

**BROOMLOAN BATTERY ENERGY STORAGE**  
**DESIGN AND ACCESS STATEMENT**

FOR LIFETIME PROPERTY LTD

MARCH 2022

**MMA**

Macaulay Miller Architecture  
[www.mma.eco](http://www.mma.eco)

Prepared By:

**Macaulay Miller Architecture**



## TABLE OF CONTENTS

<b>1</b>	<b>INTRODUCTION .....</b>	<b>1</b>
	<b>1.1 Background .....</b>	<b>1</b>
	<b>1.2 Role and Purpose .....</b>	<b>2</b>
<b>2</b>	<b>THE DEVELOPMENT.....</b>	<b>3</b>
	<b>2.1 Development components.....</b>	<b>3</b>
<b>3</b>	<b>THE DESIGN STATEMENT .....</b>	<b>7</b>
	<b>3.1 Site Selection.....</b>	<b>8</b>
	<b>3.2 Design Principles and Evolution.....</b>	<b>8</b>
	<b>3.3 Rationale for the Development.....</b>	<b>9</b>
	<b>3.4 The Site Context.....</b>	<b>9</b>
	<b>3.5 Surrounding Land Use.....</b>	<b>10</b>
	<b>3.6 How the Design has taken account of the Context .....</b>	<b>10</b>
<b>4</b>	<b>THE ACCESS STATEMENT.....</b>	<b>11</b>
	<b>4.1 Planning Policy Context.....</b>	<b>11</b>
	<b>4.2 Policy Assessment.....</b>	<b>11</b>
<b>5</b>	<b>CONCLUSION.....</b>	<b>12</b>

