



Proposed Battery Storage Facility Land at Newburn Haugh, Newcastle upon Tyne

Transport Statement

Prepared for



Balance Power

September 2024
3354-01-TS01



Document Control

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1.0 INTRODUCTION

1.1 Purpose of This Report

- 1.1.1 Axis has been appointed by Balance Power Projects Ltd (hereafter referred to as 'the applicant') to provide highways and transportation advice to accompany a planning application to install and operate a Battery Storage Facility (hereafter referred to as 'BSF' or 'Proposed Development'), associated infrastructure on land at Newburn Haugh Industrial Estate, Newburn, Newcastle upon Tyne (hereafter referred to as 'the Site'). The proposed Site Layout Plan is included as **Appendix A**.
- 1.1.2 The purpose of this Transport Statement (TS) is to inform the Local Planning Authority (LPA) and the Local Highway Authority (LHA) of the anticipated highways and transportation matters associated with the Proposed Development. The relevant LPA and LHA in this context is Newcastle City Council (NCC).
- 1.1.3 The BSF is only anticipated to give rise to very occasional vehicle movements once operational, as a result of routine maintenance requirements (approximately once a week or on a bi-weekly basis), likely to involve the use of a small van or pickup. Primary transport-related effects would therefore be associated with the construction stages of the Proposed Development, which is anticipated to occur over a relatively short period of time. On this basis, this TS includes a review of existing local highway conditions, a review of the proposed site access arrangements, and an assessment of any anticipated impact that the construction of the BSF scheme may result in.
- 1.1.4 This TS has been prepared in accordance with national and local planning policy and guidance.

1.2 Report Structure

- 1.2.1 Following this introductory section, the structure of this TS is as follows:
- i) **Chapter 2** describes the existing highway conditions on and around the site, including reference to the local highway network, and a review of the accident record;
 - ii) **Chapter 3** sets out the development proposals, including a description of the site access arrangements;



- iii) **Chapter 4** sets out the anticipated trip generating potential of the scheme on the local highway network; and
- iv) **Chapter 5** provides the summary and conclusions.



2.0 EXISTING CONDITIONS

2.1 Introduction

- 2.1.1 This section of the TS describes the existing conditions on and around the Site, focussing on the site location, its existing use, access arrangements and the local highway network, including the recent accident history.

2.2 Site Location and Existing Use

- 2.2.1 The Site is located on land to the east of Riversdale Way in Newburn, Newcastle upon Tyne, approximately 240m south of the A6085 Northumberland Road. The site is located adjacent to the Newburn Haugh Industrial Estate, approximately 6.5km west of Newcastle City Centre.
- 2.2.2 The Site is approximately 0.8 hectares in area and comprises waste ground formerly used as a landfill for industrial waste associated with the former Stella North power station. The Site is bound to the north, west and south by industrial and commercial uses which form part of the Newburn Haugh Industrial Estate, and to the east by the Lemington Gut watercourse.
- 2.2.3 The location of the Site is shown on **Image 2.1**.



Image 2.1 – Site Location



2.3 Description of Site and Local Highway Network

- 2.3.1 Vehicular access into the site is currently obtained from Riversdale Way via a gated access located at the south-western corner of the Site. Riversdale Way connects to the A6085 via a priority junction approximately 600m north-west of the Site.
- 2.3.2 It is proposed to form a more direct vehicular access from the A6085 by creating a new access route which will connect to an existing access road which currently serves the Stanegate Stoves showroom and Pringles Automotive car repair yard. This access road connects to the A6085 via a priority junction located approximately 300m north-west of the Site.

2.4 Local Highway Network

A6085 Northumberland Road

- 2.4.1 The A6085 Northumberland Road is a two-way, single carriageway road which runs in an approximate south-east / north-west orientation. It provides a connection to Newcastle City Centre from the settlements of Throckley, Newburn and Lemington.
- 2.4.2 In the vicinity of the Site, Northumberland Road has a carriageway width generally of approximately 7m, although this widens to approximately 9m to the east of the

proposed site access junction to facilitate two lanes on the eastbound approach to the A6085 Northumberland Road / Tyne View mini roundabout junction approximately 65m east of the proposed access junction.

2.4.3 Footways approximately 1.2m in width are present along both sides of the carriageway. The road is subject to a 40mph speed limit and street lighting is present.

2.4.4 Vehicular access to the Site during both the construction and operational phases is proposed to be taken from the A6085 via the existing Stanegate Stoves access road. The implications of this are considered in more detail later in this TS.

