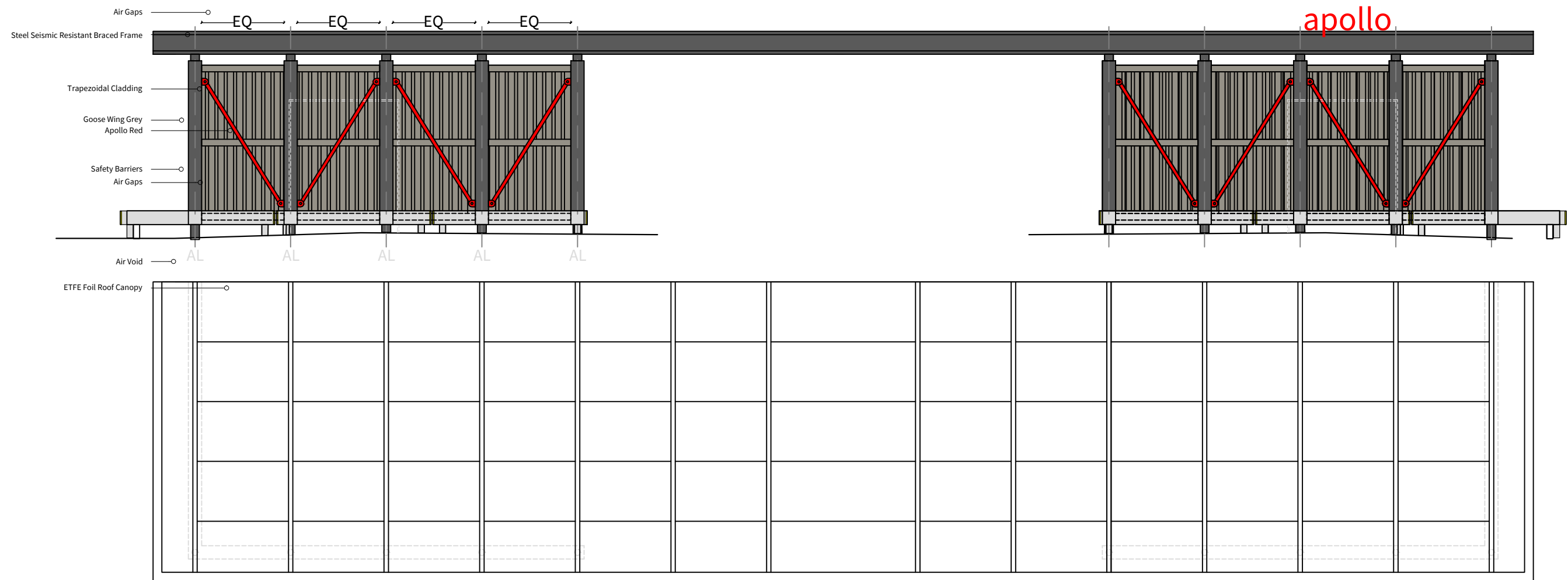


Proposed South Elevation
0 1m 2m 3m

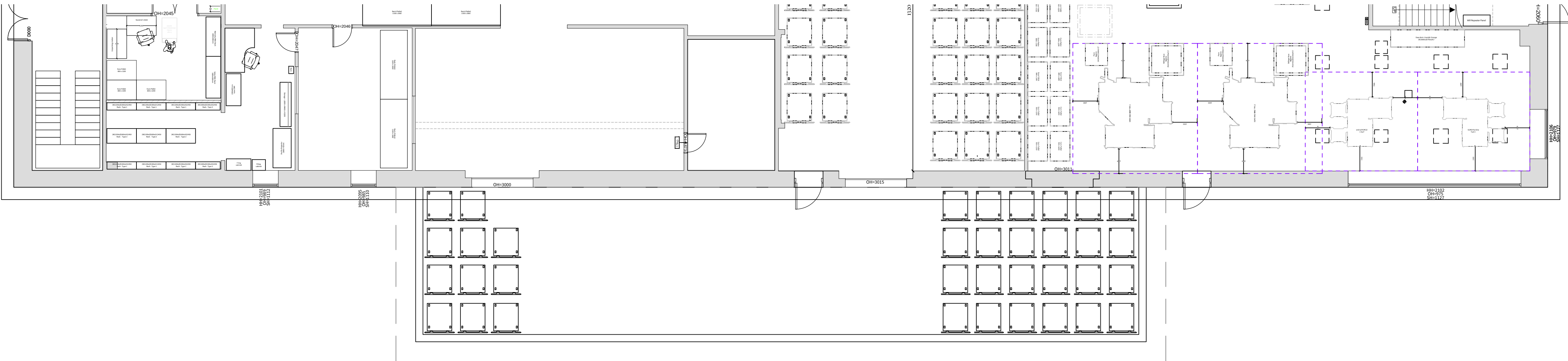


Proposed Roof Plan
0 1m 2m 3m



ETFE Foil Roof Benefits

1. **Light Transmission** - ETFE foil can be highly transparent (up to 90% to 95%), allowing natural sunlight and UV into a building. This offers a range of proven benefits for building inhabitants, from reducing stress and boosting the immune system, to allowing for the natural growth of indoor gardens.
2. **Durable** - ETFE is robust and unlikely to degrade after exposure to environmental pollution, UV light, harsh chemicals, or extreme temperature variations. Made from a polymer, the membrane will not rust like steel, or weaken over time like glass. Highly flexible under stress. ETFE will not shatter like glass in earthquakes or intensive storms.
3. **Light Weight** - The 3-layered ETFE inflatable system weighs around 2-3 kg/m2 in average with the connection aluminums. This feature has an advantage incomparable to glass. This feature enables covering long spans by a lightweight carrying system. Therefore, when considered with carrying infrastructure, it provides much more economic solutions.
4. **Self Cleaning** - It cleans itself even in a small amount of rain since substances like dust, etc. do not stick on its surface. The fact that the systems can be cleaned by rain water reduces the costs of periodical maintenance and cleaning.
5. **Safety in Design** - ETFE has beneficial characteristics in a fire situation; Low flammability; Low smoke emission; Self-extinguishing drops (will melt away but does not drip); and Self-extinguishing immediately when fire source is gone. With a thickness of 0.05 – 0.3mm, the foil has an extremely low mass so less likely to be a contributing factor in a building collapse. Unlike glass, ETFE will not shatter under hail, snow, storm winds, or during a fire.