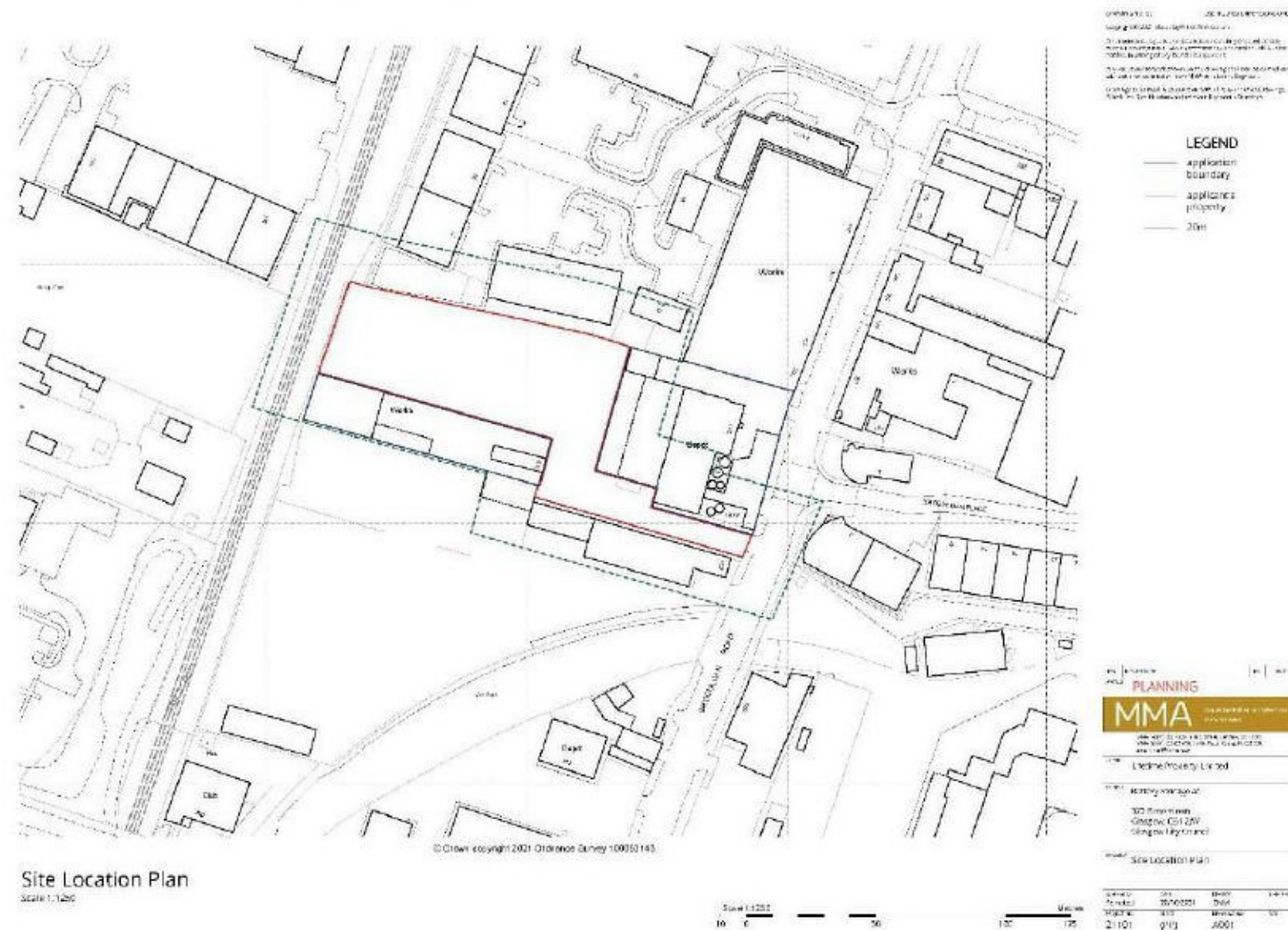
# 1 INTRODUCTION

## 1.1 Background

This Design and Access Statement ('the DAS') has been prepared by Macaulay Miller Architecture Ltd ('MMA'), on behalf of Lifetime Property Ltd ('the Applicant'), to accompany the planning application submitted to Glasgow City Council ('the Council') for the installation of a battery energy storage facility (Battery Storage) for the storage of electricity to provide grid balancing services to the National Grid ('the Development'). The Development is located within an industrial yard, 322 Broomloan Road, approximately 45 meters (m) to the northeast of the Scottish Power Energy Networks (SPEN) Govan Electricity Distribution Site.

The Development, which occupies a site area of approximately 0.7 hectares ('ha'), involves the installation of battery storage containers, air conditioning units, housing for inverters, a distribution network operator switchroom, aux transformer compound as well as security columns, cameras and internal road. The capacity of the Development would not exceed 49.9 Megawatts ('MW').

### Site Location A001 (Figure 1)



Development will have a construction period of approximately 5-6 months and an operational period of 25 years.



## 1.2 Role and Purpose

This DAS has been prepared in accordance with Regulation 13 of the Town and Country Planning (Development Management Procedures) (Scotland) Regulations (the DMPs), which sets out the detailed requirements of the content of a DAS in relation to planning permission. A DAS is required in this case as the Development would constitute a 'major development'.

The DAS forms part of the planning application submission, which also comprises of a Planning Statement; Pre-Application Consultation Report; Technical Reports; Planning Drawings; Planning Application Form/Ownership Certificate details; and the requisite planning fee.

The role and purpose of the DAS, in accordance with Regulation 13 of the DMPs, is to explain the policy or approach adopted for design access and:

- How policies relating to design and access in the development plan have been taken into account;
- The steps taken to appraise the context of the development and how the design takes account of that in relation to the proposed use;

Any consultation that has been undertaken relating to design principles and access issues; and

- Any specific issues which might affect access to the development for disabled people have been addressed.

This should explain how the applicant's policy / approach adopted in relation to access fits into the design process and how this has been informed by any development plan policies relating to access issues.

The DAS has also been prepared in accordance with the guidance outlined in Planning Advice Note 68: Design Statements ('PAN 68')<sup>2</sup>.

The DAS is structured as follows:

- Section 2 - Sets out, briefly, the components of the Development;
- Section 3 - The Design Statement, which sets out the design principles and rationale, the context, and how the design has taken account of the context;
- Section 4 - The Access Statement which sets out how access policies have been complied with, associated consultation, and how specific access issues have been addressed; and
- Section 5 – Summary and Conclusions.

---

<sup>1</sup> The Scottish Executive, Development Department (2003) Planning Advice Note 68: Design Statements [Online] Available at: <https://www.gov.scot/publications/planning-advice-note-68-design-statements/>



## 2 THE DEVELOPMENT

### 2.1 Development components

The whole site including all elements of the Development components are located within the red line area of 0.7 ha, illustrated in Site Layout Plan (A103), as shown below.