Stanegate Stoves Access Road

2.4.5 An access road forming a priority junction with the A6085 has been present at this location for several decades, originally serving as an access to the Lemington Glassworks site, and currently providing access to the Stangate Stoves fireplace showroom, which is located on the site of the former glassworks.

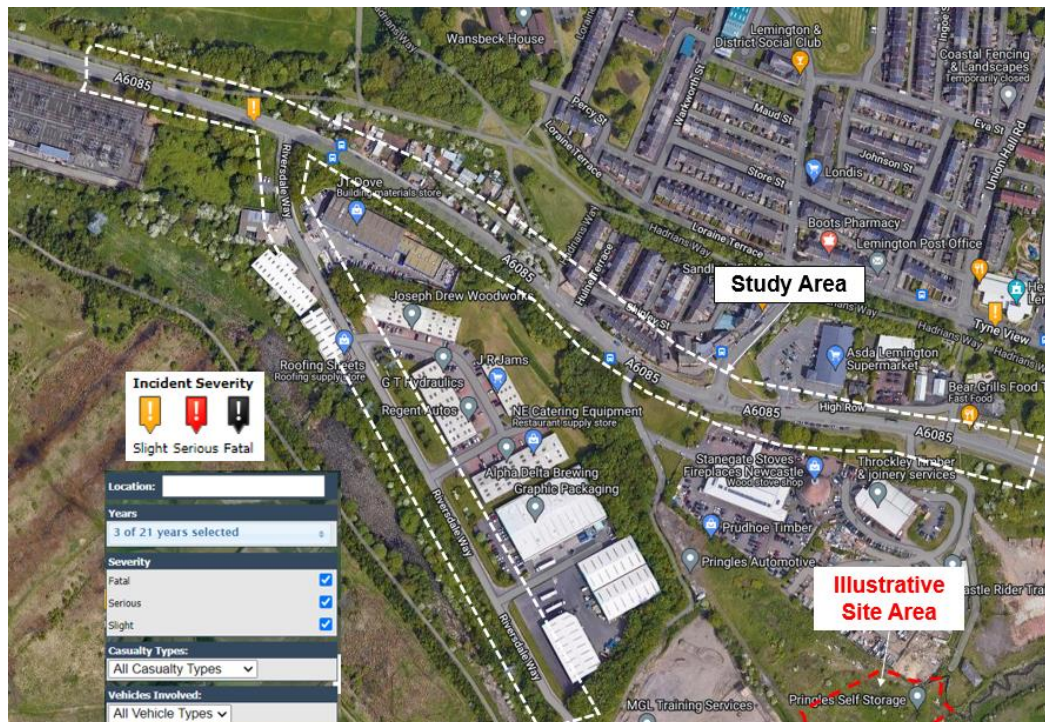
2.4.6 The access road has a carriageway width of approximately 6m and runs in a north-west / south-east orientation with a length of approximately 100m. Street lighting is present but there are no footways on either side. The south-eastern end of the access road currently terminates at the entrance to the Pringles Automotive car repair site.

2.5 Highway Safety

2.5.1 Personal Injury Accident (PIA) data for the highway network in the vicinity of the Site has been obtained from the online CrashMap resource¹. Data was extracted for the most recently available three-year period which is from 2019 to 2021 inclusive. The location and severity of the accidents are shown on **Image 2.2**.

¹www.crashmap.co.uk

Image 2.2 – Road Safety Plan



2.5.2 **Image 2.2** demonstrates that during this three-year period only one accident occurred on Northumberland Road in the vicinity of the Site. This occurred close to the junction with Riversdale Way and was classified as 'slight'. No accidents were recorded in proximity to the proposed site access junction.

2.5.3 Overall, the accident record along the A6085 Northumberland Road and Riversdale Way in the vicinity of the Site is good and does not therefore represent a cause for concern in the context of the Proposed Development.

2.6 Baseline Traffic Data

2.6.1 Baseline traffic flow data for the local highway network has been obtained from a permanent Department for Transport (DfT) automatic traffic count (ATC) site located on the A6085 approximately 1.25km north-west of the Site (site number 37857). This data shows a two-way average annual daily flow of approximately 6,700 vehicles in 2021. This represents a decrease of approximately 15% compared to the pre-Covid19 level of flow, with approximately 7,850 two-way movements being recorded in 2019.

