

5.0 CONSULTANT INFORMATION

ARBORICULTURAL

A full rpeort is included in the appendic to the planning application.

This proposal will result in the loss of one group that are all low quality because of their poor condition or small size. All the significant boundary tree cover will remain intact, and no further trees will be removed. The construction activity has the potential to adversely affect retained trees if proper protective measures are not taken. However, if adequate precautions to protect the retained trees are specified and implemented through the arboricultural method statement included in this report, the development proposal will have no detrimental impact on the contribution of trees to local character.

For these reasons, it is concluded that the proposed development would not cause an unacceptable or adverse impact on the character and appearance of the area from a tree perspective.



AIR QUALITY

Build Energy was commissioned by Morgan Sindall Construction & Infrastructure Ltd to undertake an Air Quality Assessment in support of a planning application for a new Fire Training Facility on land off Leigh Road, Eastleigh

Operation of the Fire Training Facility will result in atmospheric emissions of combustion gases. These have the potential to cause air quality impacts at sensitive locations within the vicinity of the site. As such, an Air Quality Assessment was undertaken in order to determine baseline conditions and quantify potential effects.

Dispersion modelling was undertaken in order to predict pollutant

concentrations at sensitive locations as a result of emissions from the development. Impacts at sensitive receptors were quantified and the results compared with the relevant AQOs and significance criteria. Predicted concentrations of all pollutants were below the relevant AQOs at all locations of human exposure for all meteorological data sets modelled. Review of the dispersion modelling results indicated that impacts on annual mean and short term pollutant concentrations were predicted to be negligible at all receptors. As such, overall impacts are considered to be not significant in accordance with the IAQM guidance.

Based on the assessment results, air quality issues are not considered a constraint to planning consent for the proposals.

DRAINAGE

The FFL is assumed to be 16.500 however if this was raised this would assist.

The levels shown are based on tying into existing levels adjacent to the development area and a flush threshold into the Live

Existing Drainage

There are only surface water drainage features, there are gravity 100 & 150 surface water drainage systems, an existing Surface Water Pump Station has been identified, this is understood to be decommissioned / non operable, this primarily drained a redundant concrete slab, the unit will remain as part of these works but is not going to form part of the drainage strategy. The area is proposed to be resurfaced as part of these works. The drainage pipes were provided to drainage external hard standings and associated training building roofs.

To the North of the site there is a 100diameter foul drain this serves the existing Urban Search and Rescue (USAR) Training facility, it also serves the existing live fire training area and associated portakabins, this ultimately drains to Southern Water

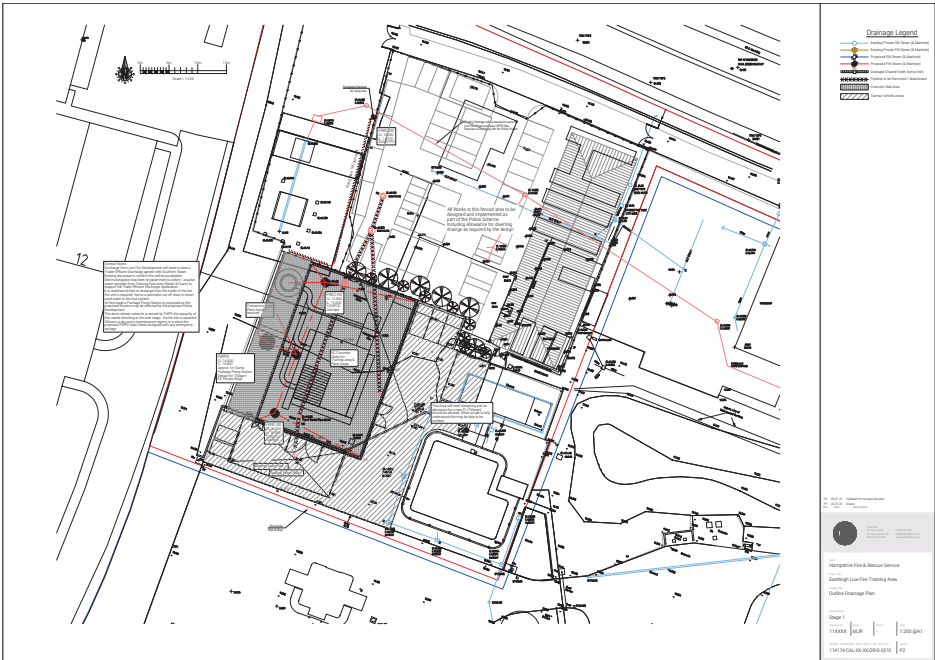
Sewers in Leigh Road, as does the wider HFRS site. The USAR area drainage requirements will need to be accommodated as part of the police facility works.

