

An architectural rendering of the Agar Grove residential development. The scene shows a courtyard with a central green lawn, a wooden play structure, and several people. The surrounding buildings are multi-story, featuring a mix of red brick and light-colored panels with large windows. A large tree is on the right, and a pigeon is on the grass in the foreground.

Hawkins\Brown

Max Fordham

Agar Grove: Masterplanning for Passivhaus

Existing Estate



AGAR GROVE

**LULWORTH
HOUSE**

CAMLEY ST

Agar Grove Scheme Overview



Team

Client London Borough of Camden &
the residents of the Agar Grove Estate

Architects Hawkins Brown (lead) with Mae

Landscape Architect Grant Associates

Services Engineer Max Fordham

Passivhaus Assessor Max Fordham

Passivhaus Consultant WARM

Structural Engineer Peter Brett Associates

Project Manager EC Harris

Financial Viability & Quantity Surveyor EC Harris

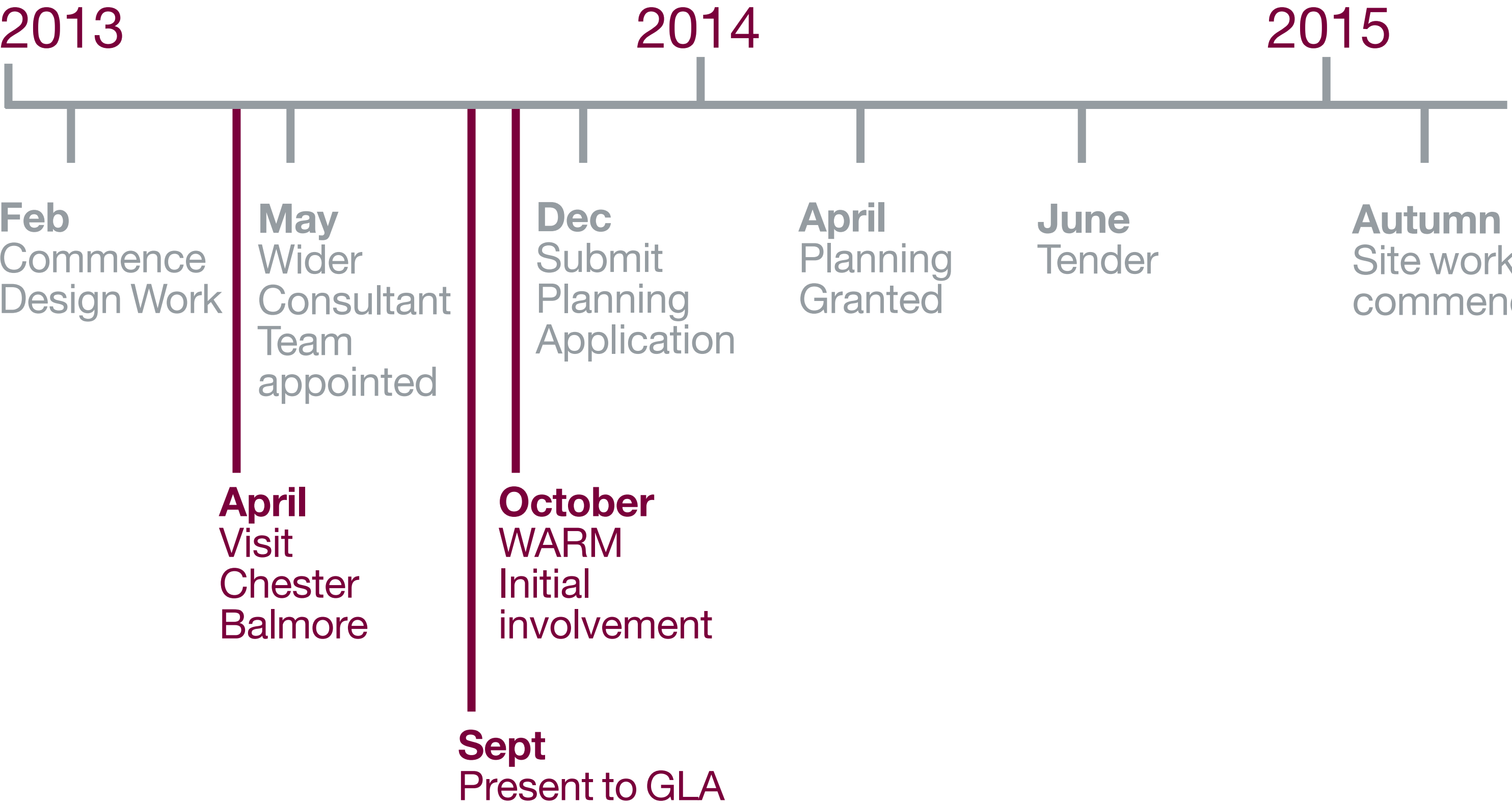
Planning Consultant CMA Planning

Post Tender Phase 1

Contractor Hill

Contractor's Architect Architype

Project Timeline



Agar Grove Masterplan Complex Activities

- Single decant of residents
- Massing
- Viability
- Sunlight & daylight
- **Passivhaus**
- Party Wall
- Design Quality
- CABE
- GLA
- Resident Consultation
- Loss of open space
- St Paul's viewing corridor
- Purdah



Agar Grove - Masterplan Principles

Growing the Grove

Extending a series of connected green spaces

Stitching in

Connecting the streets and buildings into their context

Giving meaning to Lulworth

Refurbishing Lulworth and giving new identity

A safe family neighbourhood

Planning streets with continuous well-defined blocks and active frontages

Building better homes

Creating high quality homes with good space standards and environmental performance

How do these principles integrate with Passivhaus?

