



**Saunders  
Boston  
Architects**

**Willmott Dixon Construction Limited**  
on behalf of North Hertfordshire District Council

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**North Herts Leisure Centre  
NHDC Decarbonisation**

**Design & Access Statement**  
March 2025      Rev P02



NHLC-SBA-XX-XX-L-A-00011

## Revisions

### Revision

P01 - 13/03/25

P02 - 02/04/25

### Drawings & Documents

First issue

Revised issue incorporating relocated substation

## Introduction

Saunders Boston Architects (SBA) have been appointed by Willmott Dixon Construction Limited on behalf of North Hertfordshire District Council on the NHDC De-carbonisation project at the North Herts, Royston and Hitchin Leisure Centre sites across RIBA Stages 2-5. In addition to the proposed de-carbonisation works, Royston Leisure is also to include a new two-story fitness extension on the north (primary) elevation, along with a reconfigured ground floor changing village. Funding for the de-carbonisation works is being provided via the SALIX Public Sector Decarbonisation Grant Scheme to support the NHDC commitment to Net Zero carbon target by 2040.

The decarbonisation works involve the replacement of existing gas boilers and CHP with air source heat pumps & PVs which requires upgrades to the thermal envelope of each building to facilitate this. This DAS covers the proposals at North Herts Leisure Centre (Letchworth), please also refer to Bidwells' Planning Statement & RPS landscaping proposals submitted as part of the full planning application.

## Project Team

**Client** - North Herts Council

**Contractor** - Willmott Dixon

**Architect** - Saunders Boston Architects

**Structural & Civil Engineer** - Conisbee

**Landscape Architect** - RPS

**Planning & Heritage Consultant** - Bidwells

**MEP Consultant** - Qoda

**MEP Services (S.C. Partner)** - CPS

**Fire Engineer** - Affinity Fire

**Acoustic Engineer** - Mach Acoustics



## Scheme Summary

The decarbonisation proposals at NHLC consist of the following upgrades to the thermal envelope of the building and services to facilitate the removal of fossil fuel-gas heating. The proposals exclude the recent Learner Pool extension & the Sports Hall, the latter of which will sit outside the new thermal envelope. As agreed as part of the formal pre-application advice (see overleaf), these items fall within the scope of permitted development requiring prior notification, are classed as *de minimis* or are within the scope of this formal application as follows;

- Areas of external insulated render and injected blown cavity insulation – *For consideration in this application*
- Replacement of areas of the Flat Roofing with increased insulation – *De Minimis*
- Replacement Kalwall translucent daylighting system to the Swimming Pool wing – *De Minimis*
- Replacement windows with matching aluminium double glazed units – *De Minimis*
- A new internal insulated lining to the Sports Hall – *De Minimis*
- Replacement of existing gas fired boiler plant with air source heat pump technology & modify existing heating systems accordingly – *De Minimis*
- An external ASHP compound to the rear of the building adjacent to the existing plant entrance – *For consideration in this application*
- Modifying the existing heating system as necessary to provide temperature zone control – *De Minimis*
- Introducing Passive InfraRed Sensors in Office areas – *De Minimis*
- Installation of Photovoltaic (PV) panels to areas of the roof – *Falls under Permitted Development / Prior Notification*
- New substations to the rear of the building – *Falls under Permitted Development*



Proposed - Southwest Elevation

## Consultations

### Heritage Foundation Initial Discussions

NHDC met with the Letchworth Garden City Heritage Foundation on the 09/08/24 for an initial discussion on the process of the formal consultation with LGCHF and a general overview of the De-carbonisation proposals at NHLC. In summary of the design points, it was noted that;

- Insulated panels need to be sympathetic to the building and surroundings i.e. colour and design.
- PV alignment needs to be uniform and not staggered or patterned.
- Materials and products should be of a good quality and long life.
- Not in favour of the use of any external timber panelling.

These preferences were incorporated into the proposals and went on to inform the design that was submitted to both the Local Authority for their consideration and to Letchworth Garden City Heritage Foundation on subsequent pre-planning submissions

Letchworth  
Garden City  
Heritage Foundation



## Consultations

### Heritage Foundation Pre-App

A submission was made by Bidwells to the Letchworth Garden City Heritage Foundation in October 2024. The formal response (ref: NHL-ART-XX-XX-RP-Y-60001) produced by Architype made a number of comments, with a summary of the major points covered as follows:

- *Care is to be given in the design to moisture movement through the buildup of any proposed system, with Hygrothermal analysis likely being required to assess impact on moisture movement through the wall build-up, to avoid interstitial condensation accumulation and potential for mould growth / construction defects in future.*
- On retrofitted insulation into infill of cavity walls : *potential risk of insulation settlement, and depending on exposure, this may result in moisture accumulation. Ideally, a 50mm ventilation zone behind brickwork is required where the external face of the brick is the finished face of the build-up. Further performance verification will be needed as the design progresses*
- On connection of new thermally improved elements to comparatively poorer performing items: *Potentially there is a risk of a line / zone of relative temperature differential (cold spots) which could become an area at risk of condensation & mould growth. Further, more detailed analysis will be required as the design progresses*
- Energy analysis will be required to establish more accurate size and proportions of the ASHP enclosure, and further detail of the enclosure should be provided. Consideration should be given to using separate ASHP systems for heating, pool heating and DHW to allow varying operating temperatures to improve efficiency of the system overall
- Suitability / load-bearing capacity of existing roof structure should be evaluated for the inclusion of roof mounted PV panels
- Note no improvement to airtightness is proposed. This is typically found to have the largest impact on heating demand reduction. Without full mechanical ventilation the highest levels of airtightness are not viable, but an improvement on the current assumed 15m<sup>3</sup>/m<sup>2</sup>h would reduce heat loss through infiltration, and associated heating demand.
- General Comments refer to improvements in lagging for existing pipework and ductwork, in non-pool ventilation systems and the use of High efficiency LED Lighting