Proposed drainage strategy.

The Roof of the Live Fire Training facility will be drained by external rainwater goods into to below ground drainage which will connect to a soakaway designed for the 1:100yr + 40%storm event

The external Apron to the building will be constructed from concrete draining to a linear channel, which will be connected to the foul drainage system serving the site. Southern Water have provided confirmation of a Trade Effluent Consent application hasbeen approved.

The remaining hard standing area outside of the potentially contaminated area, will drain to existing drainage gullies. These gullies will be retrofitted with Naylor Smart Sponge Adapters.



ENERGY

As the facility is not a habitable building or a place of work, approved Document L2A or BREEAM Targets are not applicable to this scheme as the indoor climate is not managed by any Mechanical or electrical system.

- The facility is exempt from energy targets as it meets the exemption criteria set out in Regulation 21- use’s energy to condition the indoor climate

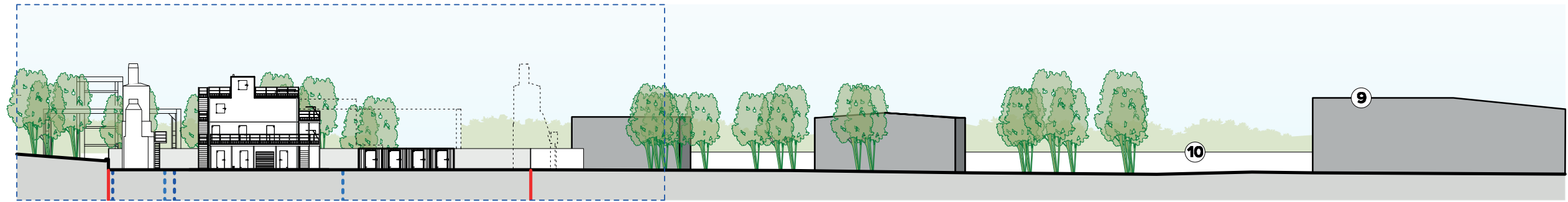
The existing steel container Live Fire training Facility at HIWFRS Eastleigh HQ has reached its end of life and is no longer serviceable, thus creating the need to create a new Live Training facility.

The proposed new facility will be constructed from Pre-cast Concrete Walls, Floors and Stairs. The building will be provided with Ground floor, First floor, Second Floor and Roof area. Internal and external stairs will provide access to all floors. There will be an external perimeter yard area for training scenarios and Mechanical smoke scrubber that will extract & clean the smoke from the carbonaceous training Fires.