#### Site Plan Proposed A103 (Figure 2)

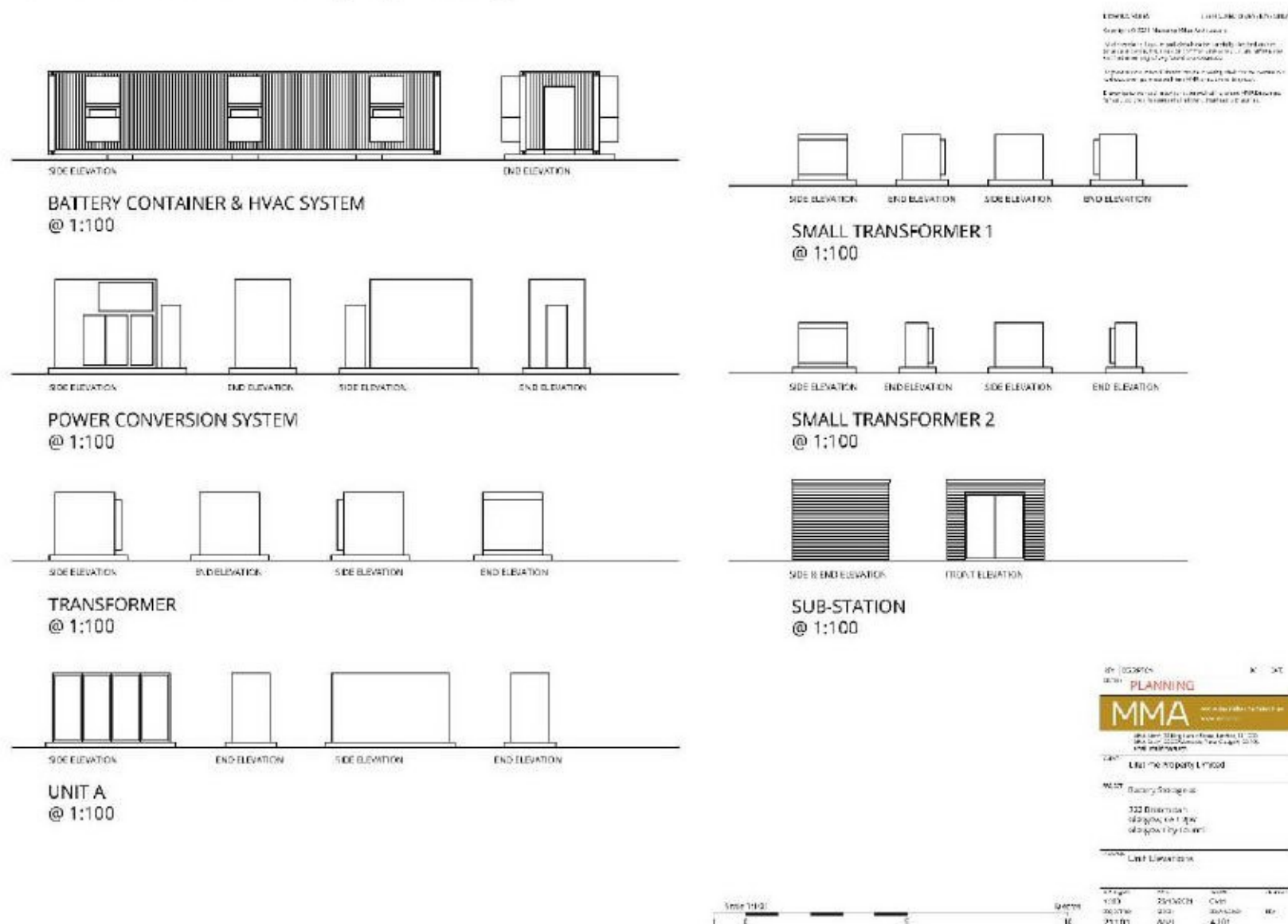


This red line drawing shows the whole developable area within the Site, excluding any unused areas. The Applicant seeks planning permission for the installation of the aforementioned Development, which will include a number of components. Each component of the Development is described in the Development Component Summary in Table 1 (below) followed by further details on the site security and connections.