Many of these matters will be resolved by detailed design that is to be undertaken after the Planning Process is complete. As such the comments made have been acknowledged but we do not conclude that they negatively affect the outcome of a Planning Application

## Consultations

### North Hertfordshire District Council Pre-App

A pre-app submission was made by Bidwells to NHDC in October 2024, followed by a site visit with the Case Officer attended by SBA, Bidwells & Willmott Dixon. The formal response (ref: 24/02242/PRE) regarding external works from this site visit is summarised as follows;

It was confirmed that the following external works are De minimis and would not require planning permission;

- *A – Replace existing Kallwall with a like for like, better performing system.*
- *B – Replace windows with matching aluminium double glazed units.*
- *E - Insulate the roof from above, and install new roof membrane (strip back and replace)*

It was confirmed that the following external works require planning permission;

- *J - Insulate the external walls to the rear of the building with insulated render.*

It was confirmed the following would meet the requirement for permitted development subject to prior notification;

- *L - PV array added to roof*

Whilst the following was confirmed in the pre-app response as no prior notification being required, it has since emerged that the ASHP enclosure will be in excess of the 200m<sup>3</sup> threshold, therefore is included within the full planning submission;

- *M - Air Source Heat Pump Enclosure*

The feedback on the following was received however is no longer proposed;

- *K - Additional PV above car park*

## The site

North Herts Leisure Centre was originally constructed in 1982, with a learner pool & café extension added to the southwest elevation in 2017. The building comprises two swimming pools, a gym, spa, squash courts, fitness studios, a sports hall, a soft play area, and a café. NHDC lease the leisure centre from the Letchworth Garden City Heritage Foundation, and is managed by Everyone Active.

The site is to the east of Letchworth Garden City town centre and is close to the A1(M). It is bounded by the B656 to the north, and the Letchworth Garden City rugby Club & Letchworth Eagles football Club to the east & south. To the west lies open farmland.

The original building appears to be mostly of uninsulated cavity wall construction and has a number of flat roofs. It is understood that some of the building has recently had cavity wall insulation injected (the rear wing around the squash courts and the Sports Hall). The external windows are a mixture of single and double glazing, with a large area of Kalwall in the main pool which has discoloured over the years.



Site Location Plan (NTS)



Site entrance (north)



Football fields (west)



# Existing Site Block Plan

NTS



## Google Earth View External Photo Locations



## External Site Photos



## Internal & Roof Photos



## Proposed Architectural Scheme

(To be read with proposed plans & elevations on following pages)

### External Walls

- Replace existing ageing Kalwall panels with new thermally upgraded matching Kalwall panels to Swimming Pool Wing, target U-Value of 0.54 – *De Minimis*
- Infill existing brickwork cavity between, above & below proposed replacement Kalwall system using blown bonded bead insulation, to maximise U-Value utilising existing cavity only – *De Minimis*
- To external brick walls (excluding swimming pool wing & sports hall) add a External Insulated Render system adhered to the existing masonry with a one-coat, through-coloured mineral render or silicone render finish by Weber (colour Sand). Render to feature vertical recesses to break up large areas – *For consideration in this application*

### Roof

- Remove existing asphalt roof covering over Reception Area and replace with new insulated built-up bituminous warm roof system, target U-Value of 0.12. Other areas to have new bituminous capping sheet overlaid – *De Minimis*
- Proposed PV array on top of main swimming pool roof, sports hall roof and learner pool roof. To be set back from parapet so not visible from ground level. The maximum pitch on the arrays from horizontal is 10° – *Falls under Permitted Development / Prior Notification*