1. Stitching In

- Building layout & response to the site
- Massing & building form



1. Stitching In

- Materials
- Unit Typologies



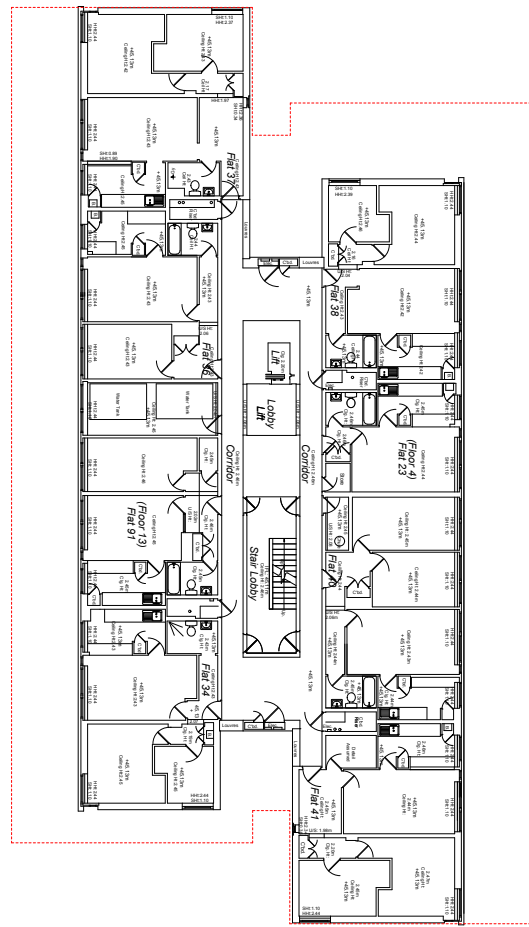
1. Stitching In

- Giving meaning to Lulworth



1. Stitching In

- Giving meaning to Lulworth



Existing typical floor
with proposed outline



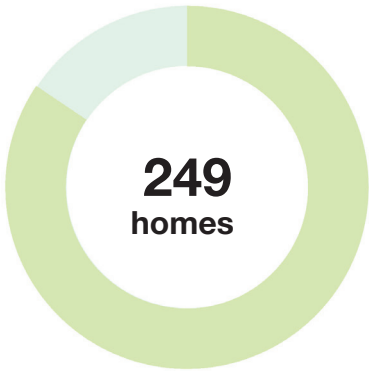
Proposed typical floor
with extensions



2. Building Better Homes

- Building more homes

EXISTING & PROPOSED SITE VOLUME



249

existing homes

210

Camden tenants

39

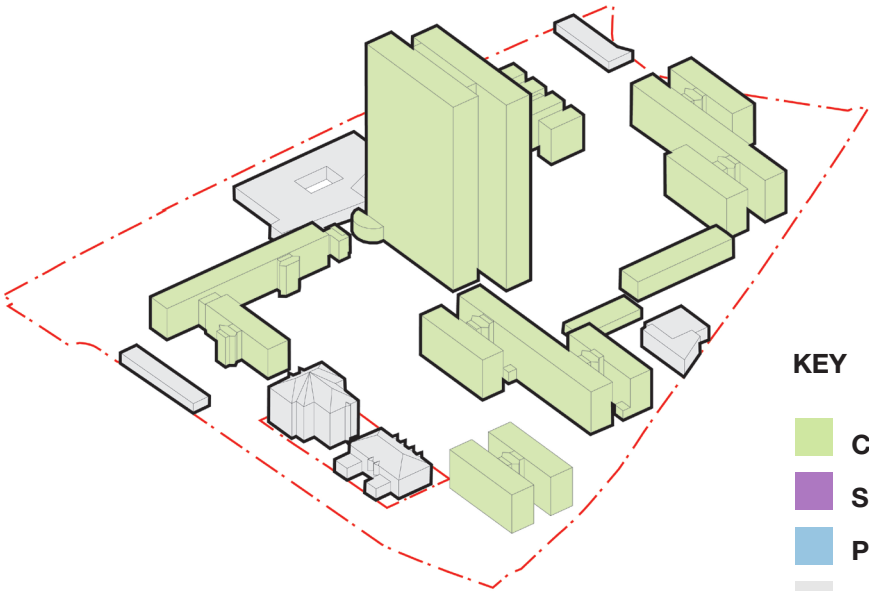
Leaseholders

97

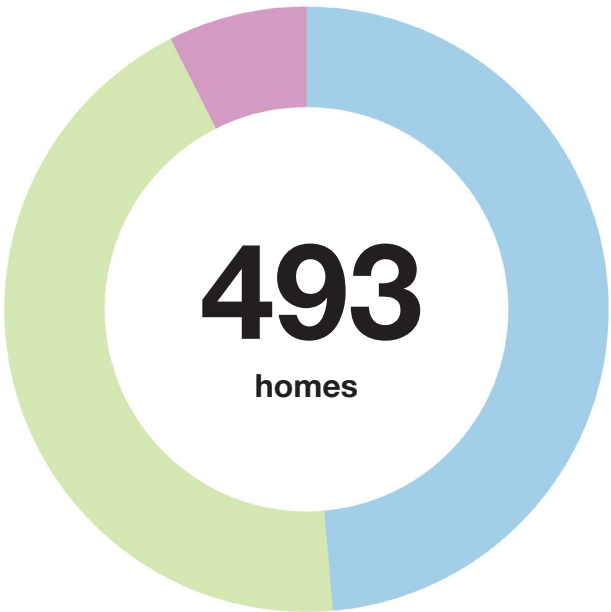
units per hectare
existing site density

19,432 sqm

existing residential GIA



PROPOSED SCHEME



493

proposed homes

216

Camden tenants

37

Shared Ownership

240

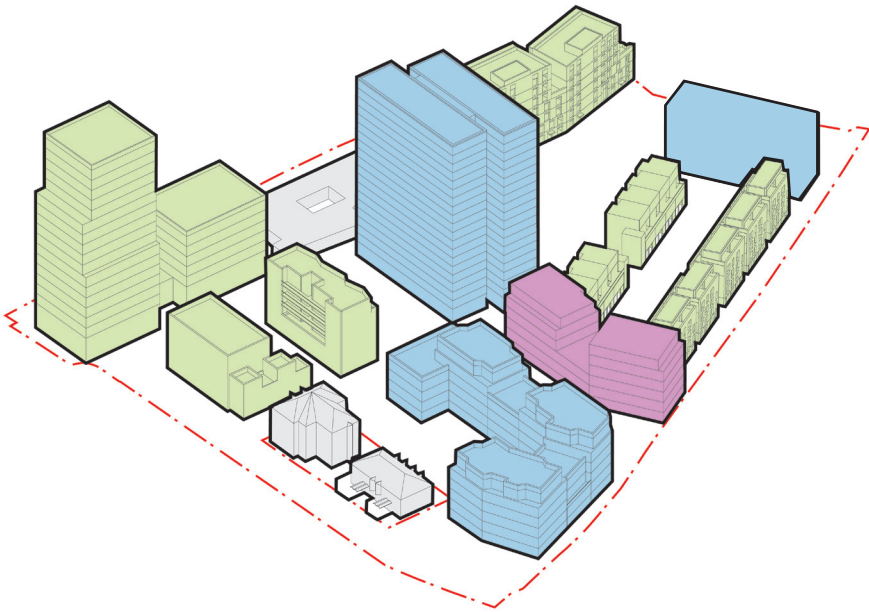
Private

193

homes per hectare
proposed site density

49,346 sqm

proposed residential GIA



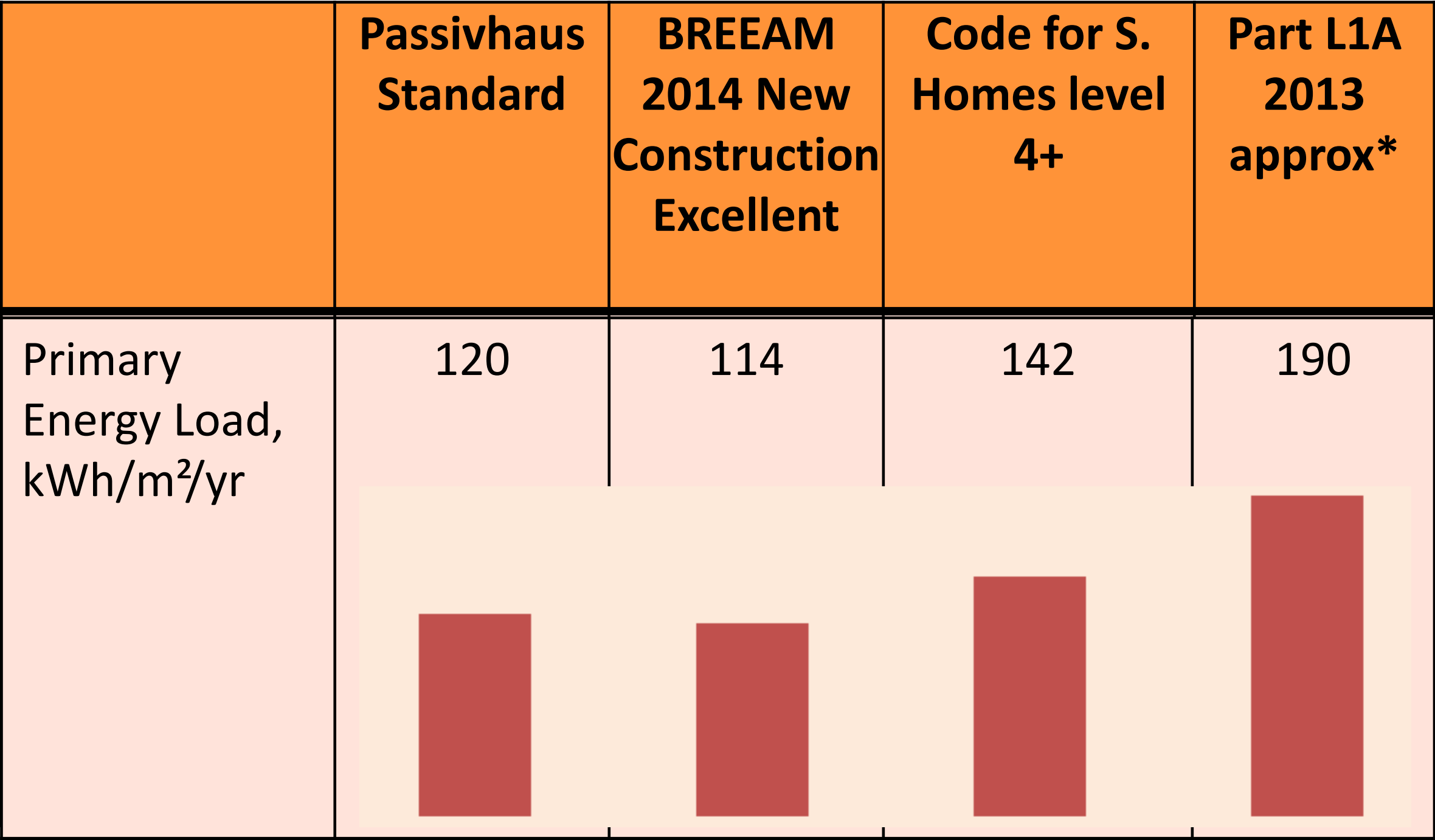
2. Building Better Homes

- Social & Environmental Improvement
- Tackle fuel poverty
- Lower fuel bills
- Summer and winter comfort
- No cold surfaces or draughts
- Quiet
- Good indoor air quality
- Comfortable and healthy