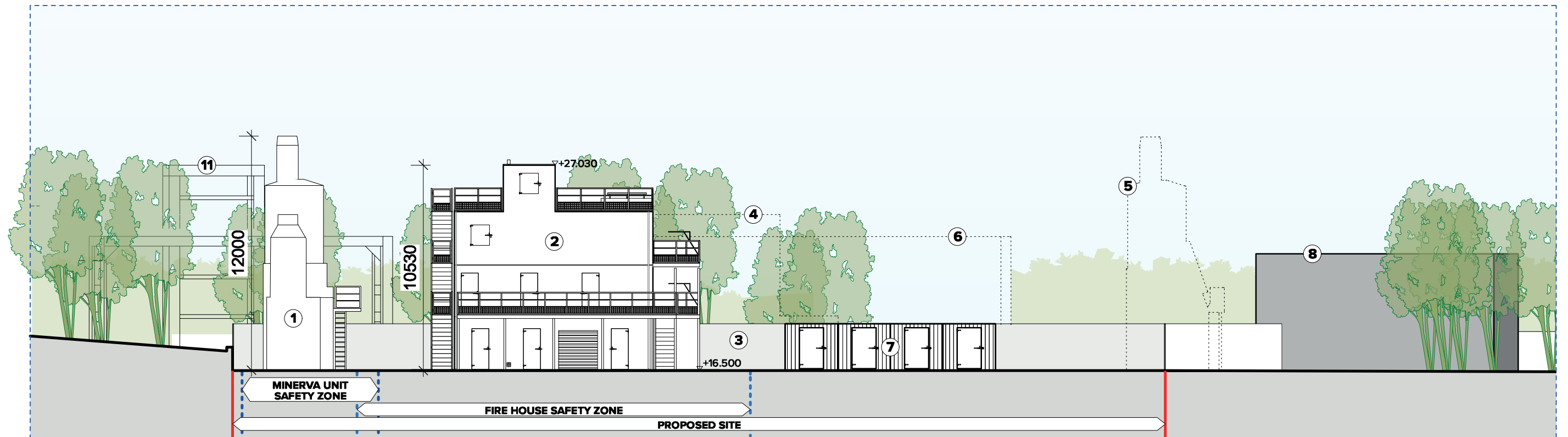
Planning Requirements

As the facility is not a habitable building or a place of work, approved Document L2A or BREEAM Targets are not applicable to this scheme as the indoor climate is not managed by any Mechanical or electrical system.

The facility is exempt from energy targets as it meets the exemption criteria set out in Regulation 21- use’s energy to condition the indoor climate

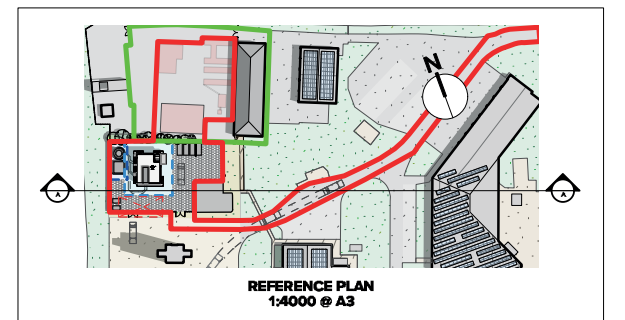


**PROPOSED SITE SECTIONAL ELEVATION
A-A (SOUTH WEST) 1:500 @A3**



**PROPOSED SITE SECTIONAL ELEVATION
A-A (SOUTH WEST) EXCERPT 1:200 @A3**

- | | |
|--|--|
| ① PROPOSED MINERVA UNIT | ⑦ PROPOSED LIVE FIRE STORAGE CONTAINERS |
| ② PROPOSED FIRE HOUSE | ⑧ DEVELOPED BUILDING AS PER PLANNING APPLICATION. REF: 8687512 |
| ③ PROPOSED PROTECTIVE PERIMETER PALISADE FENCING | ⑨ EXISTING MAINTENANCE BUILDING |
| ④ OUTLINE OF EXISTING FIRE HOUSE - TO BE REMOVED AFTER COMPLETION OF PROPOSED FIRE HOUSE (REF: 8687512) | ⑩ EXISTING SITE FENCING |
| ⑤ OUTLINE OF EXISTING MINERVA UNIT - TO BE REMOVED AFTER COMPLETION OF PROPOSED FIRE HOUSE (REF: 8687512) | ⑪ OUTLINE OF EXISTING EARTHQUAKE TRAINING FACILITY |
| ⑥ OUTLINE OF EXISTING WESSEX BUILDING - TO BE REMOVED AFTER COMPLETION OF PROPOSED FIRE HOUSE (REF: 8687512) | |



PROPOSED SITE SECTION

Passive Design & Energy Efficiency Measures

Passive building design and energy efficiency measures will form the basis of the energy and carbon reduction of the building. The following table outlines the measures that will be implemented:

Table 1:Passive Design & Energy Efficiency Measures

Energy Efficiency Measures

- Demand-controlled smoke extraction strategy
- Openable steel window shutters to naturally cool spaces
- Energy efficient lighting with LED luminaires and with control system
- Demand controlled smoke extraction
- Energy metering and sub-metering on all electrical distribution boards and large equipment

Building Fabric and Architecture

The building Fabric is Precast Concrete structure with sheet steel windows and doors. As the training facility is only used for the creation of live carbonaceous fires U-Values for the fabric is not applicable.