3.0 PROPOSED DEVELOPMENT

3.1 Development Scheme

3.1.1 A detailed description of the Proposed Development, including its construction and operation, is provided in Section 3.0 of the Planning Statement, whilst the Site Layout Plan (**drawing ref: 062-PL-NE158SG-101_RevJ**, contained within **Appendix A**) illustrates the proposal, as summarised below:

- i) 28no. containerised battery and inverter units, with each pair of containers supported by a transformer;
- ii) A substation (including Transformer, disconnector and circuit breaker) within its own fenced compound;
- iii) A storage building, a control room / welfare building, and a Distribution Network Operator (DNO) room situated centrally within the Site;
- iv) All of the above infrastructure would be surrounded by fencing with matching gates, and CCTV; and
- v) A new gravel access track between the compound and the southern end of the Stanegate Stoves access road.

3.1.2 The point of connection to the electricity grid would be at the Newburn Haugh Primary Substation. The substation is located approximately 200m to the south-west of the Site. The connection would be constructed in existing roadways by a statutory undertaker under permitted development rights, and therefore this element of the scheme is not included within the planning application.

3.1.3 Planning permission for the Proposed Development is being sought on a temporary basis for 40 years (at point when development first becomes operational). Following this timeframe, and the cessation of energy operations, the infrastructure would be removed, and the Site restored to its present use and condition.

3.1.4 The Proposed Development would store power from the electricity transmission network (i.e. the grid) at times of excess supply and would feed this power back into the grid at times of high demand / reduced generation capacity. The Proposed Development is referred to by NG as a 'balancing service', as it would assist in balancing grid frequency at times of system stress.



- 3.1.5 The Proposed Development would provide a flexible back-up power source to the grid and can respond rapidly to variations that result from a local and national energy demand, alongside increasing fluctuations in generation resulting from an ever-greater use of intermittent renewable energy sources. Accordingly, the Proposed Development would contribute towards ensuring that there is a reliable and constant supply of electricity across the grid. Full details regarding the operation and need for the Proposed Development is contained within Sections 3.0 and 4.0 of the Planning Statement.

3.2 Site Access Arrangements

- 3.2.1 During both the construction and operational phases, the Site would be accessed from the A6085 Northumberland Road, as shown on **Drawing 3354-01-D01_RevC (Appendix B)**. The A6085 provides a route to the wider highway network at the A1 Junctions 73 and 74, approximately 1km to the east of the Site, via a short stretch of the A695. This access route is also anticipated to be used for maintenance requirements once operational.
- 3.2.2 Access to the BSF would be via the existing Pringles Automotive site located at the north-western corner of the Site. A gravel track will be constructed to connect this access to the Site. A set of double leafed gates located on the north-western edge of the compound will provide access to the Site itself. There is sufficient space within the Pringles Automotive site to allow construction vehicles to turn round in order to exit the site in forward gear. An area of hardstanding will also be provided within the Site compound to allow construction vehicles to turn round.
- 3.2.3 The extent of visibility available from the proposed site access junction is illustrated on **Drawing 3354-01-D01_RevC** in **Appendix B**. In the vicinity of the proposed site access junction, Northumberland Road is subject to a 40mph speed limit. Based on the stopping sight distances (SSD) set out in the Design Manual for Roads and Bridges (DMRB CD109), this would equate to a desirable minimum visibility splay of 120m, with an absolute minimum visibility splay of 90m.
- 3.2.4 **Drawing 3354-01-D01_RevC** demonstrates that a 2.4m x 90m visibility splay is available in both directions at the junction, in accordance with DMRB absolute minimum standard.

- 3.2.5 **Drawings 3354-01-ATR01_RevD and 3354-01-ATR02_RevD in Appendix C** illustrate swept path assessments of the Site access connection during the construction and operational phases, respectively.
- 3.2.6 This demonstrates that during the construction phase large vehicles such as rigid or articulated HGVs are able to access the Site from the A6085 Northumberland Road via the existing Stanegate Stoves access road. It is proposed that a temporary construction compound / HGV turning area will be provided within the Site boundary, either located within the Site compound or utilising the existing Pringles Automotive site area, which will allow vehicles to unload, turn round and exit back towards Northumberland Road.
- 3.2.7 It is proposed that further details of the proposed Site access, and / or any requirements for construction traffic management, would be outlined in greater detail within any Construction Environmental Management Plan (CEMP) associated with the Proposed Development, of which a Construction Traffic Management Plan (CTMP) would form a part.
- 3.2.8 The swept path assessment demonstrates that during the operational phase, the proposed internal access track is suitable to allow a 3.5t panel van to access all areas of the Site, turn around, and egress the Site in forward gear without issue.