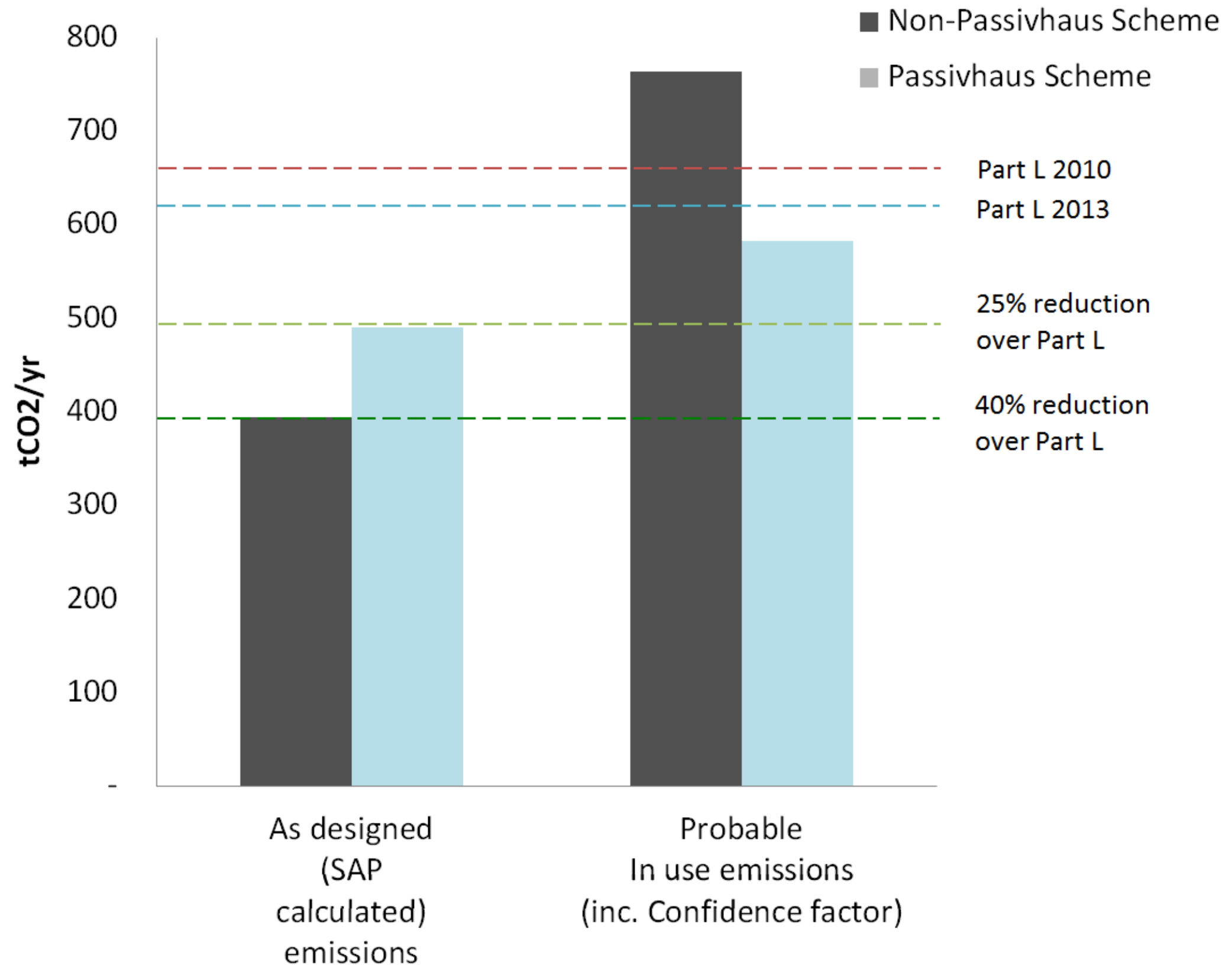
3. Complexity of Standards

- Comaprison of schemes



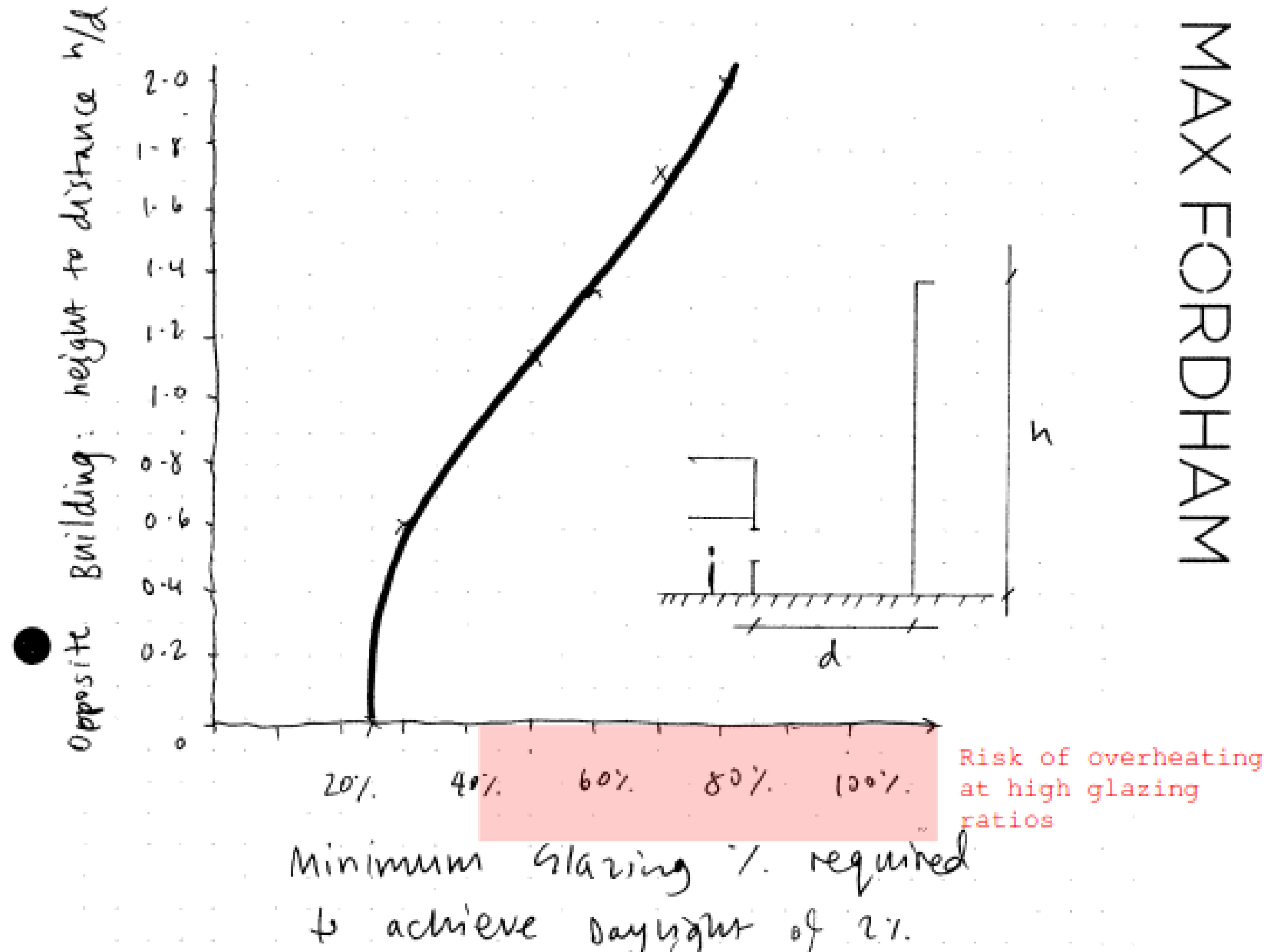
3. Complexity of Standards

- Performance gap between measured and actual



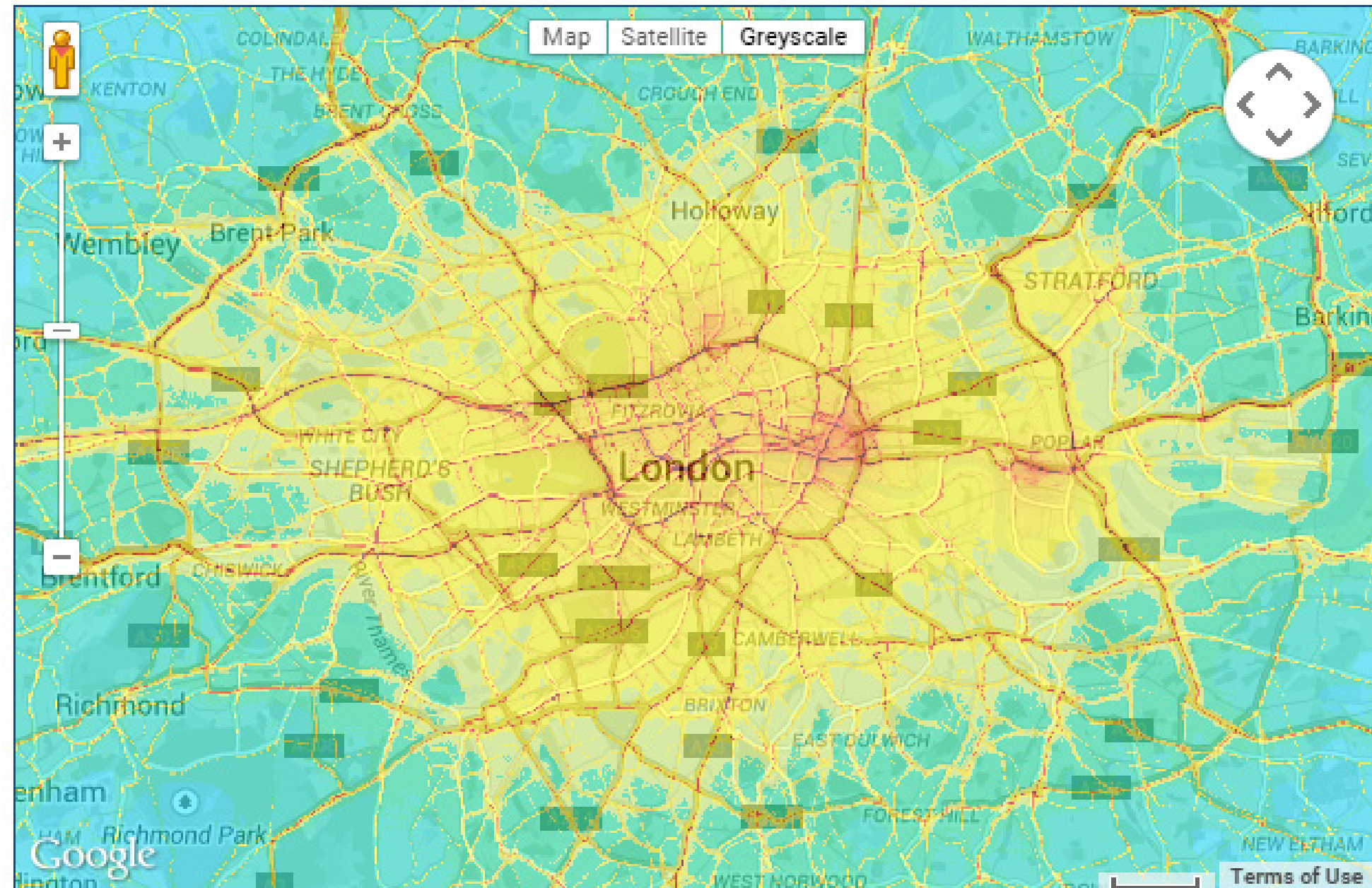