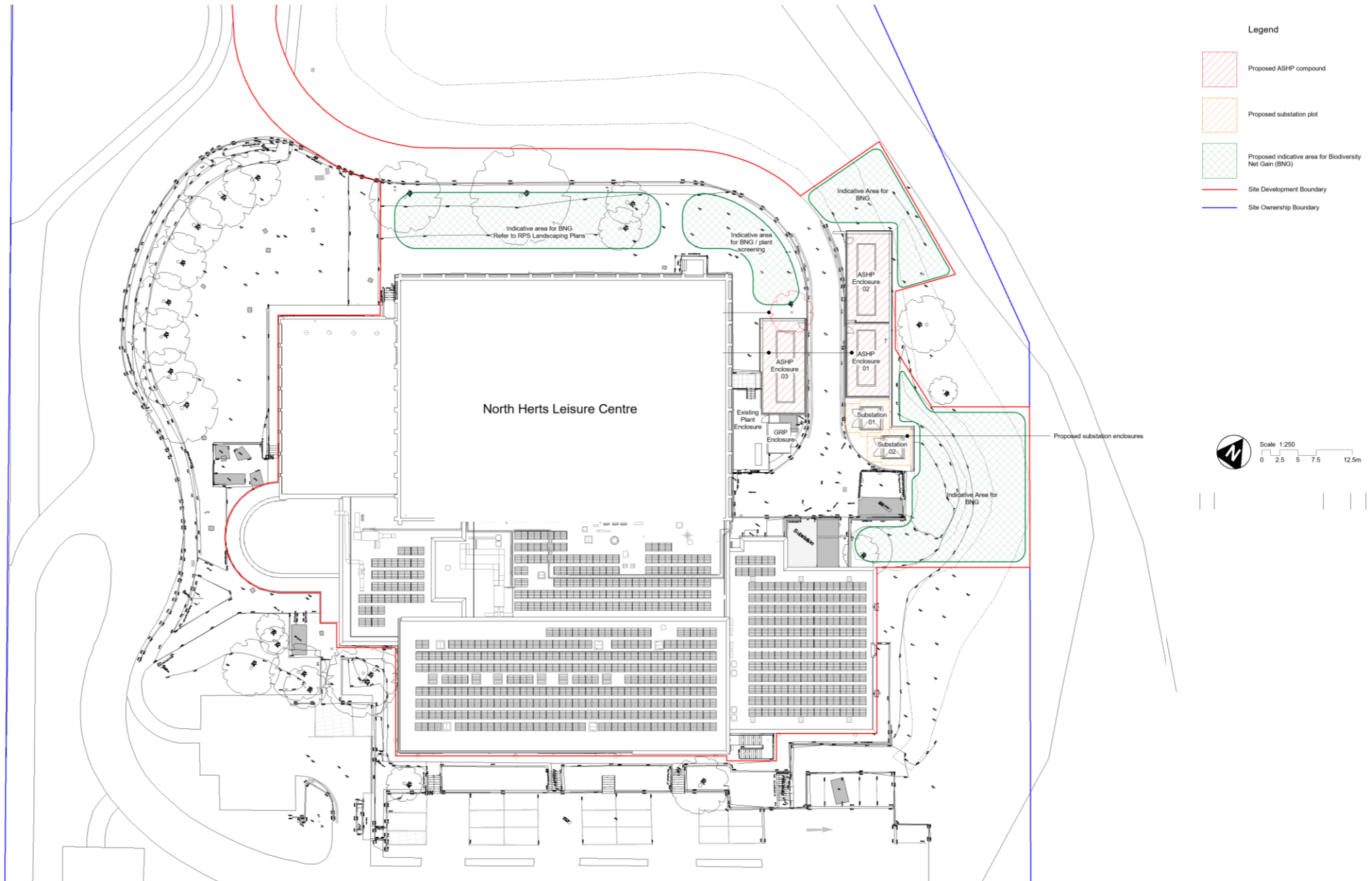
### Glazing

- Replace existing windows (excluding the 2017 Learner Pool extension) with new thermally broken Aluminium polyester powder coated frames with double glazed high performance coated glass to 1.2 W/m<sup>2</sup>k – *De Minimis*

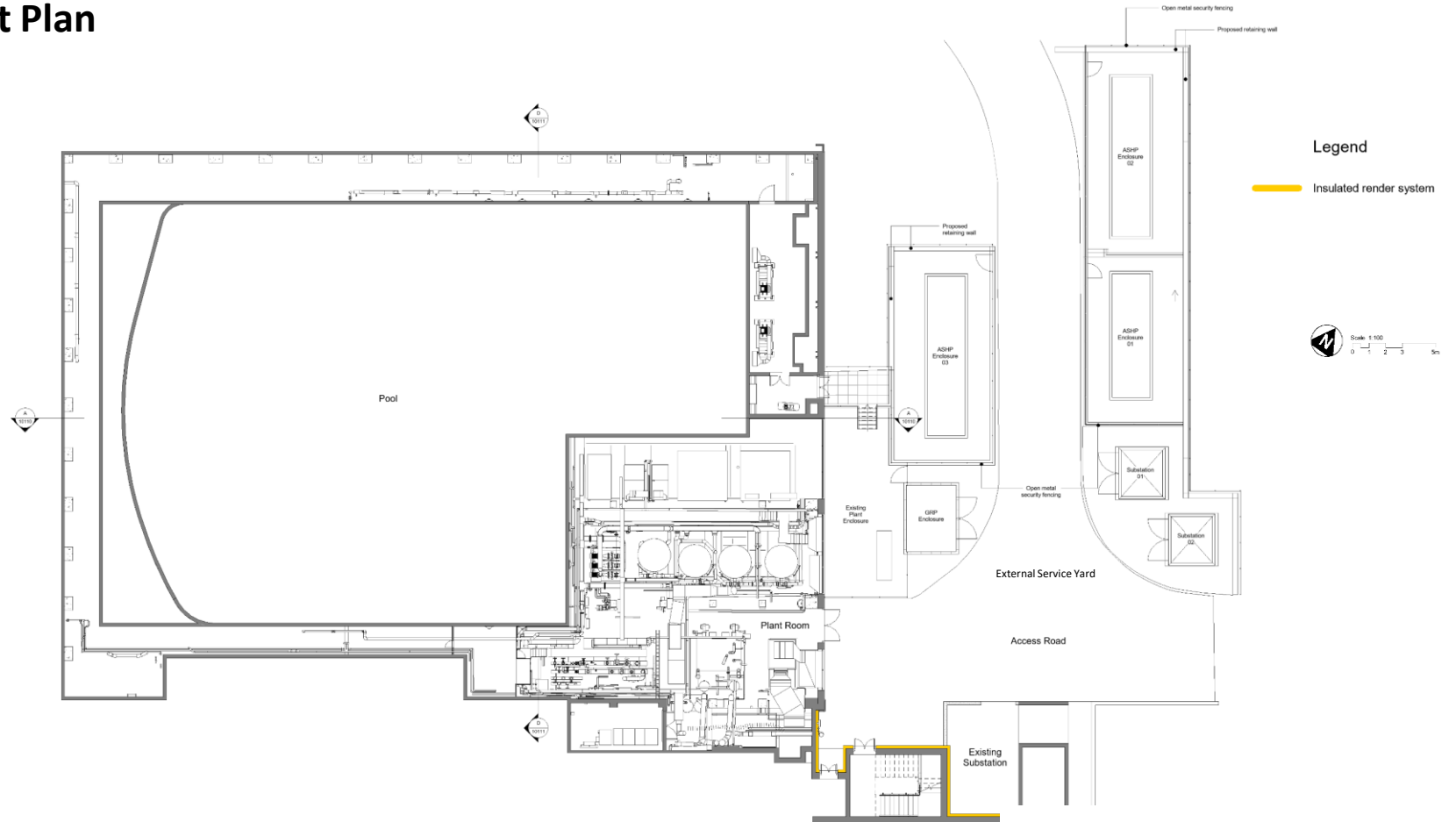
### External works

- Proposed Air Source Heat pumps within secure enclosure and new substations to rear (northwest) of the existing building, located at the lower external ground level adjacent to the basement plant room access.  
– *For consideration in this application*