3.3 Construction and Operation

Construction Phase

- 3.3.1 Construction of the Proposed Development is anticipated to be straightforward, and would comprise:
- i) Construction of Site access track;
 - ii) Stripping of topsoils and laying a permeable geotechnical membrane, such as Terram, upon which gravel would be placed to form the Site compound;
 - iii) Constructing the shallow foundations for the infrastructure and installing the boundary fencing and associated gates;
 - iv) Installation of battery storage containers and ancillary items (i.e. Transformers, sub-station and communications room, etc.), which would all arrive as pre-modular units; and

v) Completion of all electrical engineering connections.

- 3.3.2 Given that many of the elements would arrive at the Site as pre-modular units, the construction phase is anticipated to be fairly limited in terms of timescales and could be complete in approximately 10-12 months.

Operational Phase

- 3.3.3 During the operational phase, the Proposed Development would be operated remotely and the system of communication between the grid and the facility is fully automated. As operations are fully automated, it would only be necessary for an operative to undertake a Site visit once a week or on a bi-weekly basis. This would be undertaken by an operative who would gain access as described previously, using a small van, pickup or equivalent vehicle.

4.0 TRAFFIC GENERATION

4.1 Introduction

- 4.1.1 As noted above, operation of the facility is only likely to require an operative to undertake a Site visit once a week or on a bi-weekly basis, with maintenance operatives arriving at the Site in a pickup vehicle or similar. Operational phase traffic generation would therefore be minimal.
- 4.1.2 Peak trip generation would therefore be associated with the construction of the Proposed Development, albeit any such period of trip generation would clearly be temporary for only a relatively short length of time.
- 4.1.3 The anticipated trip generation associated with the construction of the Proposed Development has been estimated from first principles, based on experience of having promoted other BSF sites nationally and from information supplied by the Applicant.

4.2 Trip Generation during the Construction Period

- 4.2.1 In total, the construction schedule of the development proposals would be approximately 40-52 weeks. Construction activities would take place for 5.5 days per week. This period would include for Site and access preparation, construction / installation of the BSF, and any final Site remediation.
- 4.2.2 The following assumptions have been made for each stage of the project's construction:

Enabling Works

- i) Would include Site clearance, stripping of soils / creation of bunds (using the excavated material), construction of Site access / internal access track, surfacing of Site area and setup of Site compound;
- ii) Anticipated to last a total of approximately 8 weeks; and
- iii) Up to 230 HGV trips expected (460 two-way movements – calculation detailed further below).

Main Construction Phase

- i) Would include for all civils work such as pouring of foundations, cutting of any trenches and laying of ducting, installation of battery storage containers and equipment, and installation of cabling and Northern Power Grid grid connection;
- ii) Anticipated to last up to 22 weeks; and
- iii) Based on the dimensions of each individual battery container, a standard 16.5m articulated HGV could accommodate a payload of up to 9 units. Assuming a single HGV trip for each of the Transformer units and ancillary equipment, up to 140 HGV delivery trips are expected (280 two-way movements) during this phase of construction.

Post-Construction

- i) Would include for installation of fencing and CCTV equipment, removal of welfare facilities, and any remedial landscaping works;
- ii) Anticipated to last a total of approximately 10 weeks; and
- iii) Up to 40 HGV delivery / collection trips expected (80 two-way movements).

4.2.3 Review of the above information identifies that construction and implementation of the Proposed Development is anticipated to take between 40-52 weeks and could give rise to 375 HGV trips (750 two-way movements) over the whole period.

4.2.4 Peak HGV trip generation would likely occur during the enabling works stage. Over this enabling works stage up to 230 HGV trips (460 two-way movements) are expected over an 8-week period. Assuming construction takes place over 5.5 days per week, there would therefore be a minimum of 44 working days during the enabling works stage. Accordingly, HGV trips could stand at a maximum of approximately 5 per day (10 two-way movements). Calculation of the peak HGV construction requirements is outlined in further detail in **Table 4.1** below.



Table 4.1 – First Principles Trip Generation

	Track	Rest of Site to be surfaced
Site Area to be surfaced:	1,470m ²	6,130m ²
Construction depth:	450mm	300mm
Total volume of hardcore:	662m ³	1,839m ³
At a density of 1.8t per m ³ , total hardcore tonnage:	1,191t	3,310t
HGVs (20t – 8-wheel tippers)	60	166
Accordingly, there could be a total of:	226 HGV trips	
Therefore, accounting for deliveries of geotextile and other ancillary materials up to 230 HGV trips could therefore be expected during the enabling phase works.		

- 4.2.5 In addition to the anticipated maximum of 5 daily (10 two-way) HGV trips to the construction site, there would also be a small number of staff trips and deliveries / collections made by cars / LGVs. It is expected that these trips would average 10 per day (20 two-way movements). During the peak period for HGV movements (the enabling phase) there could therefore be up to 15 vehicle trips per day, equating to 30 two-way movements (15 in and 15 out).