3. Complexity of Standards

- Daylight v Overheating

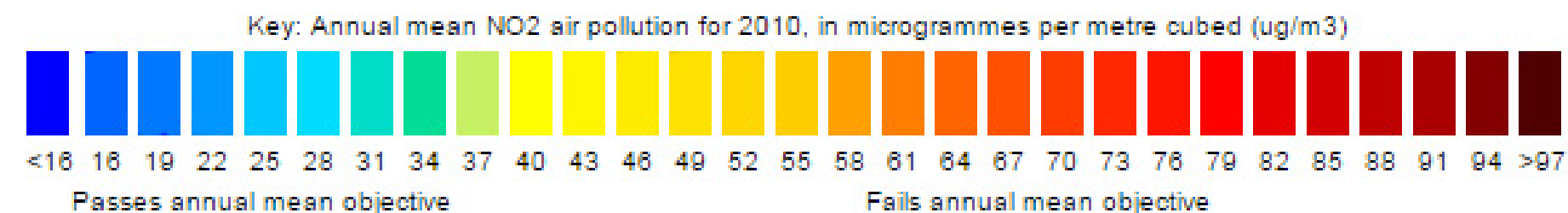


3. Complexity of Standards

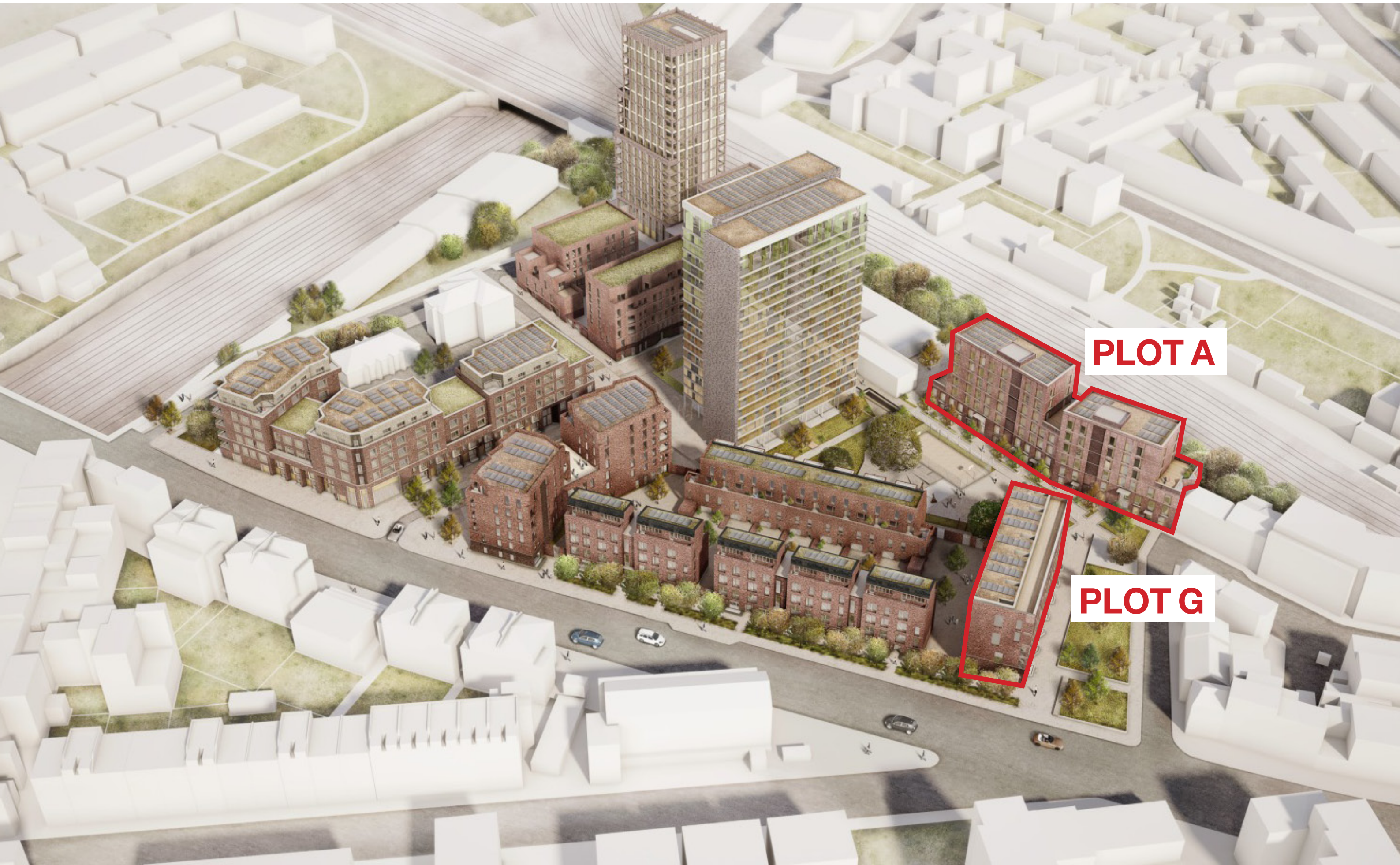
- Air Quality



Modelled annual mean NO2 air pollution, based on measurements made during 2010.