6. **Environmentally Friendly** - From extruding of the film to transportation to site, compared to other similar cladding material, little energy will be consumed, thus reducing the overall carbon footprint. In addition, the nature of ETFE systems enhances the building physics through insulation and natural light transmission, contributing to the global low energy aspect of the building.
7. **Recyclable** - Easily recyclable, waste from the manufacturing process or even old elements can be remolded into new products such as tubing components and wires.
8. **Cost Effective** - Thanks to the lightweight nature of the membrane material, substructure support systems and concrete foundations can be designed more efficiently. ETFE systems also provide ample natural daylighting, thus minimising energy costs by lowering the demand for indoor lighting. Easy to repair; small tears to the membrane can be site welded or patched, and commonly installed in separate cushions, individual panels can be replaced if required, rather than having to replace entire roof sections.
9. **Thermal & Acoustic Insulation** - Using Dual and Triple Layer applications of ETFE creates cushions of air which provides temperature and acoustic insulation.
10. **Solar Control** - ETFE foil systems can incorporate a number of different frit patterns on one or more layer to alter solar performance. The foil can be printed with various standard or custom patterns.
11. **Long Life** - It has a life span of more than approximately 20 years due to its durability against UV, air pollution and environmental conditions.



fingerprintstudios

Scale

1/100 @A1

Date Drawn Checked
September 19, 2024 BEV PBB

Project Address
Apollo Fire Detectors Ltd

Drawing Title
Proposed Elevations

Status
Planning

Job Number
2029

Drawing Number Revision
27 1