4.3 Development Traffic Distribution

- 4.3.1 During the construction phase it is expected that all traffic would travel to the site from the A1, and depart in the same direction. As such vehicles would turn left in and right out of the proposed access onto Northumberland Road. During the operational phase the maximum vehicle size that would require access to the Site would be a large van, so the access route for maintenance requirements could be from either direction along Northumberland Road.

4.4 Trip Generation Summary

- 4.4.1 Given the limited number of daily movements (i.e. a maximum of 15 arrivals and 15 departures per day over the initial period of enabling works, and much less for the remaining construction period), it is considered that with the implementation of a CTMP, the Proposed Development would not result in any issue in relation to highway capacity or safety.

5.0 SUMMARY AND CONCLUSIONS

5.1 Summary

- 5.1.1 This TS has been prepared by Axis in support of a planning application made by Balance Power Projects Ltd for the development of a Battery Storage Facility, along with associated infrastructure, located on land at Newburn Haugh Industrial Estate, Newcastle upon Tyne.
- 5.1.2 The application Site is located approximately 240m south of the A6085 Northumberland Road, and 6.5km west of Newcastle City Centre. The point of connection to the grid would be at the Newburn Haugh Primary Substation located 200m southwest of the Site. The Site of the BSF comprises waste ground formerly used as a landfill site for the disposal of industrial waste associated with the former Stella North power station.
- 5.1.3 Analysis of accident data indicates that only one accident has been recorded on the local highway network within the most recently available 3-year period. No accidents were recorded along Northumberland Road in the immediate vicinity of the proposed site access junction. Therefore, the existing accident record does not present a material concern in the context of the Proposed Development.
- 5.1.4 Access to the BSF during both the construction and operational phases would be from the A6085 Northumberland Road via the existing Stanegate Stoves access road and through the site currently occupied by the Pringles Automotive car repair yard. A gravel track would be constructed to connect this access to the Site. A set of double leafed gates located on the north-western edge of the compound will provide access to the Site itself. There is sufficient space within the Pringles Automotive site to allow construction vehicles to turn round in order to exit the site in forward gear. An area of hardstanding will also be provided within the Site compound to allow construction vehicles to turn round.
- 5.1.5 During the construction phase, it is anticipated that all traffic would approach the Site from the A1 to the east via the A6085 and A695, and as such would turn left in and right out of the proposed site access onto the A6085 Northumberland Road. During the operational phase, the Proposed Development would be operated remotely, and



it would only be necessary for an operative to undertake a Site visit on a monthly basis. This would be undertaken using a small van, pickup or equivalent vehicle.

5.1.6 This TS assesses the traffic generation of the construction phase only, which would take place over an anticipated timeframe of between 10-12 months. Once operational, trips to the Site would be limited to the occasional LGV accessing the Site for maintenance purposes.

5.1.7 The anticipated trip generation associated with the construction of the BSF development has been estimated from first principles, based on experience of having promoted other BSF sites nationally and from information supplied by the Applicant.