**Component Table (Table 1)**

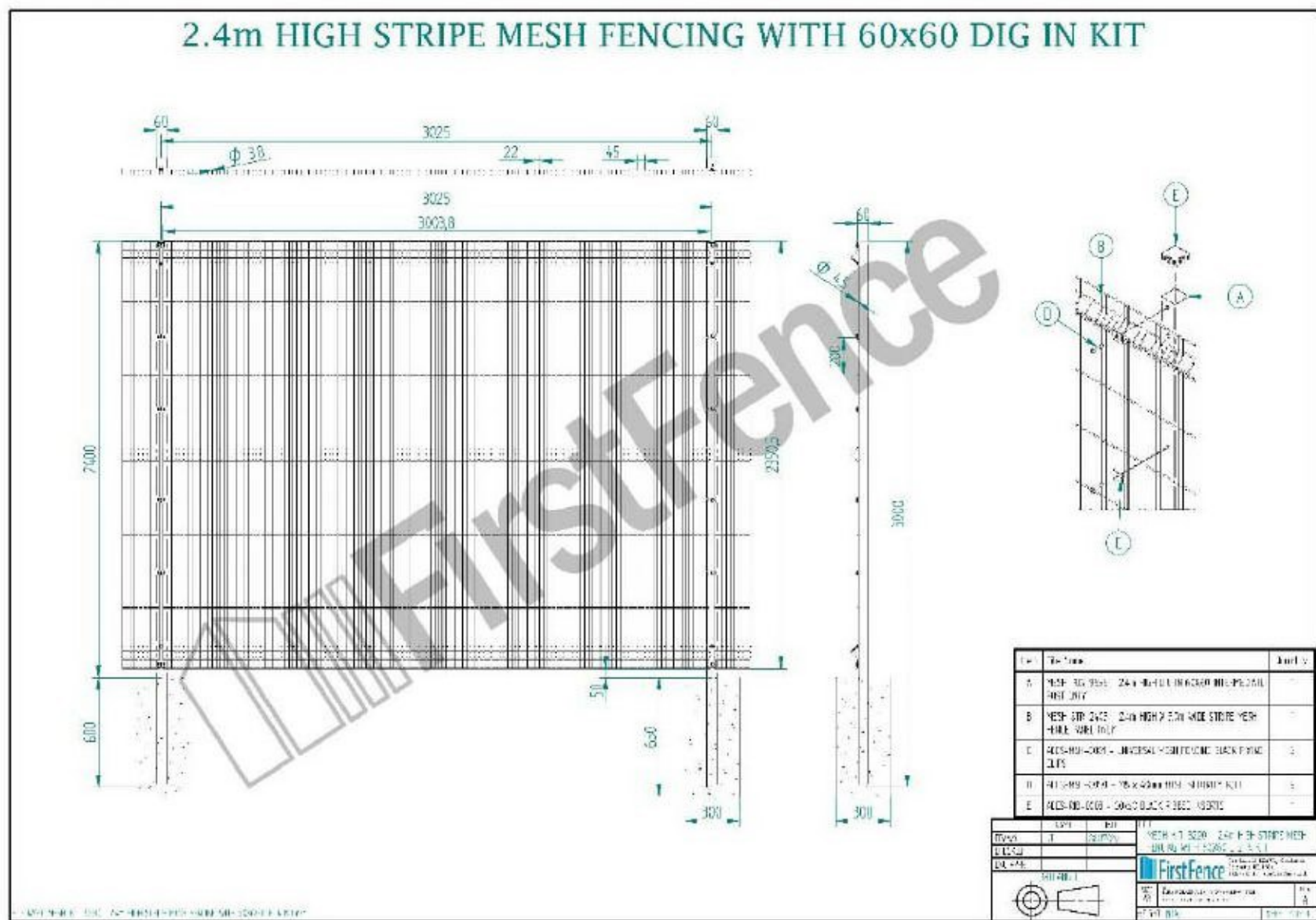
Development Component	Scale (m)	Purpose	Figure
Up to 22 no. Battery Storage Unit with integ AC units	12.2 x 2.4 x 2.9 m	Units for storing Batteries and internal Battery Storage technologies	Figure 2 & 3
Up to 6 no. per container Heat Ventilator (HV)/ Air Conditioning (AC) units	1.4 X 2.3 M	Adjoined to the Battery Storage units to provide air conditioning, regulate temperatures and avoid overheating	Figure 2 & 3
Up to 44 no. Convertor Stat.	3.9 x 1.9 x 2.9 m	Housing the inverter/converters	Figure 2 & 3
1 no. Switchgear (unit A)	3.7 x 1.2 x 1.2 m	Containing switchgear and control room	Figure 2 & 3
22 no. transformers	3 x 3 m	Transformer unit used to supply low voltage	Figure 2 & 3
Sub-station	8 x 4 x 4 m	Point of connection	Figure 2 & 3
Up to 3 no. parking spaces	Each 2.5 x 5m	On-site provision	Figure 2
New internal road	Approximately 6 m width	On-site provision	Figure 2
Security Columns (CCTV)	Up to 6 m in height	Security of the site	Figure 2 & 5
Security Fence	Up to 2.4 m in height	Security of the site	Figure 2 & 4