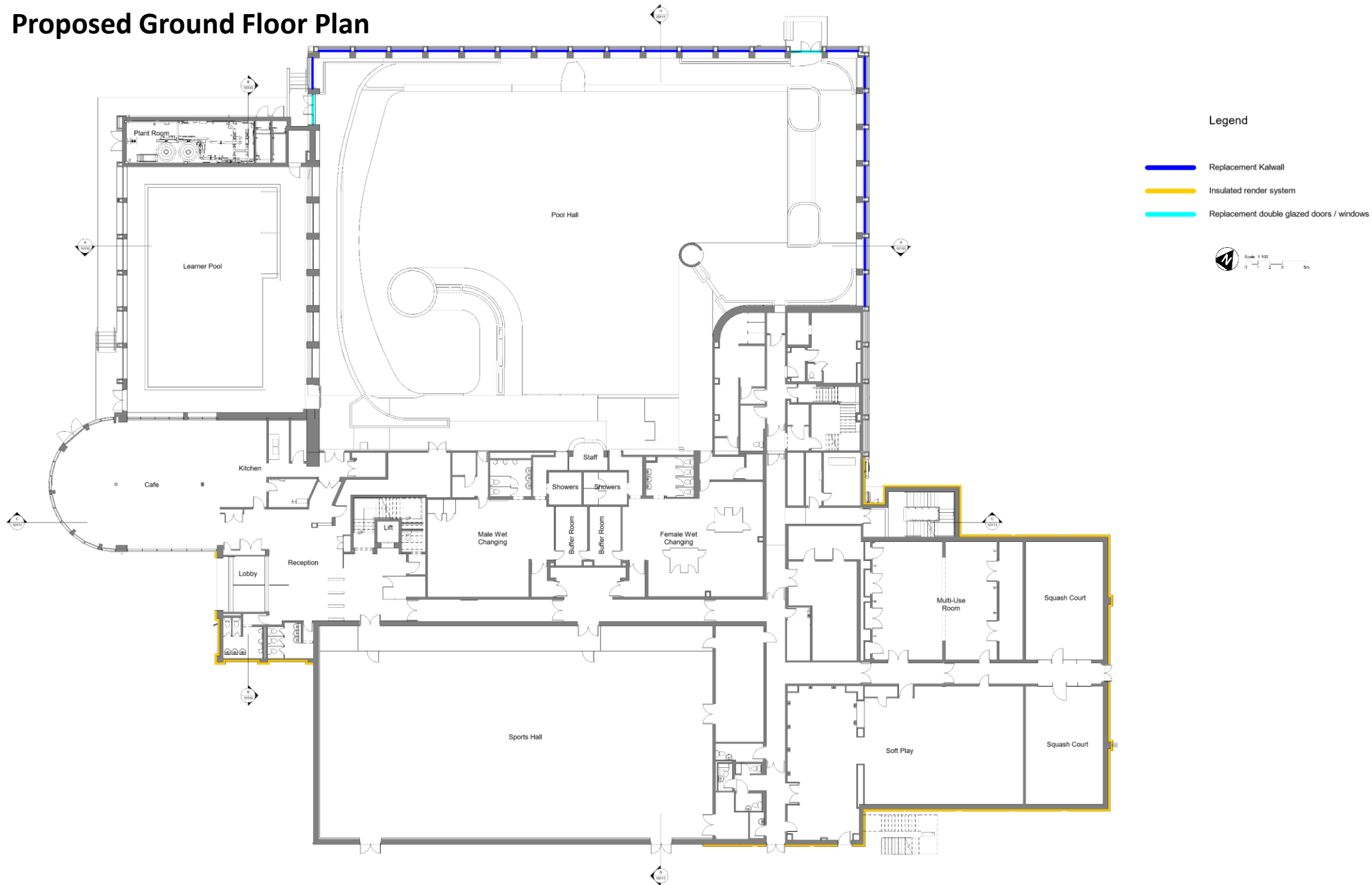
## Proposed Site Block Plan



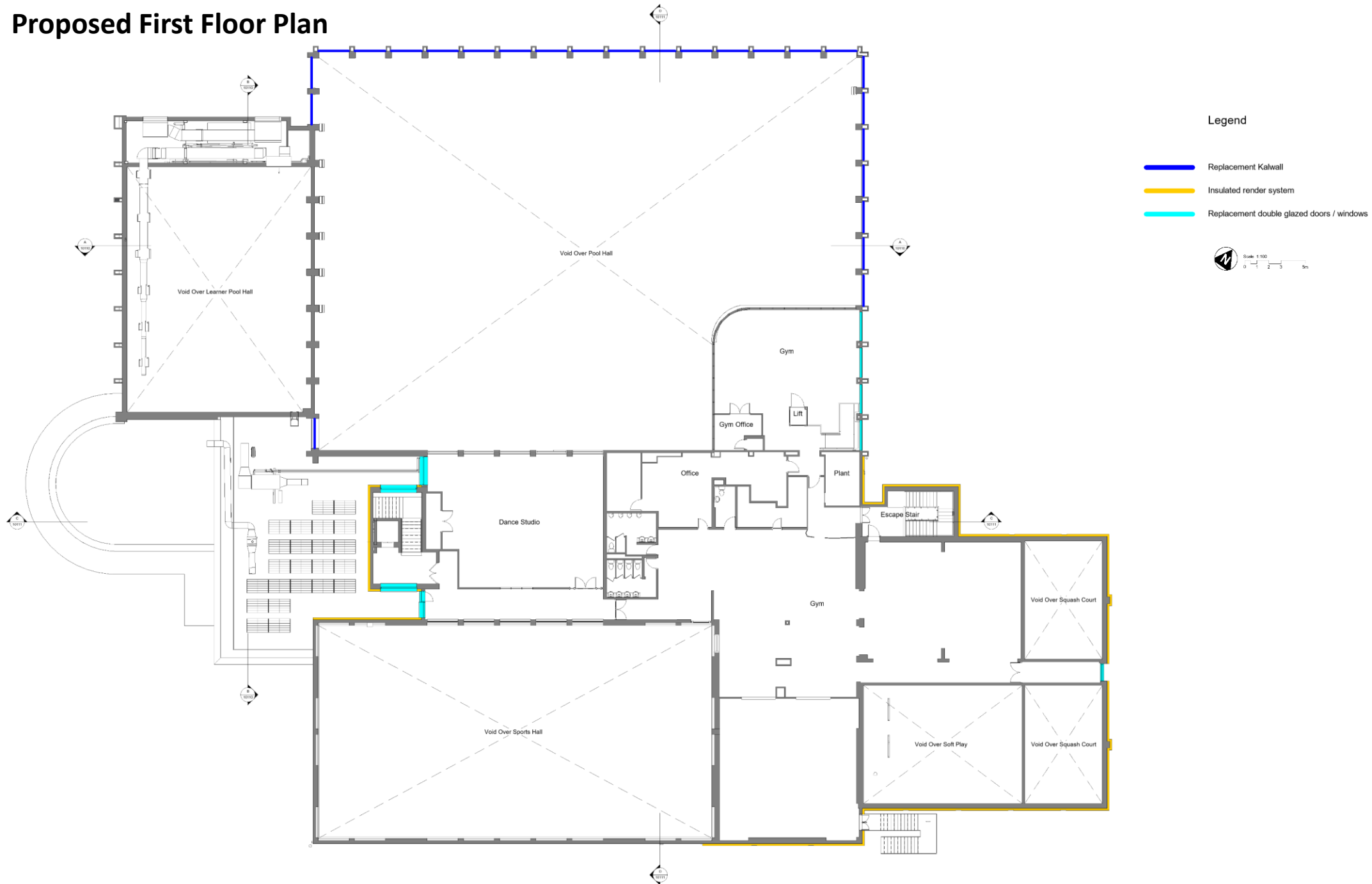
# Proposed Basement Plan



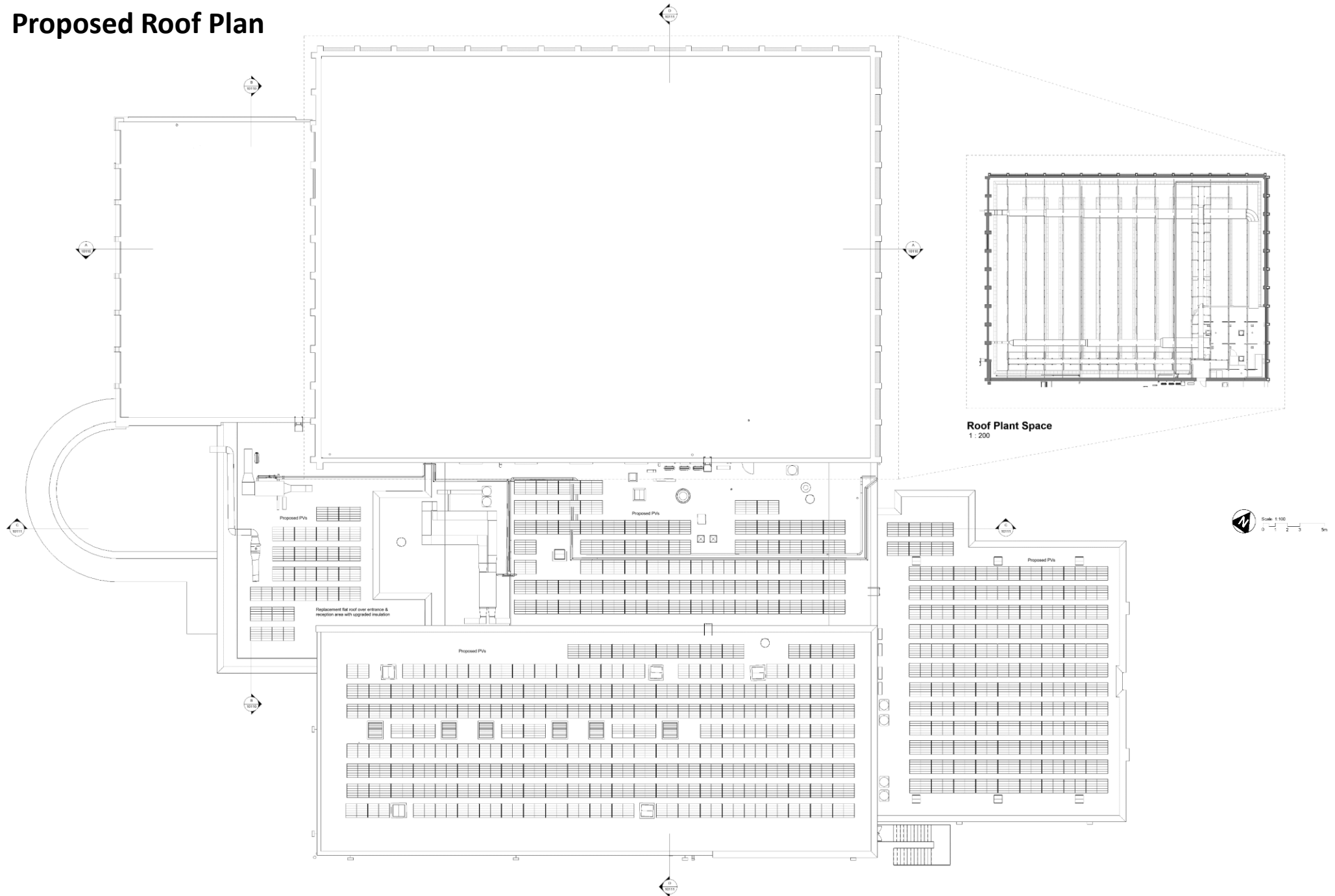
## Proposed Ground Floor Plan



## Proposed First Floor Plan