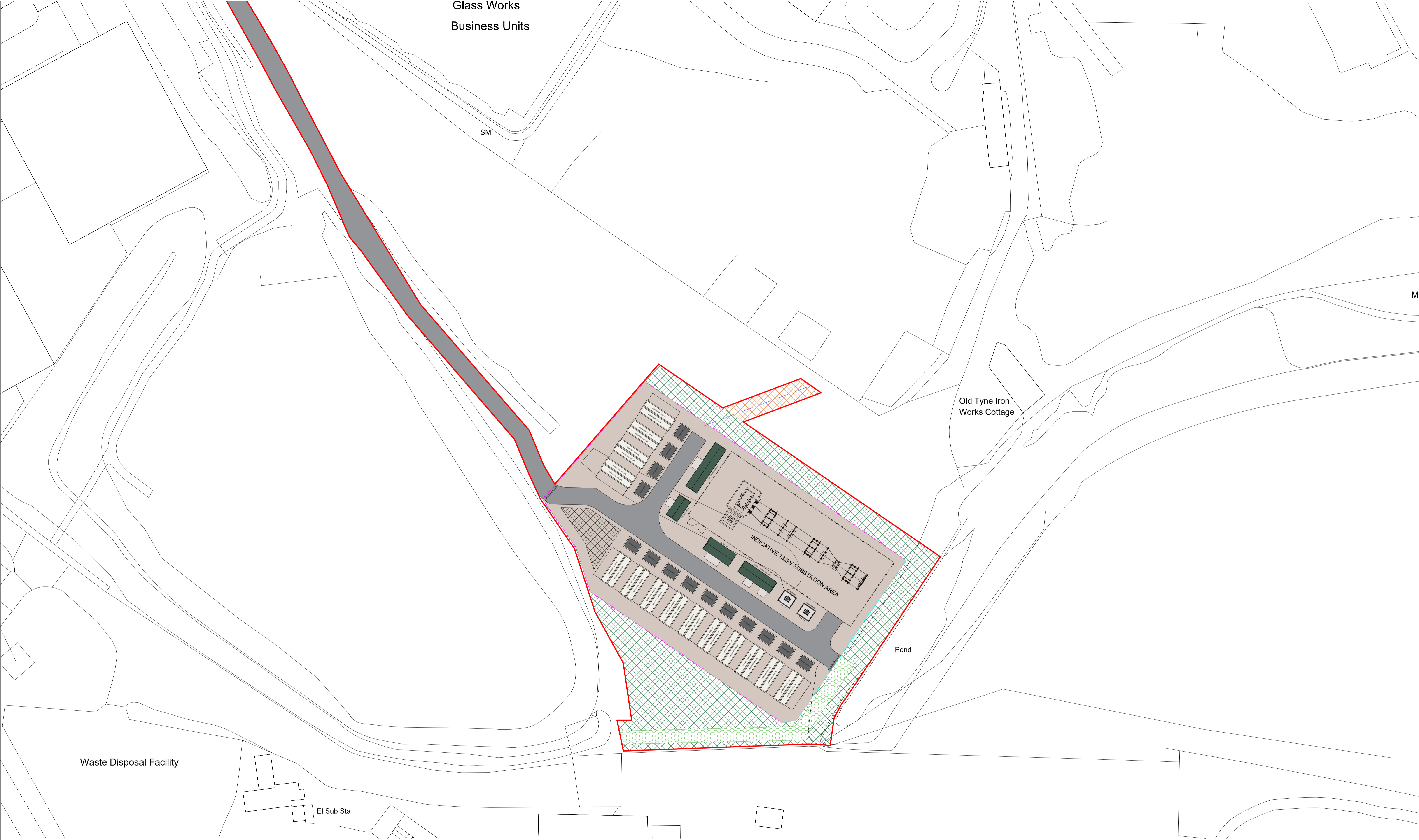
5.1.8 The full period of construction is anticipated to last around 40-52 weeks, with 5.5 construction days per week. Peak construction activity (in terms of vehicle numbers) would occur during the enabling phase, when daily traffic levels are estimated to be a maximum of 15 vehicles per day, including 5 HGV trips. This equates to 30 daily two-way movements, which will include a maximum of 10 two-way HGV movements per day. Such traffic levels are unlikely to give rise to any material issues on the local highway network. Moreover, such levels of HGV traffic would not be maintained over any lengthy period of time.

5.2 Conclusion

5.2.1 Having regard to the above, it is therefore concluded with regard to the proposed development of a Battery Storage Facility on land at Newburn Haugh Industrial Estate, Newcastle upon Tyne, there can be no highway or transport reasons to withhold planning permission for the scheme.

Appendix A – Proposed Site Layout Plan





GENERAL
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ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SPECIFIED
THIS DRAWING DOES NOT DEFINE THE SCOPE OF SUPPLY

NOTES
(1) N/A

EQUIPMENT LIST
BATTERY CONTAINERS
INVERTER & TRANSFORMER MODULES
DNO ROOM
TRANSFORMERS
PRIVATE SUBSTATION
WELFARE & CONTROL ROOM
STORAGE ROOM