**Unit Elevations A201 (Figure 3)**

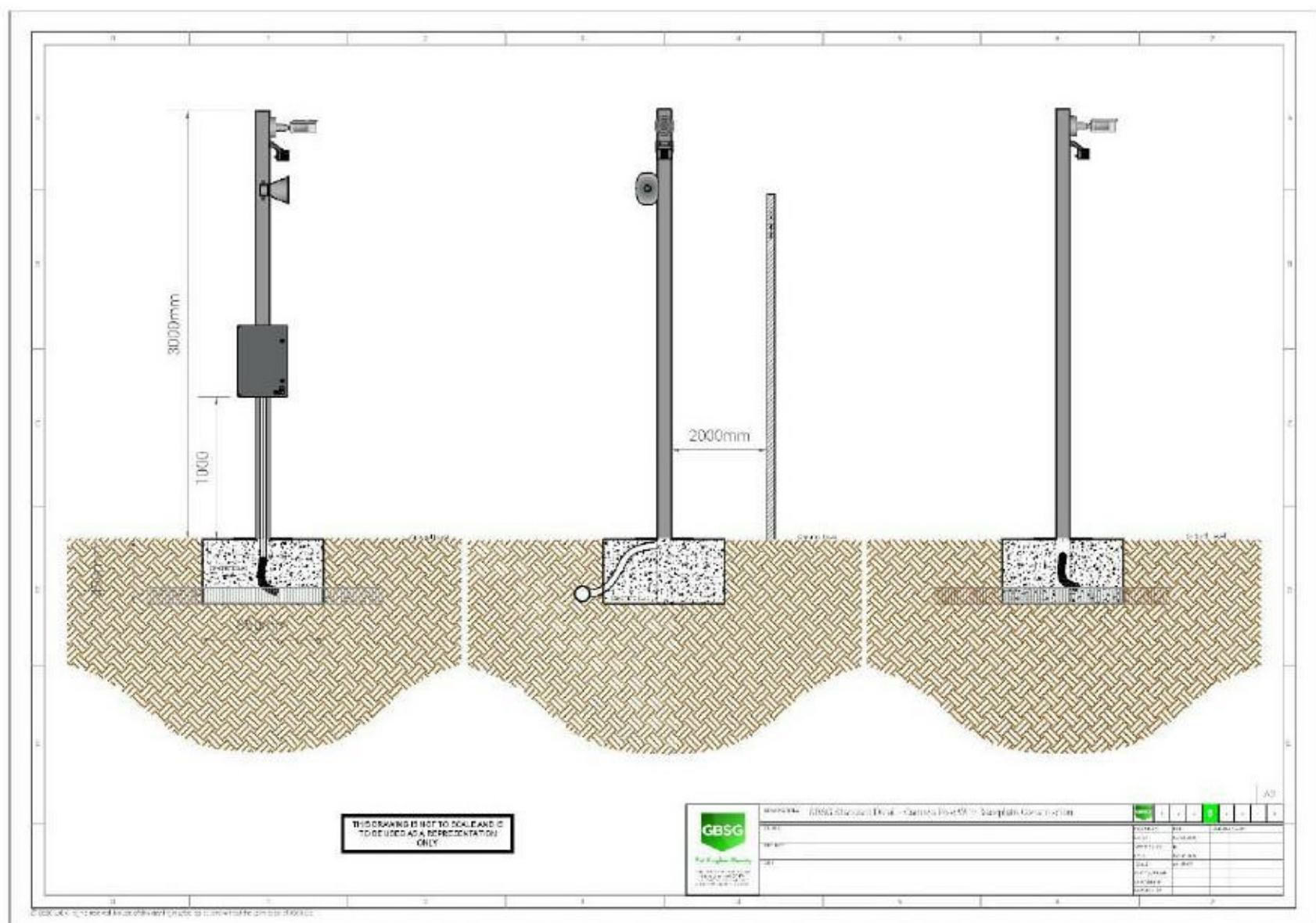




**Example Fencing (Figure 4)**



**Security Column (Figure 5)**





### **2.1.1 Security Columns**

Approximately four poles would be mounted with directional static closed-circuit television (CCTV) cameras and motion activated security lighting. These have been located at each corner of the fenced compound. This avoids unnecessary light pollution. The indicative security column would be approximately 6.0 m in height and 0.1 m in width. Given that the site is unmanned and remotely operated there would only be a requirement for lighting to be triggered in very occasional circumstances.