Energy Efficient MEP Systems

Heating Strategy

The Facility has no Heating

Ventilation Strategy

No ‘Ventilation’ system is required as part of the facility. A mechanical Smoke Extract strategy will be utilised throughout the building to draw away smoke from the training Fires and Clean the smoke. The Smoke Extract system is only to remove and clean the smoke from fires and is not for cooling.

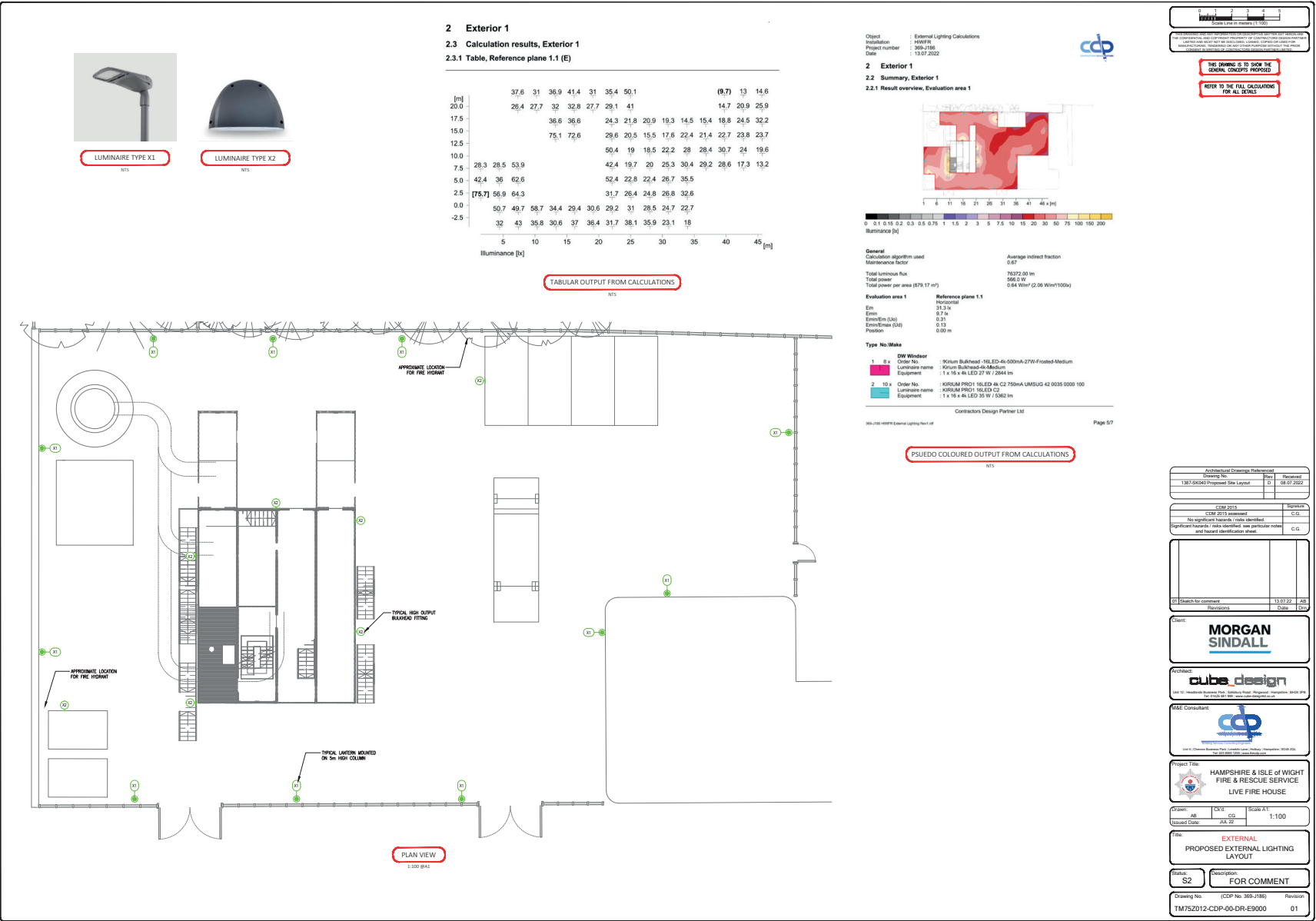
Cooling Strategy

The building is not a place of work or habitable space and has no requirement for cooling.