PROJECT NUMBER
062 - PL - NE158SG - 101

PROJECT TITLE
NEWBURN HAUGH

PROJECT ADDRESS
NEWBURN HAUGH - NE15 8SG

DATE
05/08/2024

PROJECT TYPE
ENERGY DEVELOPMENT

DRAWING TYPE
PROPOSED PLAN

DESIGNER
C. VICK

CHECKED BY & APPROVED BY
R. MACINDOE

SCALE
1:1250

REVISION
REV J

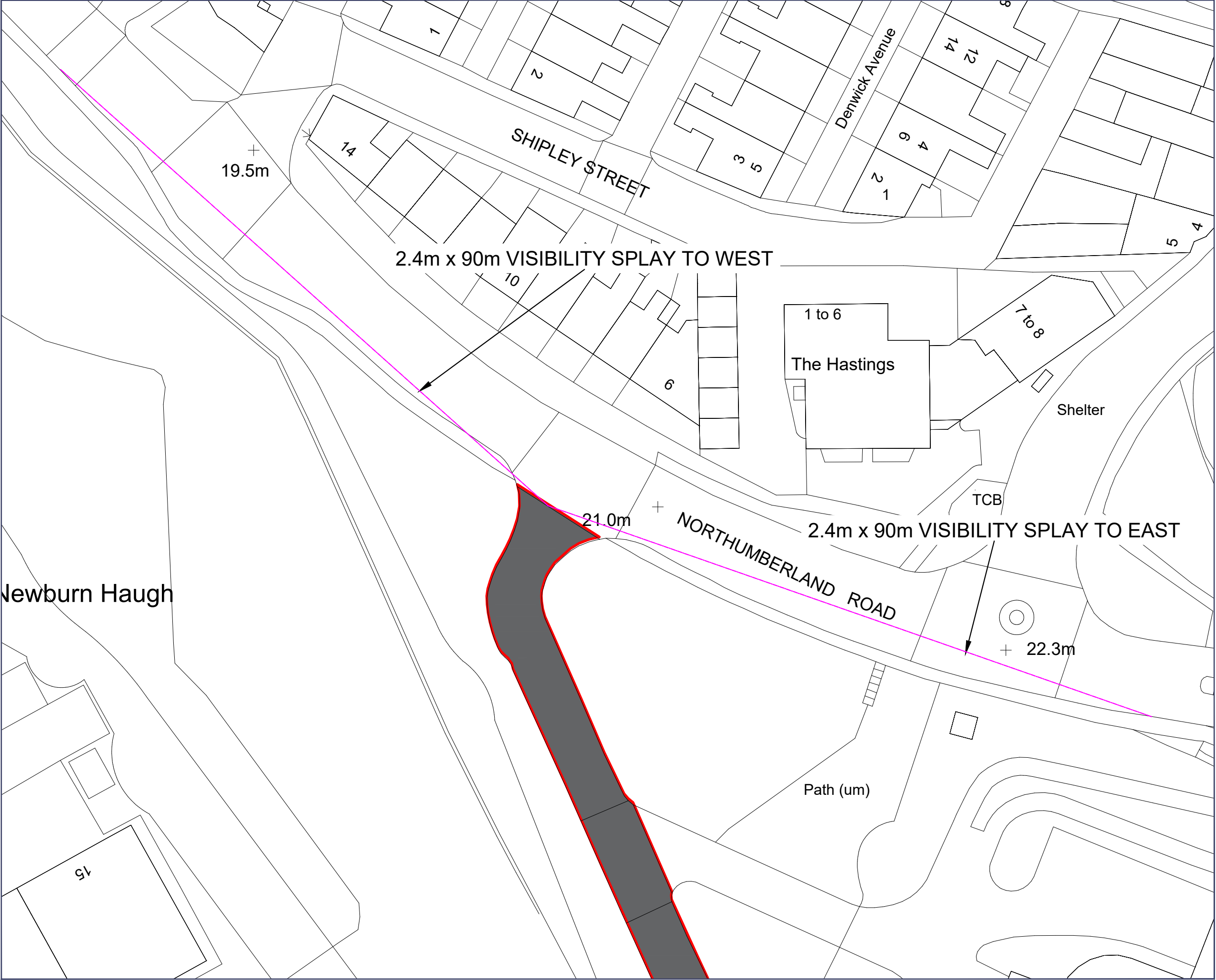
PAPER SIZE
A1



DRAWING PURPOSE
PLANNING

Appendix B – Drawing No. 3354-01- D01_RevC (Visibility Splays)