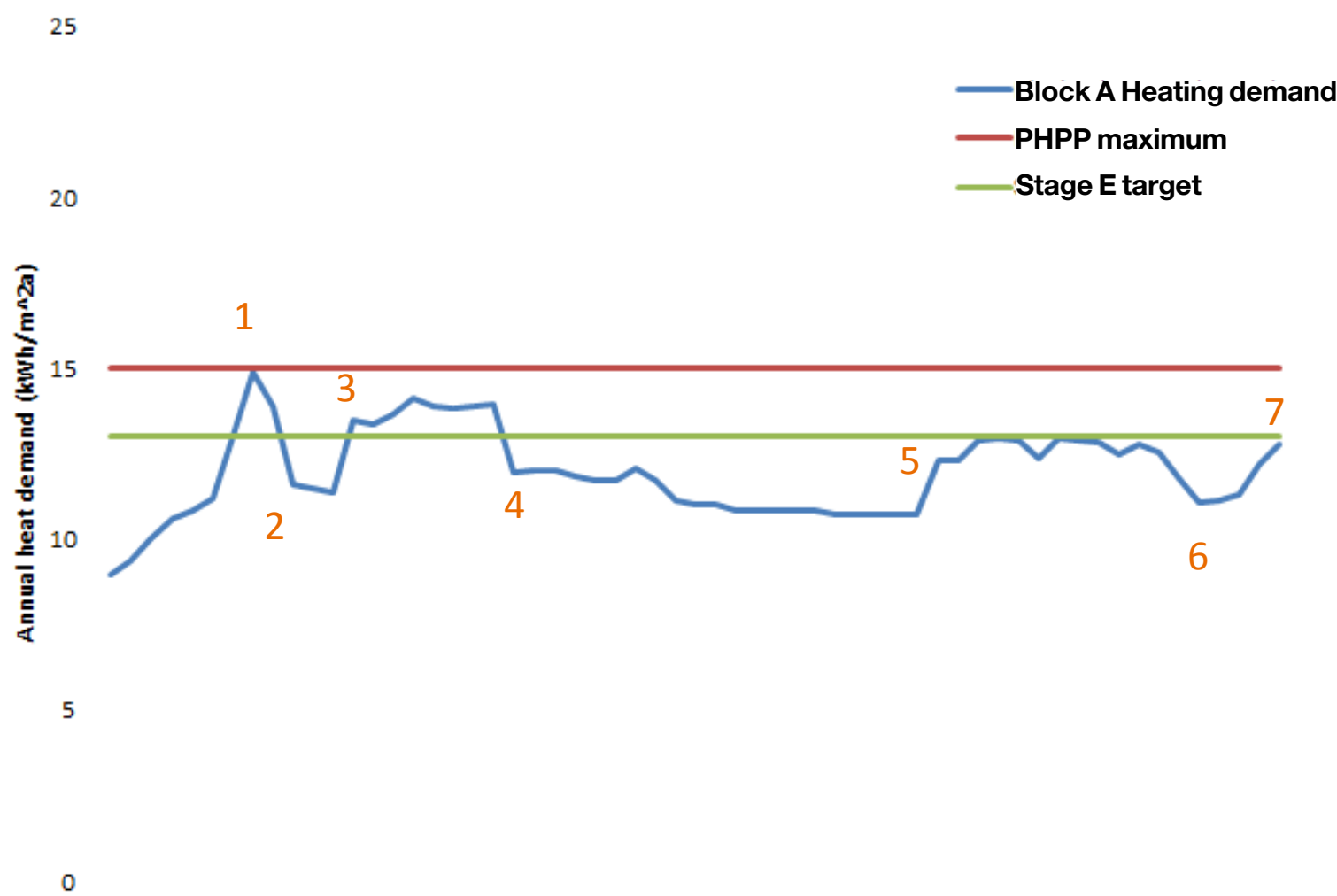
Block A/G Comparison



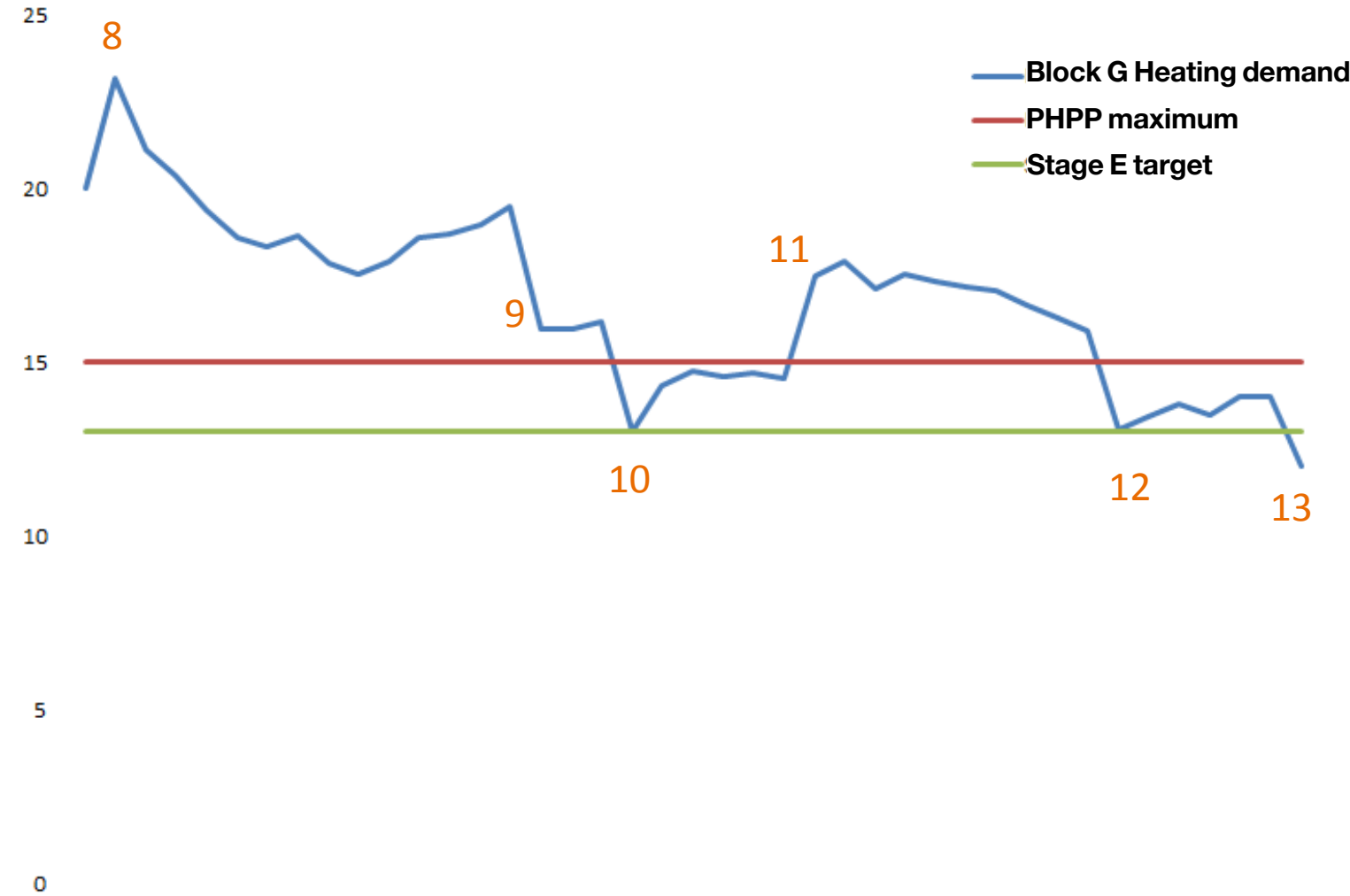
Block A/G Comparison

Heating demand PHPP

Block A Heating demand