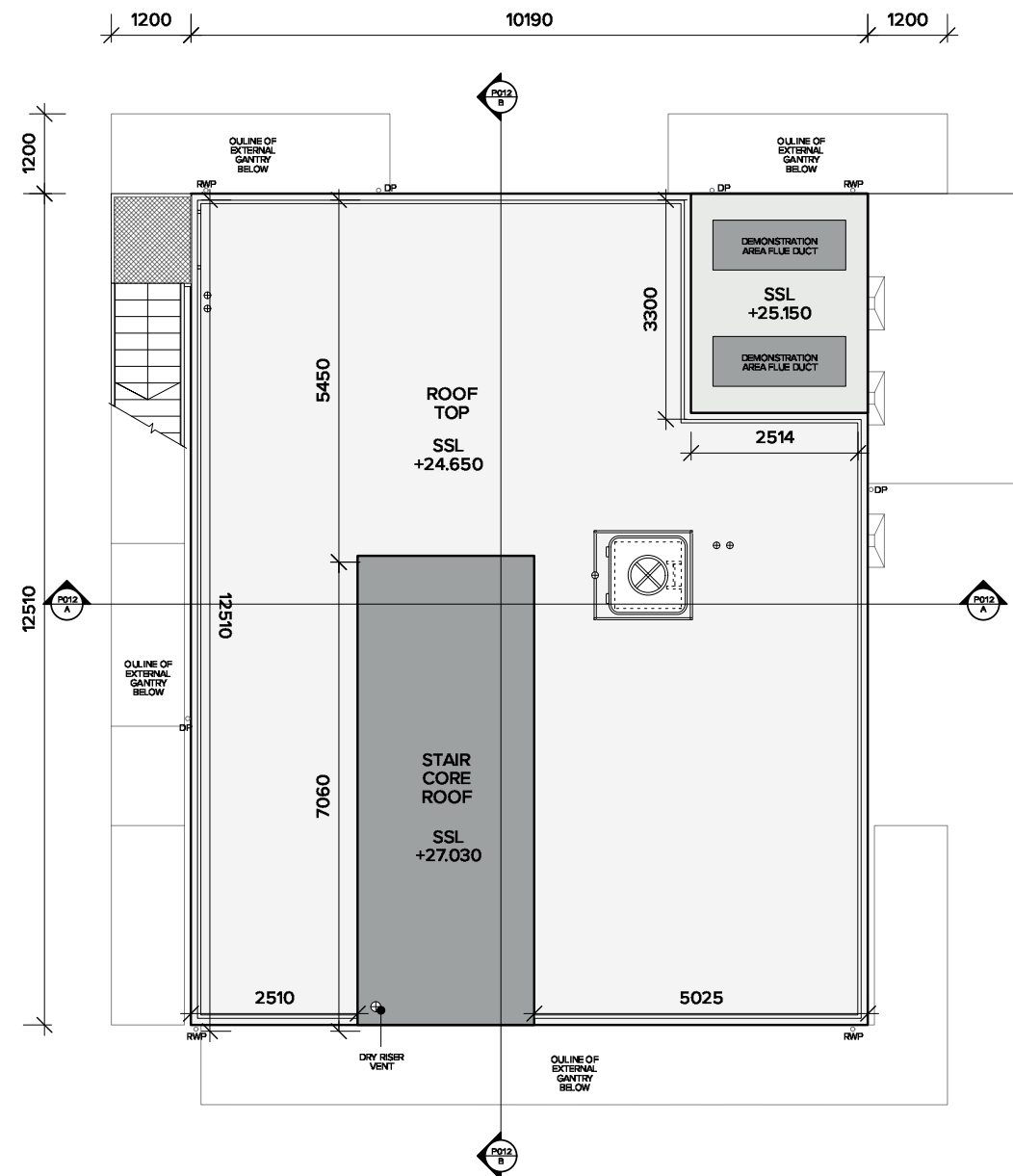
LIGHTING STRATEGY

Luminaires with highly efficient LED type lamps and energy saving controls will be installed in order to comply with the low energy requirements of the Building Regulations and associated sustainability targets. Lighting selection will therefore consider performance, function, efficiency, and ease of maintenance.