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Client

BALANCE POWER

Project

NEWBURN HAUGH BSF

Drawing Title

**PROPOSED SITE ACCESS
JUNCTION - VISIBILITY SPLAYS**

Scale

1:500 @A3

Date

March 2023

Dwg no

3354-01-D01

Status

Planning

Drawn Checked

DC AB

Rev

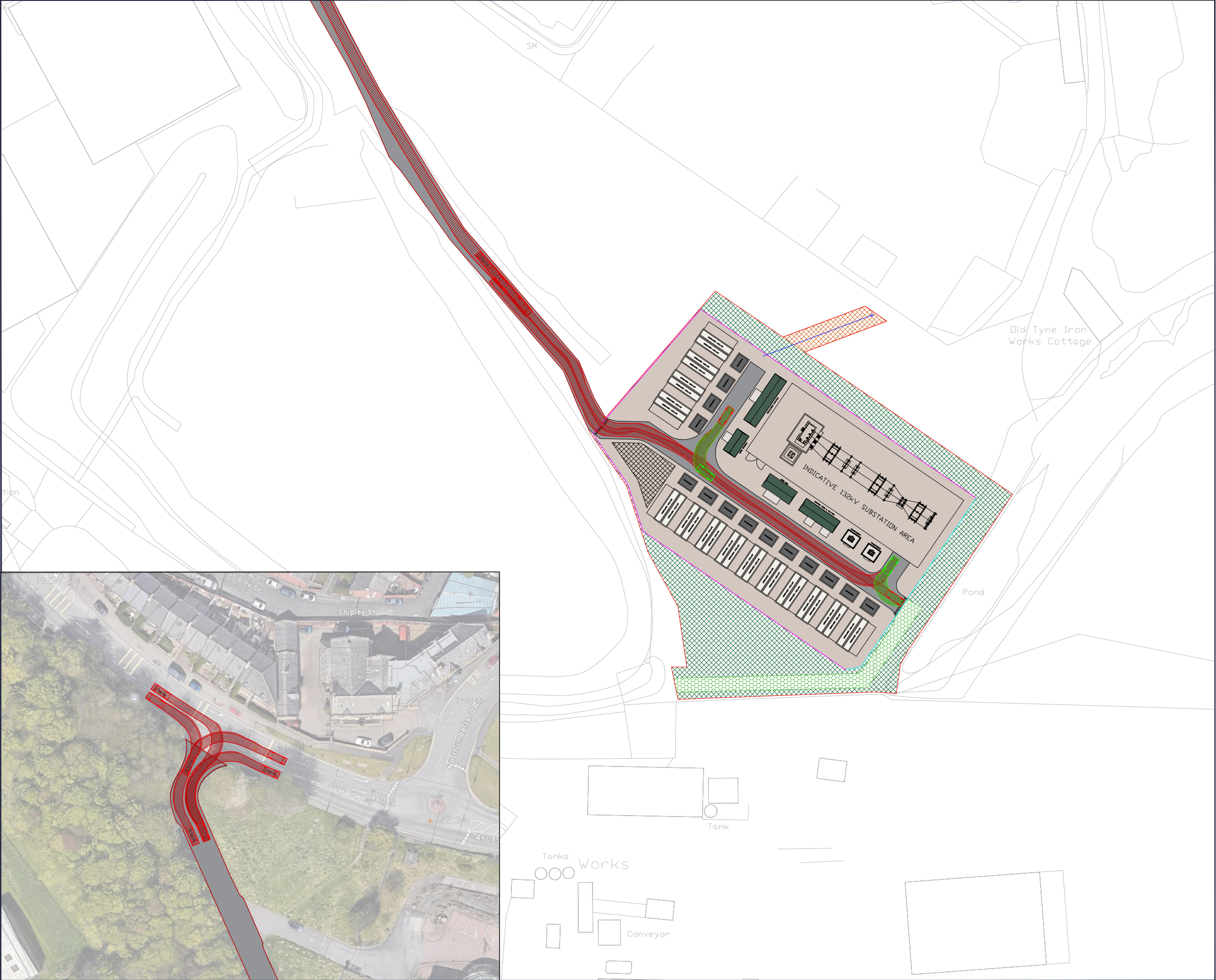
C

**Appendix C – Drawing No. 3354-01-
ATR01_RevD and ATR02_RevD (Swept
Path Analysis)**

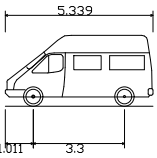


FTA Design Articulated Vehicle (1998)	134
Overall Length	16.480m
Overall Width	2.550m
Overall Body Height	3.870m
Min Body Ground Clearance	0.515m
Max Track Width	2.470m
Lock to lock time	3.00s
Kerb to Kerb Turning Radius	6.550m

D



VEHICLE USED IN TRACKING:



3.5t Panel Van	
Overall Length	5.339m
Overall Width	1.986m
Overall Body Height	2.565m
Min Body Ground Clearance	0.338m
Track Width	1.986m
Lock to lock time	4.00s
Kerb to Kerb Turning Radius	6.400m

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Client

BALANCE POWER

Project

NEWBURN HAUGH BSF

Drawing Title

**SWEPT PATH ANALYSIS -
OPERATIONAL PHASE**

Scale

1:1000 @A3

Date

March 2023

Dwg no

3354-01-ATR02

Status

Planning

Drawn Checked

AB ARB

Rev

D



revision: **D** desc: **Description**

date: **00-00-00**