### **2.1.2 Site-Access & New Internal Road**

The existing site access from Broomloan Road and hard standing is to be retained and secured as shown in Figure 2. A turning head has been provided for maintenance and emergency vehicles. The battery containers and inverter units are located off the internal road. During the operational phase of the Development, a parking area would be provided within the main fenced compound for maintenance personnel. This would be attached to the outside of the internal road running along the eastern boundary and would include 3 parking spaces.

### **2.1.3 Cabling**

Underground cables would connect the Development to the closest substation (SPEN Govan Electricity Distribution Site) which is located 45 m to the southwest. The cables would be buried in trenches up to 1 m deep and reinstated during construction.

### 3 THE DESIGN STATEMENT

#### 3.1 Site Selection

The Site is currently a industrial yard which being used for the washing and storage of tanks from the distillery industry. The site has been strategically located 45 m above the SPEN Govan Electricity Distribution Site. Given the close proximity to the substation lengthy transmission cables would not be required, ensuring efficient connection to the National Grid and minimising disturbance and costs. The substation is capable of accommodating the transfer of electricity to and from the Development at an acceptable cost which would provide valuable support to the grid, protecting local customers at times when high demand places stress on the local and wider electricity network.

**Figure 1: Site Location**



As a result of the close proximity to the substation, underground cables would avoid any major above ground infrastructure, minimising connection costs and transmission losses. The reduction in the length of underground cables required to achieve a grid connection would also significantly minimise disruption to the local community during construction.

The surrounding landscape comprises of industrial and commercial land uses. The design of the Development displays a shipping-like container that would not reach more than a single storey building in height and would be well screened by industrial buildings resulting in the Development being barely perceptible from the public realm.



The key criteria which have led to the Site being selected for battery storage include:

- Proximity to an available grid connection;
- Topography;
- Existing access to the site;
- Lack of natural and historic environment designations;
- No recorded flooding; and
- The potential for a commercial/land agreement with a landowner.

Following consideration of the above factors and the existing infrastructure within the wider area, the selected site was identified as having very good potential for development with no adverse environmental impacts.

## **3.2 Design Principles and Evolution**

The design principles for this development were largely technical (as listed below) with significant consideration given to health and safety, focusing on mitigation of potential fire or explosion (as detailed in the health and safety report submitted with the application). Safety considerations in particular were informed by feedback from the pre-application consultation process.

This included correct separation of units, designing in access and a turning head for emergency vehicles and selection of fire safety and monitoring systems.

### **3.2.1 Technical and Environmental Design Assessment**

The potential for installing a battery energy storage facility at the Site has been assessed with the following technical and environmental issues to derive the most appropriate scale, location and infrastructure layout:

- Access – The Site is accessible via Broomloan Road which connects to the wider highway network including the M8 and M74 motorway. The Site is adequately accessible for the needs of the Development and is considered to be of low risk to highway safety.
- Avoidance of infrastructure beneath the Site – No services other than existing drainage have been identified on the site.
- Environmental Constraints - The Site is not subject to landscape, ecological or conservation designations. There are no sites of national or local nature conservation interest within close proximity of the Development. In addition, no archaeological assets were identified in the site search or other historic environment designations.
- Noise Impact – A noise impact assessment has been undertaken and found to be in accordance with the required parameters.
- Flood Risk – A flood risk assessment has been undertaken and found no risk of flooding. Min 150mm conc. plinths will be used for all equipment as a precautionary measure.
- Landscape character and visual impact – the Development is expected to offer a limited visual impact on overall landscape character and visual amenity. Given the scale of the Development, its limited vertical extent, close proximity to the railway line and industrial facilities to screen views it is considered that the visual impacts are acceptable;
- Residential amenity – There is no housing located within 200m of the site and the site itself is shielded with buildings or walls on all sides.
- Grid Capacity – Grid capacity of the local distribution network affects the amount of electricity which can be exported, and therefore the size of the Development; and
- The Site Capacity - The Site is of sufficient size to accommodate a viable BESS facility, capable of storing sufficient electricity to support the function of the grid

How each of these comply with the local development policies is set out in the Planning Statement submitted with the application.