Luminaires will be low energy LED types with an operational colour temperature of 4000k. Luminaires will typically be provided complete with dimmable control gear.



External Lighting				
Reference				
Area of use:	Open Area	Fire Hydrants & External Wallways	Carpark	Within column
Manufacturer:	DW Windsor	DW Windsor	DW Windsor	Any
Luminaire range:	Kilum Pro 16 LED	Kilum Wall	Circular	n/a
Cat No:				
Lamp Type:	28W LED + C2 Optic	27W LED + Frosted Medium Optic	n/a	
Lumen Output (lm):	5662	2844	n/a	
Lamp Colour (°K):	4000	4000	n/a	
Dimmable?:	No	No	n/a	
Type of fitting:	Column mounted	High Output Bulkhead	5m Column	Cut out
Mounting Arrangement :	Post top, 5m.	Wall Mounted	Flange Pole:	Within column base
Dimensions (mm):	410L x 350 W x 140H	240W x 235H x 162D	Ø139/76 x 5m	
Colour/Finish:	RAL 7035 Light Grey	RAL 7035 Light Grey	RAL 7035 Light Grey	
Weight (kg):	7.1	2.5	n/a	
Cut-out size (mm):	n/a	n/a	n/a	
Drivers:	Integral	Integral	n/a	
EMG Integral/Remote:	n/a	n/a	n/a	
Lumens/Circuit Watt:			n/a	
Notes				20A rated. Fused at 6A. For single phase double pole. In-amp, loop-out.



NOTES:
ALL GANTRY BALUSTRADES & HANDRAILS TO HAVE HALF MESH PANEL ALONG BOTTOM RUN WITH ACCOMPANYING TOEBOARDS.
ALL GANTRY FLOOR GRID DIMENSIONS MUST PREVENT EQUIPMENT FROM FALLING THROUGH. DIMENSIONS TO BE CONFIRMED.

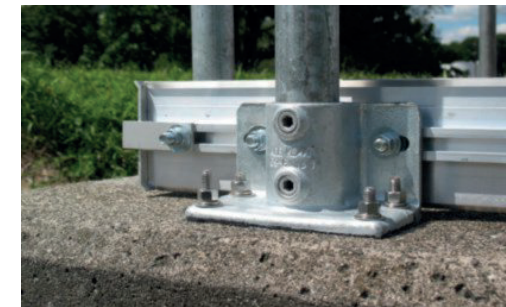
**PROPOSED THIRD FLOOR / ROOFTOP PLAN
SSL +24.650 / +27.030**

ALL WINDOWS ARE TO INCLUDE SEALABLE METAL HATCHES & APERTURES.
ALL DOORS TO HAVE 55-60mm INSITU CONCRETE THRESHOLD.

2. GANTRY & HANDRAILS



ALL GANTRY AND ROOFTOP BALUSTRADES / HANDRAILS TO HAVE LOWER HALF HANDRAILS WITH MESH INFILL PANELS ALONG BOTTOM RUN.



ALL GANTRY AND ROOFTOP BALUSTRADES / HANDRAILS TO HAVE ACCOMPANYING TOEBOARDS.



ALL GANTRY FLOOR GRID DIMENSIONS MUST PREVENT EQUIPMENT FROM FALLING THROUGH. DIMENSIONS TO BE CONFIRMED.



5. PRESSURE VENTS
OVER PRESSURE VENTS TO BE PLACED THROUGHOUT WHERE NECESSARY.

3. HPL PANELS

2 x HPL (HIGH PRESSURE LANCE) PANELS ARE TO BE FITTED TO 2 SELECTED WINDOWS/DOORS. HPL TO HOLD A PAVING SLAB. HPL'S TO BE FITTED TO DOORS AND NOT CONCRETE STRUCTURE. - CLIENT TO CONFIRM EXACT LOCATIONS.

4. SHIP DOOR & HATCHES



PHOTO EXAMPLE OF SHIP BULKHEAD DOOR, AS PROVIDED BY CLIENT. SPEC & PROVIDER TBC.



PHOTO EXAMPLE OF SHIPS HATCH DOOR, AS PROVIDED BY CLIENT. SPEC & PROVIDER TBC.



PROPOSED ROOF PLAN

Building Management System (BMS)

The building will not have a BMS.