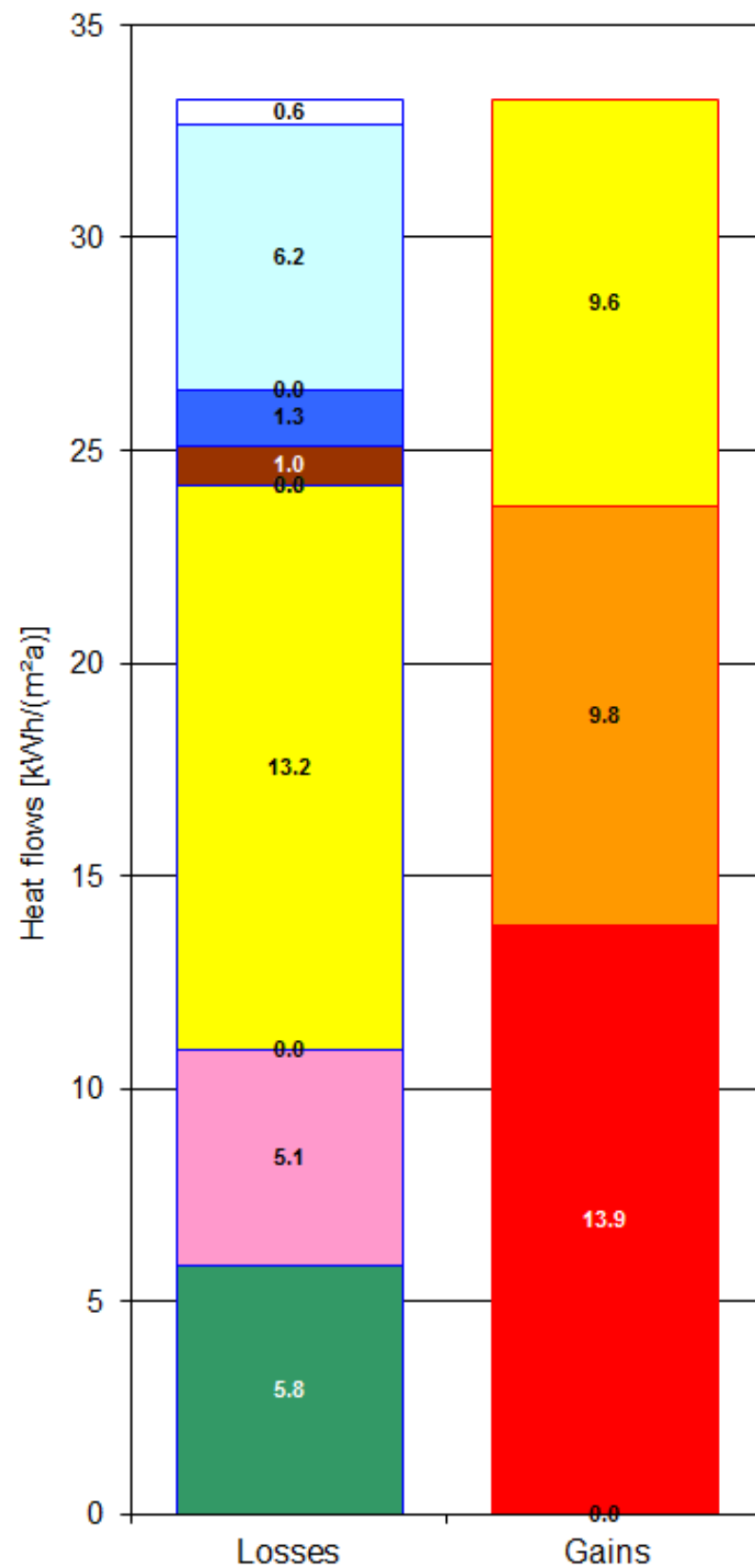
Block G Heating demand



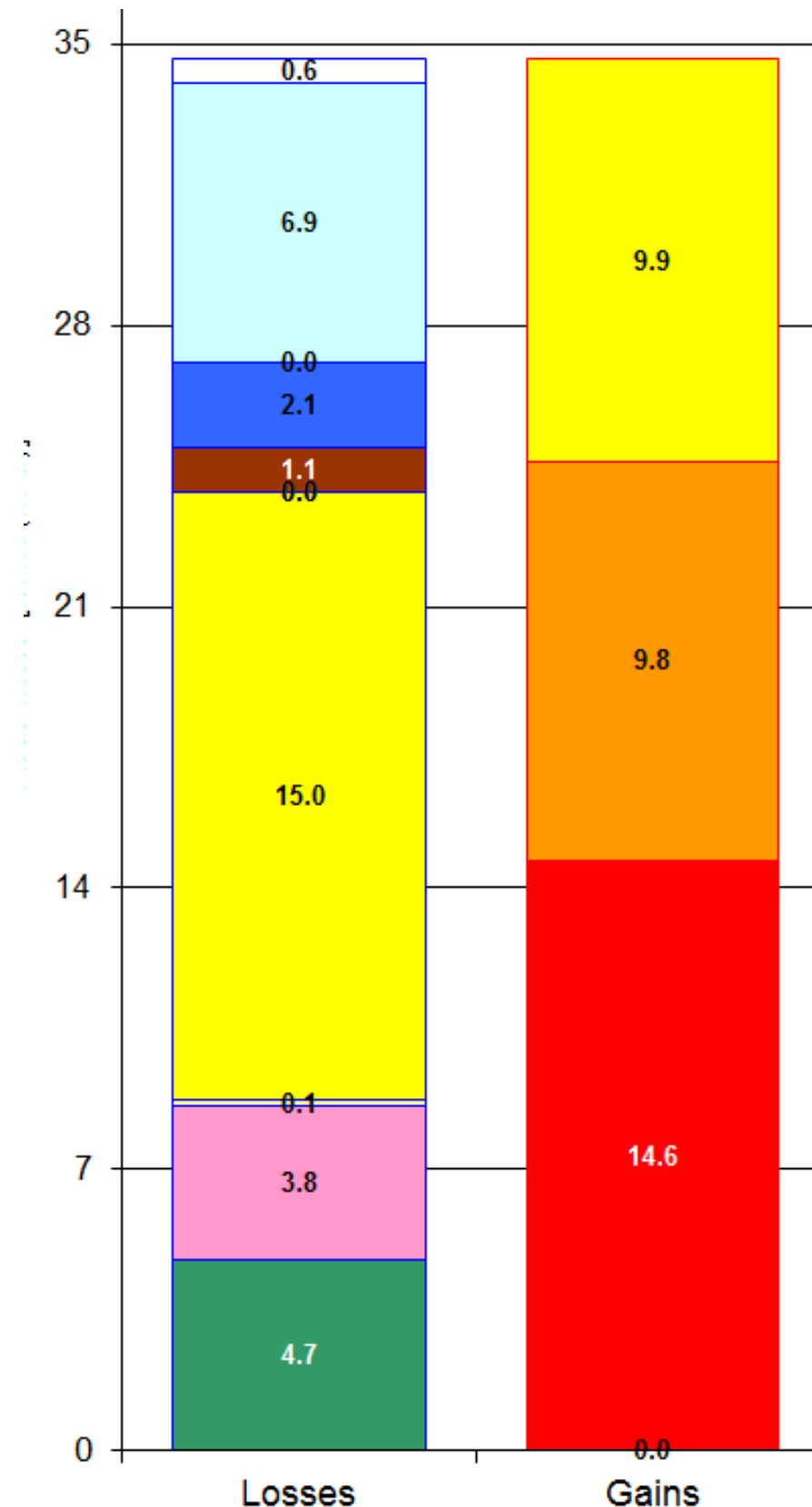
Block A/G Comparison

Heating demand PHPP

Block A



Block G

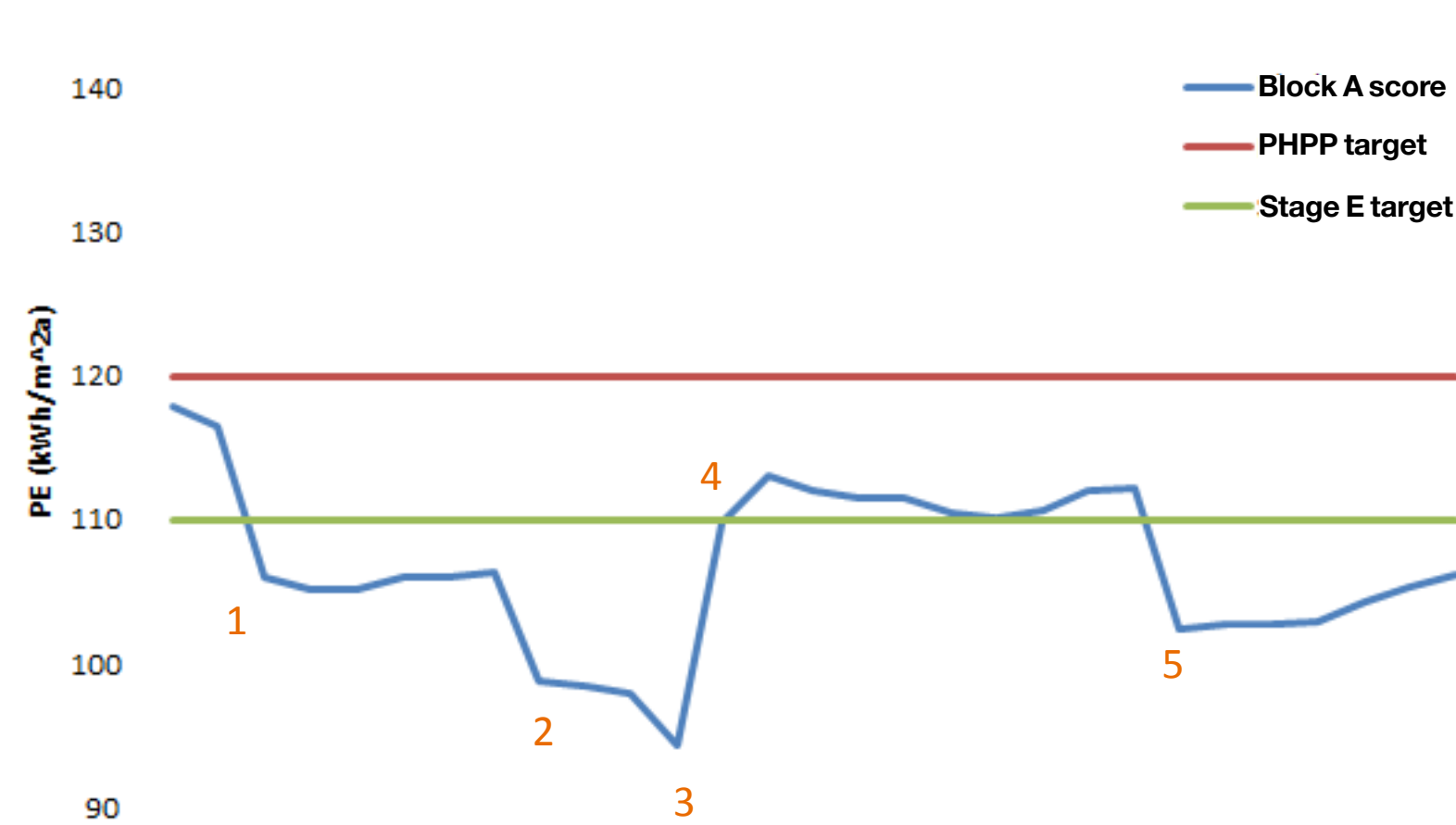


- Non useful heat gains
- Exterior wall - Ambient
- Exterior wall - Ground
- Roof/Ceiling - Ambient
- Thermal bridge loss
- Ventilation
- Solar gains
- Internal heat gains
- Heating demand