### 3.3 Rationale for the Development

The use of the Development is intended to support Central Government’s commitments to reduce emissions of greenhouse gas emissions to combat the effects of climate change, as set out by the following legislative requirements:

- Climate Change Act (2008) sets a legally binding target to reduce UK carbon emissions by 100% by 2050, against a 1990 baseline; and
- European Council 2030 Climate and Energy Framework sets a binding target of at least a 40% reduction in greenhouse gas emissions across the European Union by 2030, against a 1990 baseline.

### 3.4 The Site Context

The total area of the site is approximately 0.7 ha.

The whole site currently comprises of a hardstanding surface that consists of a asphalt surface. The western boundary is separated from the railway by way of an existing palisade fence, the eastern boundary is separated from the adjacent depot via a approx. 5m high masonry separating wall, the northern and southern boundaries face onto existing industrial buildings and access from the south.

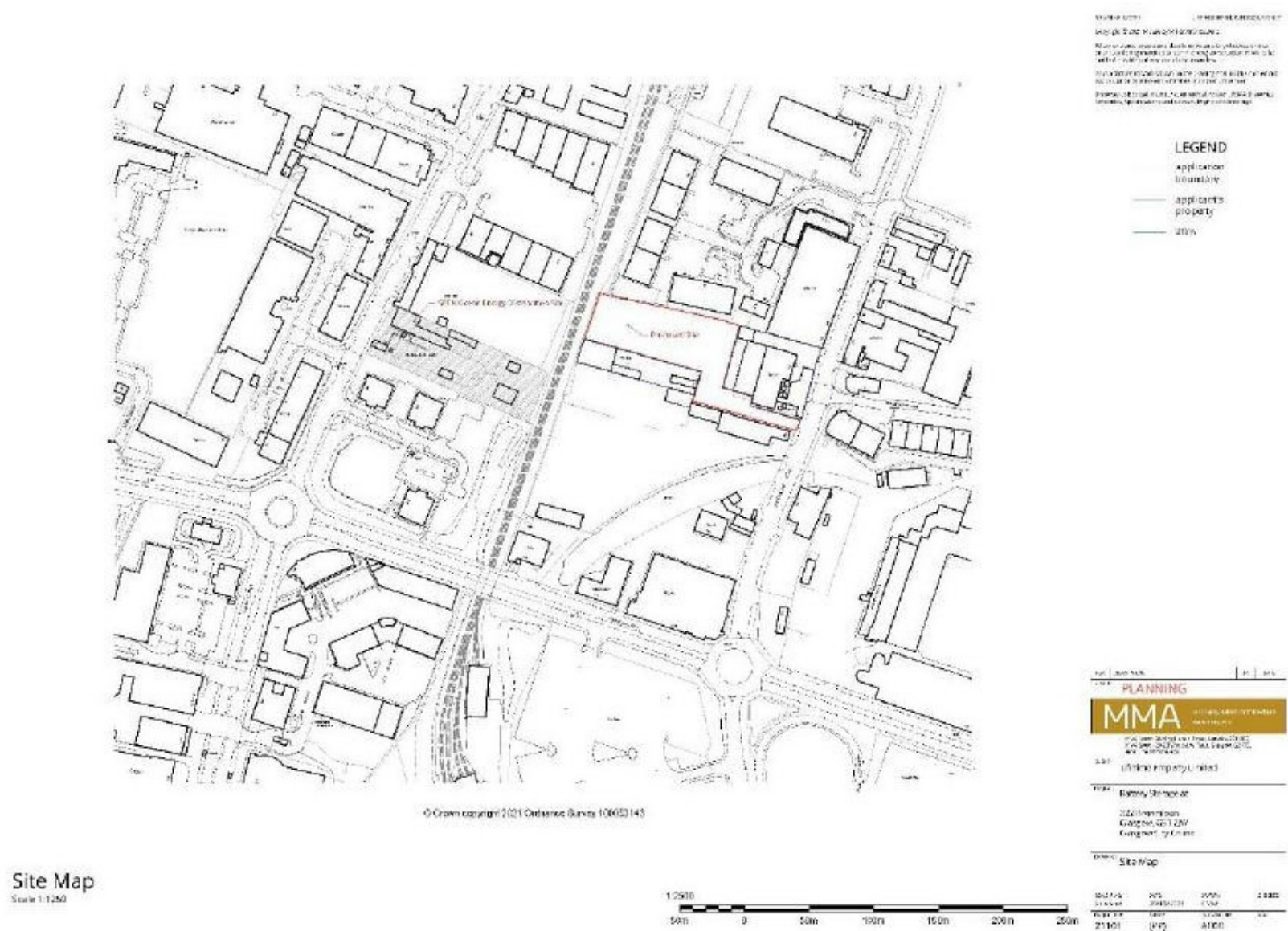
There is no significant change of level throughout the site.