Domestic Water Services and Sanitary Fittings Strategy

The building will have no domestic water or sanitary services. Welfare facility’s will be used in adjacent training buildings.

Low or Zero Carbon (LZC) Technologies

No LZC technologies can be incorporated due to the bespoke needs of this training facility. The client will use electric from a renewable source

Overall CO2 Emissions Reduction

The existing training facility is not currently energy efficient due to the age and condition of the uninsulated structure and equipment.

The new facility will be provided with new energy efficient systems and robust internal insulation to contain training fires which will minimize and reduce CO2 emissions in conjunction with this project.

EXTERNAL LIGHTING

The following forms the design criteria proposed for this lighting scheme along with our interpretation of the requirements. The building does not comply with specific norms and it has therefore been necessary to form an opinion of what is best for the external areas.

The Fire Brigade work under standard street lighting when attending fires. However, for the open areas there are also tasks to carry out and Fire Brigade fire tenders in operation.

- BS EN 12464-2:2014 Lighting and lighting – Lighting of Work Places. Part 2: Outdoor work places

The full document for the external lighting is included in the appendix to this document

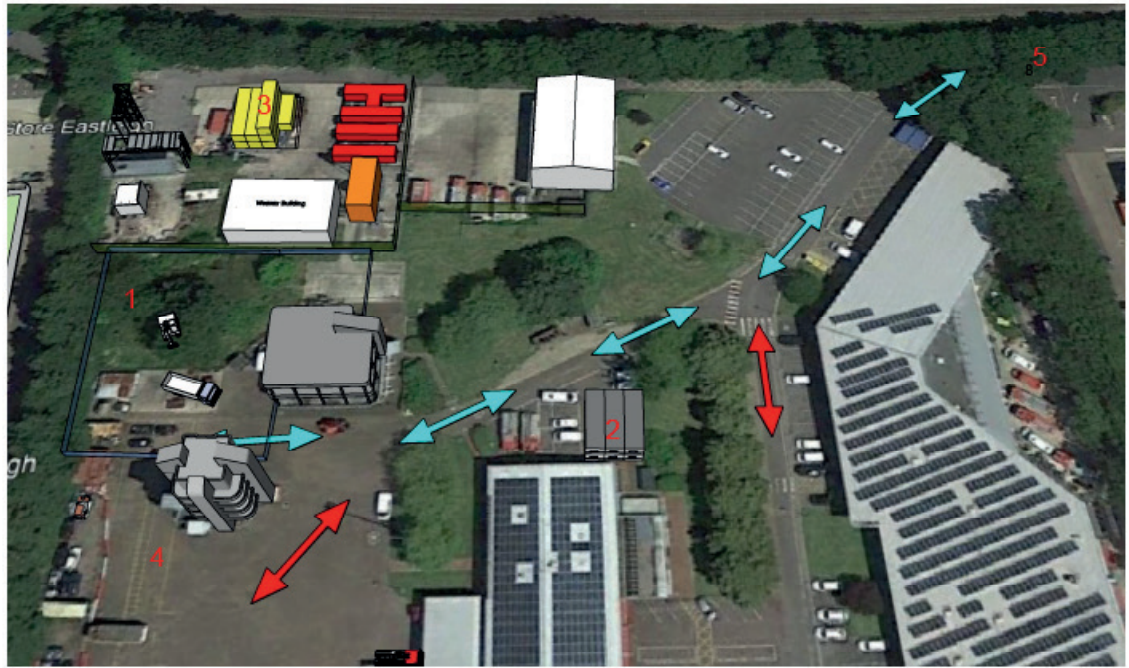
6.0 CONTRACTOR LOGISTICS AND CONSTRUCTION
MANAGEMENT PLAN

HIWFRS Live Fire - Existing Site



Site Works – Existing Site

HIWFRS Live Fire - Clear Site



Site Works - Overview

- 1 – New Live Fire Training Facility
- 2 – Morgan Sindall Site cabins
- 3 – Existing Live Fire Training Facility - removed upon completion of new.
- 4 – HIWFRS Training yard – Very limited construction deliveries only
- 5 - Rear site access gate into HIWFRS HQ

Red Arrows HIWFRS emergency access – NO stopping
Blue Arrows MS construction access