# Proposed Roof Plan



## Existing & Proposed Southwest Elevations



Existing Southwest Elevation

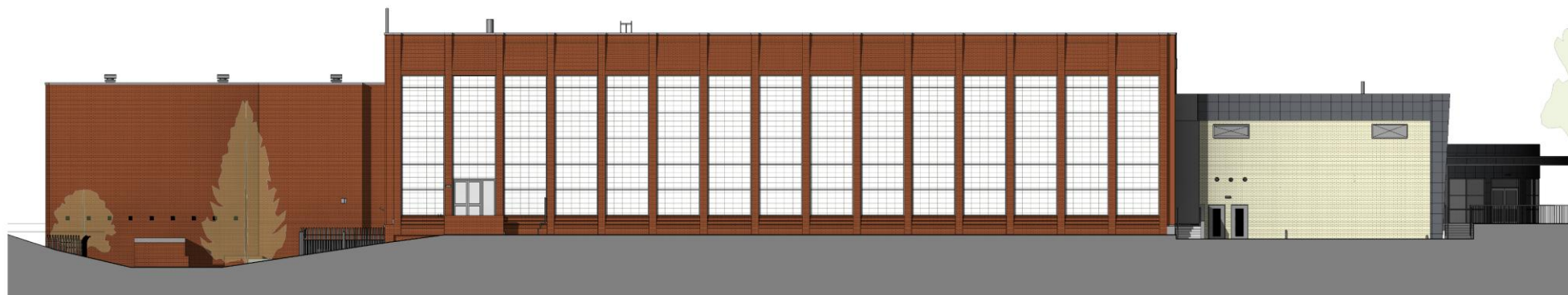
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Proposed - Southwest Elevation

