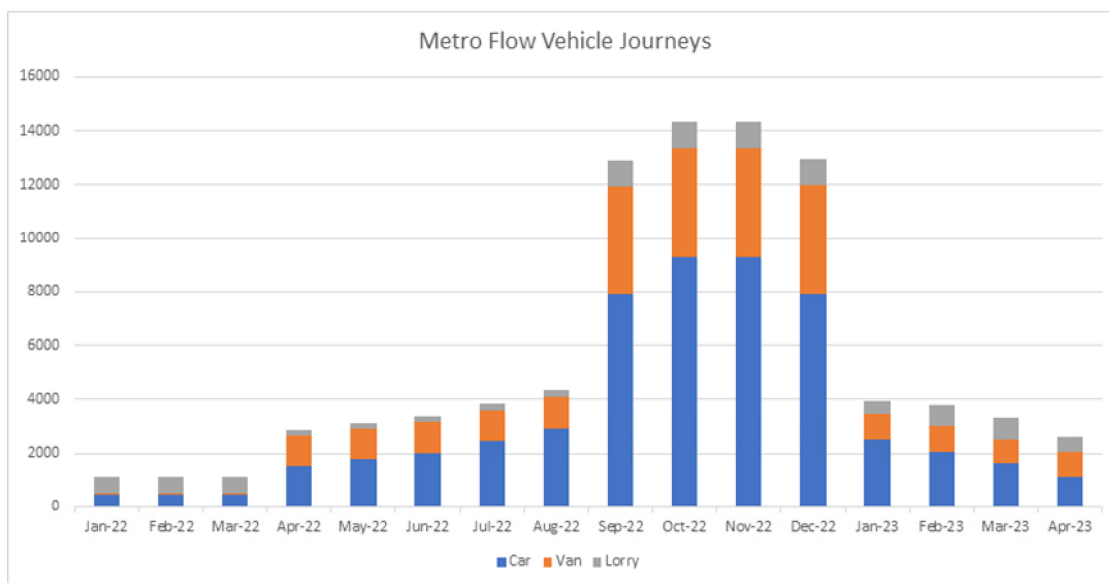
4.28 The overall total estimated vehicle movements associated with the construction period of the Project are calculated at this stage to be in the order of 87,206. The construction period will be determined by the appointed contractor's programme and further detailed consideration. However, at this stage the Project is expected to be awarded in Autumn 2021 with works commencing to establish compounds later in that year. Construction works will commence in early 2022 culminating in a circa 12 week blockade of the tracks September-Dec 2022. Follow up/ demobilisation works is expected to be completed in Spring 2023.

- 4.29 Vehicle movements will not occur at the same time and will dispersed across the programme and different parts of the road network, noting the particularly linear nature of the Project. A table and chart showing anticipated activity levels during the construction period is shown below to provide an indication of the spread of vehicle movements over the indicative programme.
- 4.30 A peak is expected to occur during the period of blockade works where it is assumed that approximately 70% of the site work will be completed, with 20% prior to the blockade and 10% post blockade.
- 4.31 The high proportion of car journeys link to people travelling to and from work and the intra-site journeys. Van journeys are mainly intra -site and light works. There will be some overlap between car and van journeys where people are travelling to and from work in a van, however it is assumed that all journeys to work are by car. These numbers are however expected to reduce with workers utilising public transport, car sharing and making journeys on bike or foot, During the blockade, the Metro itself will not be in operation in this area.
- 4.32 The higher proportion of lorry journeys at the start and end of the works is due to the construction and removal of hardstanding expected to be required to establish and remove compounds.
- 4.33 5 day working is generally anticipated during the works with 7 day working during the blockade. At the peak (during blockade), the average daily movements across the Project is not expected to exceed approximately 460, the majority of which will be a worst case assessment of car borne journeys of worker travelling to and from work. Of that number only approximately only 30 daily movements will be by long wheel based vehicles/lorries.

	Compound Establishment			Enabling Works				
	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	Jul-22	Aug-22
<b>Car</b>	460	460	460	1516	1746	1976	2436	2896
<b>Van</b>	69	69	69	1125	1125	1148	1171	1194
<b>Lorry</b>	571	571	571	212	212	235	258	258
<b>Total</b>	1100	1100	1100	2853	3083	3359	3865	4348



	Blockade				De-mobilise				
	Sep-22	Oct-22	Nov-22	Dec-22	Jan-23	Feb-23	Mar-23	Apr-23	Sep-22
<b>Car</b>	7920	9300	9300	7920	2500	2040	1580	1120	7920
<b>Van</b>	4010	4056	4056	4056	936	936	936	936	4010
<b>Lorry</b>	941	964	964	964	528	799	799	528	941
<b>Total</b>	12871	14320	14320	12940	3964	3775	3315	2584	12871



## **5. OTHER MATTERS**

### **Habitat Regulations**

- 5.1 As part of reliance on the PDR, Article 3(1) of the GPDO makes it a requirement that none of the Proposed Development takes place before confirmation is secured from the local authority concluding no effects on integrity of European sites for the purposes of the Conservation of Habitats and Species Regulations 2010.
  
- 5.2 Nexus has, already carried out an informal screening process in consultation with Natural England. Nonetheless Nexus or its contractor will provide details to the local authority to satisfy this requirement prior to commencement of development. to enable the local authority to carry out appropriate assessments so as to provide the necessary confirmation.