There are no water courses or water bodies within the application boundary. There are also no historic records of flooding.

The Development would be in close proximity to the SPEN Govan Electricity Distribution Site, located approximately 45 m to the southwest.

The proximity of the proposed Site next to the SPEN Govan Electricity Distribution Site is shown in Figure 6 – Site Map (below).

**Figure 6: Site Map**





### **3.5 Surrounding Land Use**

The site is currently used as a storage yard and is surrounded by similar industrial plots and businesses. There is also a railway line to the west and the SPEN Govan Electricity Distribution Site.

### **3.6 How the Design has taken account of the Context**

#### **3.6.1 Use**

The use of the Site will be for the installation and operation of a battery energy storage facility. The Development is designed to support the flexible operation of the National Grid and decarbonization of electricity supply. The Development would import and export electricity; however, it would not generate any additional electricity nor have any direct on-site emissions of CO<sub>2</sub>.

The temporary or restricted nature of the Development, with a 25-year operational lifespan, should also be considered. The Site would be fully restored once the Development is decommissioned.

#### **3.6.2 Amount**

Refer to Figure 2 and Table 1 for locations and sizes of units.

#### **3.6.3 Layout**

The layout has been informed by a number of factors through the site selection and iterative design process. These include:

- Use of the existing access road;
- The avoidance of environmentally sensitive areas to avoid potential effects on ecological and historical assets, flood risk, landscape and visual amenity;
- Achievement of optimum equipment efficiency and energy outputs through effective positioning.

The spacing between the battery storage containers allows for maintenance access and fire separation.

#### **3.6.4 Scale**

The scale of the Development is governed by the equipment necessary to store electricity through the use of battery electricity storage facilities at the Site. Any plant or buildings in the Site will be at a height consistent with other industrial buildings in the area. The industrial surroundings which backdrop the site mean that the Development will be unobtrusive in the wider, streetscape. It will not be visible from residential properties, and the Development will have to have no adverse visual impact.

#### **3.6.5 Appearance**

The appearance of the containers will be similar to a series of shipping containers contained within a fenced compound. The surrounding development would reduce the visual impact of the Development.

#### **3.6.6 Landscaping**

The Site currently consists of asphalt with no existing planting or trees on-site.

## **4 THE ACCESS STATEMENT**

### **4.1 Planning Policy Context**

#### ***4.1.1 Policy Description and Assessment***

As set out in the Planning Statement, **Policy CDP 11 Sustainable Transport** of the Glasgow Local Development Plan aims to ensure that Glasgow is a connected city, characterised by sustainable and active travel. To achieve that, the Policy directs major development to locations well served by existing public transport services and active travel routes, with such developments informed by a Transport Assessment. The proposed development will be an unmanned facility with access required only for maintenance purposes, such that any traffic impacts will be considerably less than those arising from the existing storage use of the site. That notwithstanding, as also set out in the Planning Statement, the site is well located for access by sustainable and active modes of travel.

Specifically in terms of access to the site itself, the current access from Broomloan Road is to be maintained, with no changes to that proposed. It will provide 24-hour access to the Site for both maintenance vehicles and emergency services. The new internal road within the Site will allow for easy navigation around the Development.

Given the above, the application clearly complies with Policy CDP 11.

### **4.2 Access for disabled people**

Given that the proposed facility will be unmanned, with access required only for occasional maintenance inspections and there being no public access to the site there are no particular access issues for disabled people that require to be addressed.



## 5 CONCLUSION

This DAS has been prepared in accordance with requirements of Regulation 13 of the Town and Country Planning (Development Management Procedures) (Scotland) Regulations, and guidance set out in PAN 68: Design Statements.

The DAS has established:

- The design principles and rationale that have been applied to the Development, including the various relevant environmental and technical criteria;
- The steps taken to appraise the context of the Site, and how the design of the Development takes that context into account, in respect of design iteration, the various relevant environmental and technical criteria, and each design component;
- The relevant planning policies in respect of access, and how these policies have been taken into account and are addressed; and
- That all relevant issues which might affect access to the Development have been addressed.

The DAS has thus established that the Applicant can ably demonstrate an integrated approach that will deliver inclusive design, and address the full range of access requirements throughout the design procedure.