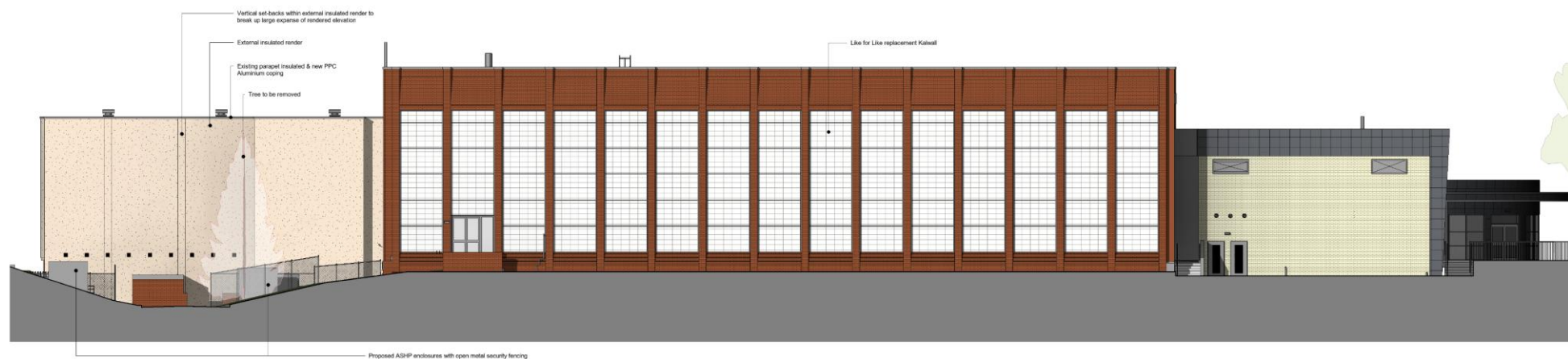
0 1 2 3 5m

## Existing & Proposed Northwest Elevations



Existing Northwest Elevation

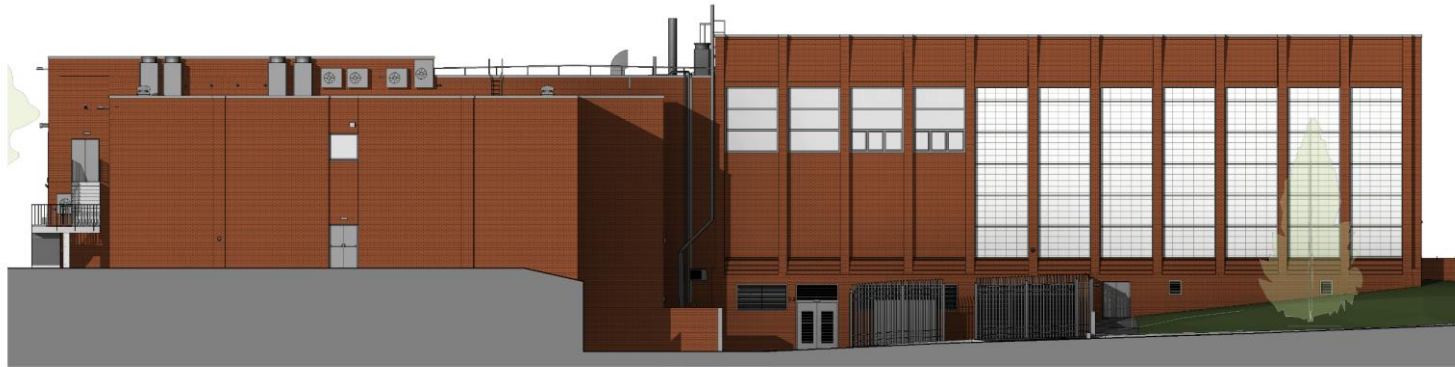
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Proposed - Northwest Elevation

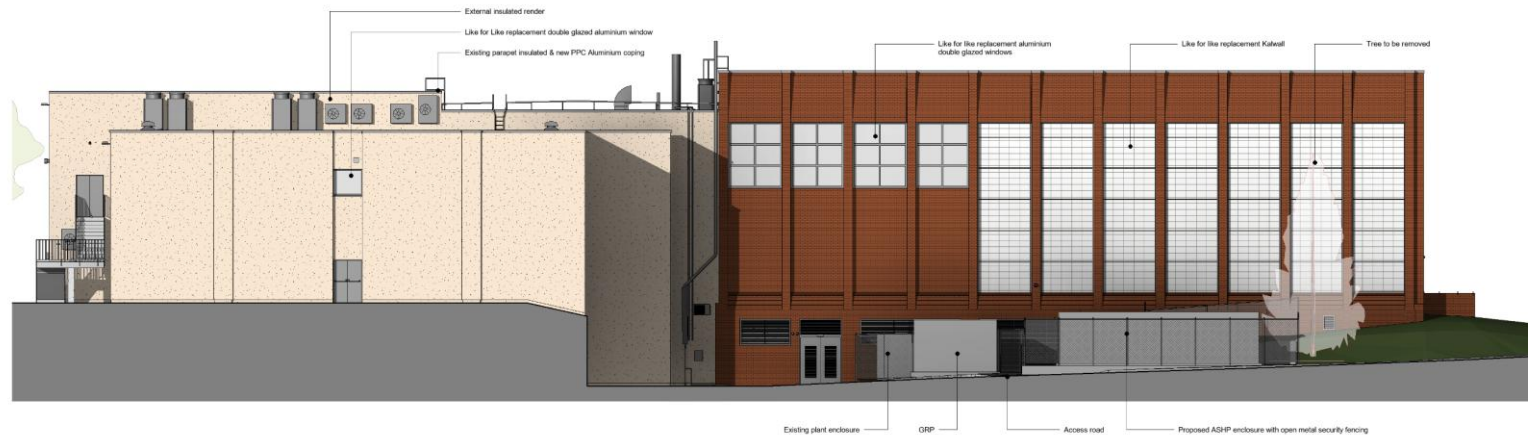
0 1 2 3 5m

## Existing & Proposed Northeast Elevations



Existing Northeast Elevation

0 1 2 3 5m



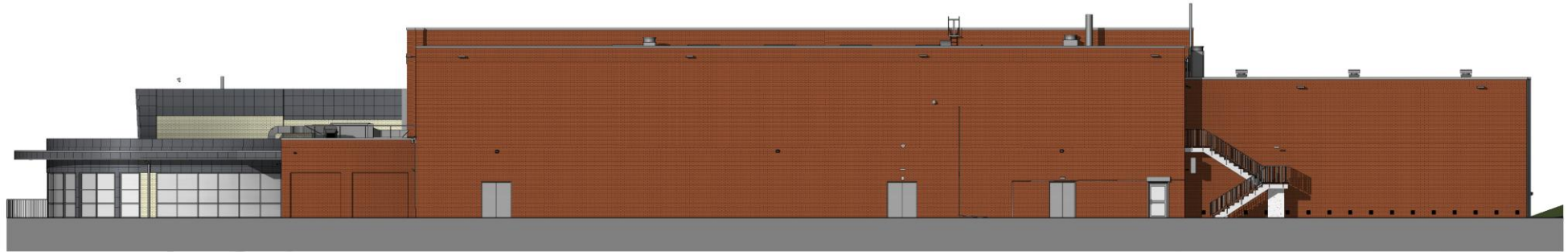
Proposed - Northeast Elevation

0 1 2 3 5m



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## Existing & Proposed Southeast Elevations



Existing Southeast Elevation

0 1 2 3 5m



Proposed - Southeast Elevation

0 1 2 3 5m

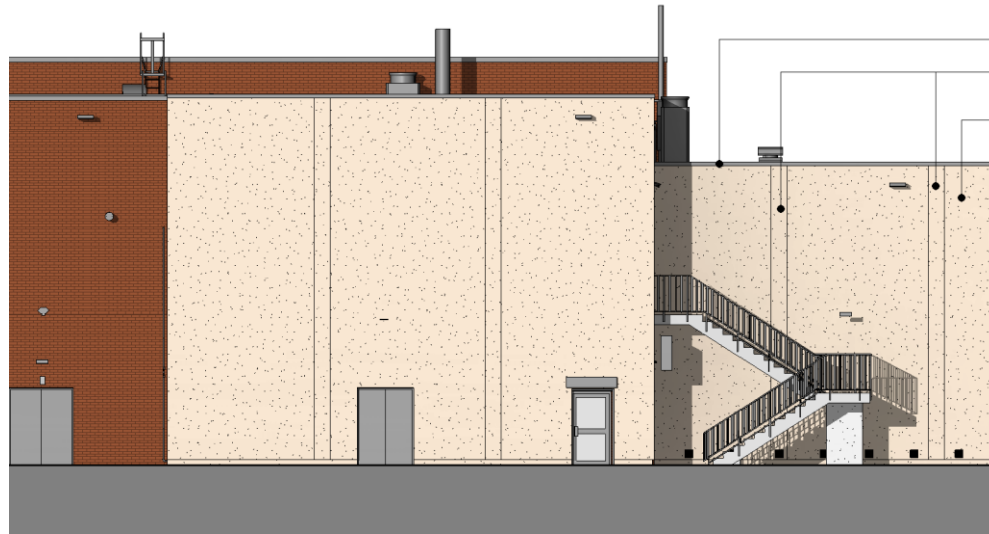
## Amount / Scale

### Amount

- The insulated render will be applied full height to portions of the perimeter of the existing building, predominantly on the North, South and East sides (consisting of the Squash Courts, Gym area and around the entrance at ground and first floor level).
- Solar PV panels are proposed to be placed on the roof of the central circulation area, the Sports Hall roof and the rear Squash Court roof.

### Scale

- The overall form and massing of the existing buildings will remain unchanged.



Partial Existing & Proposed Southeast Elevations

## Appearance

- The insulated render will be an off-white/ beige colour to be complementary to the existing brickwork. A through-colour or silicone render will be specified to ensure a high-quality long-lasting finish. To add visual variation to the façade, a series of vertical bands are to be added by setting back the depth of the render. This is to create a similar visual effect and rhythm as on the primary façade where this effect is carried out with brickwork columns between Kalwall or glazing.
- The PV panels will be set back from the roof edges with the existing parapet walls ensuring that visibility of the panels from ground level will be minimal.
- Replaced windows, curtain walling and Kalwall will be like-for-like in appearance. For replacement windows on the northeastern elevation it is proposed that the fenestration arrangement is rationalised. This is to more safely install and replace these high-performance and comparatively heavy glazing units in future.
- A modest and mid grey aluminium parapet coping will be added to provide adequate weather protection to the render system.



Partial Proposed Northeast Elevation

# Landscaping, Biodiversity & Access

## Landscaping & Biodiversity

- To be read in conjunction with the RPS;
  - Preliminary Ecological Appraisal
  - Biodiversity Net Gain Assessment
  - Landscape Planting Plan
- To the east (rear) and southeast an Air Source Heat Pump enclosure, new substation and GRP enclosure are proposed predominantly on existing grass and hardstanding. The ASHP enclosure is enclosed within a close-boarded timber acoustic fence. A tree of low arboricultural value is to be removed to facilitate this enclosure and allow it to remain behind the existing building line.
- The Biodiversity on site is to be improved via the reinforcement of existing green areas on site via the planting of trees, shrubs and a more diverse range of native plant and flower species appropriate to the local area. Please refer to the above noted RPS documents submitted as part of this application.

## Access

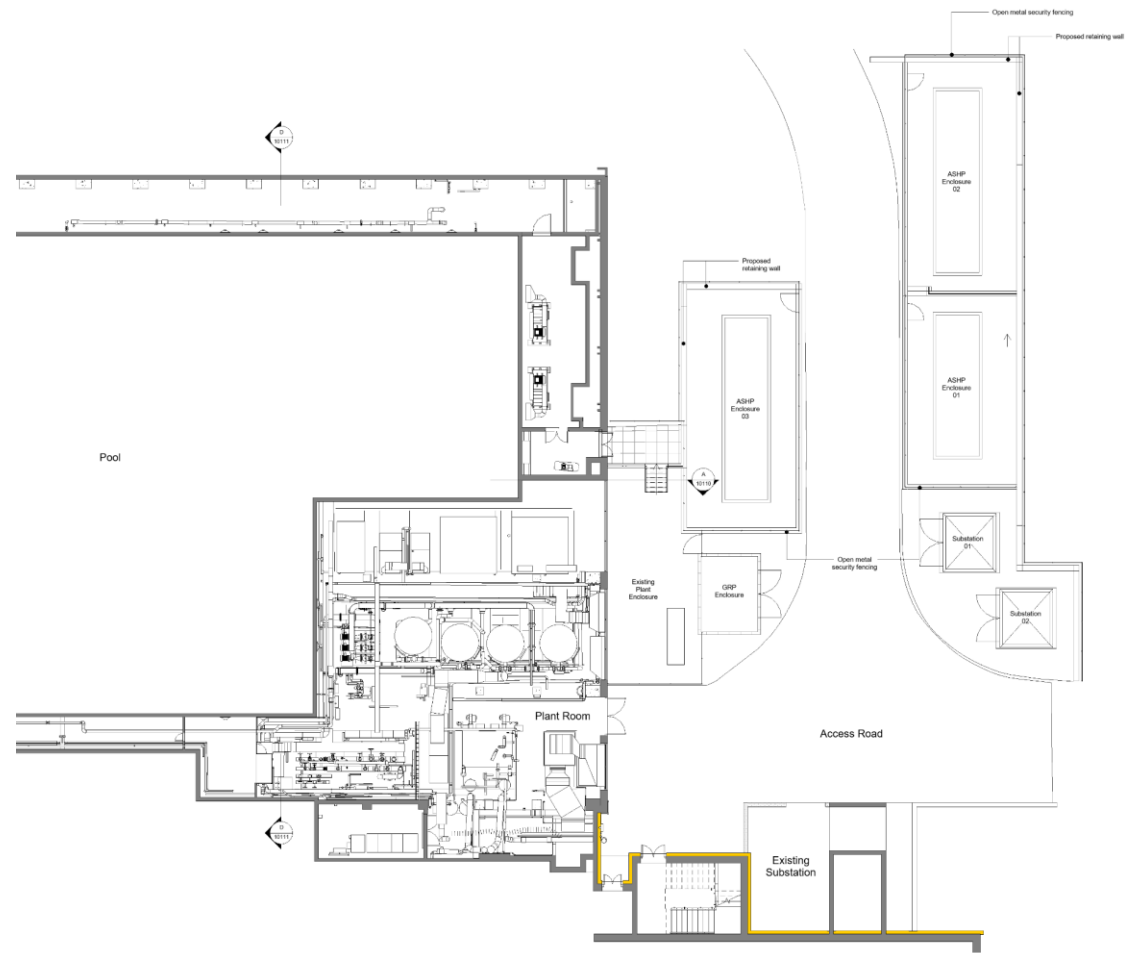
- No changes are proposed to the existing access or egress routes from the building. Vehicular access to the ASHP enclosure will be via existing vehicular access routes



RPS Proposed Landscape Plan

## MEP Services

- As part of the SALIX decarbonisation initiative, the current gas-fired boilers will be replaced with Air Source Heat Pump (ASHP) systems to provide domestic hot water (DHW), including heating for the pool, as well as space heating. Whilst the scheme does not cover the replacement of the existing Combined Heat and Power (CHP) plant the CHP plant will be decommissioned and the building will transition heating entirely to ASHP.
- To optimize energy usage, Passive Infrared (PIR) sensors will be installed in office areas to ensure energy is only consumed when required. Photovoltaic (PV) panels will be installed on the roof to contribute to carbon savings.
- The electrification of the building's heating system necessitates upgrades to the electrical infrastructure. This will include increasing the capacity of the incoming power supply and upsizing the Main LV switchgear. Two new GRP substations are proposed to the east of the existing building.
- Freestanding external lighting will be retained. Existing wall-mounted lighting fixtures will be removed to facilitate the addition of the Insulated Render before being reinstated and recommissioned. Lighting is proposed for out-of-hours maintenance within the external plant compound to the rear of the building however this would be used infrequently.



Proposed service yard