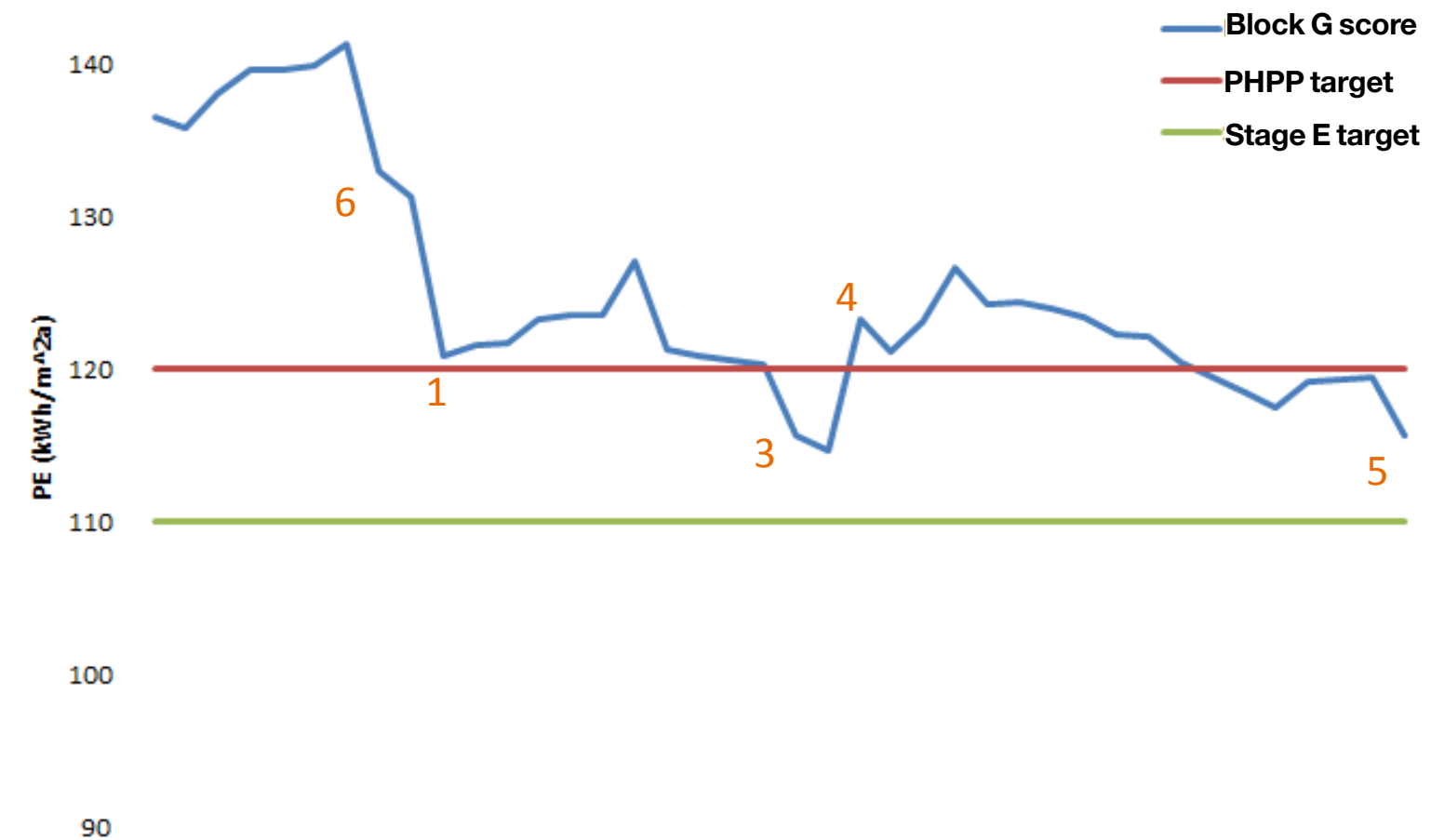
Block A/G Comparison

Primary energy PHPP

Block A Primary Energy

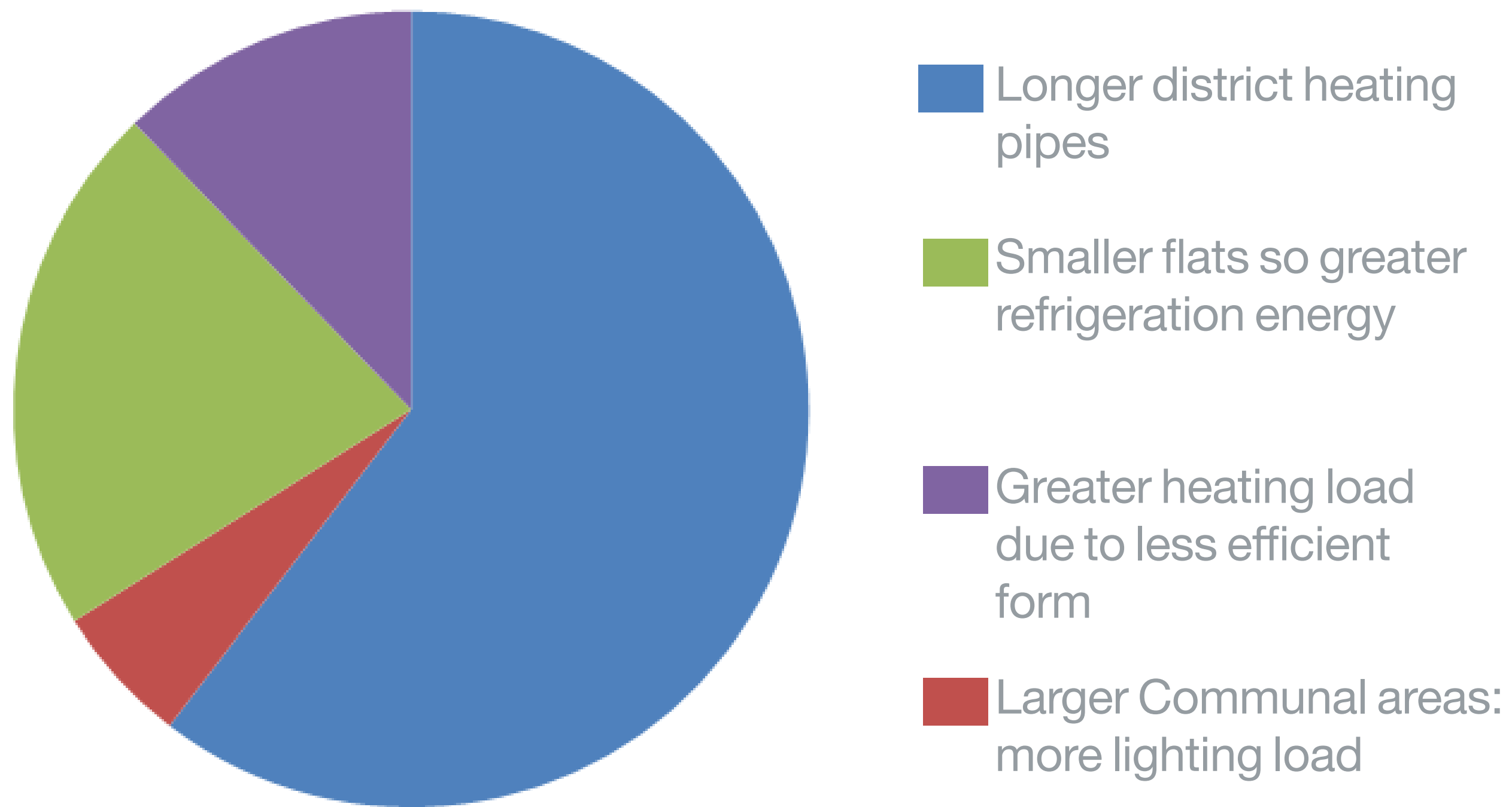


Block G Primary Energy



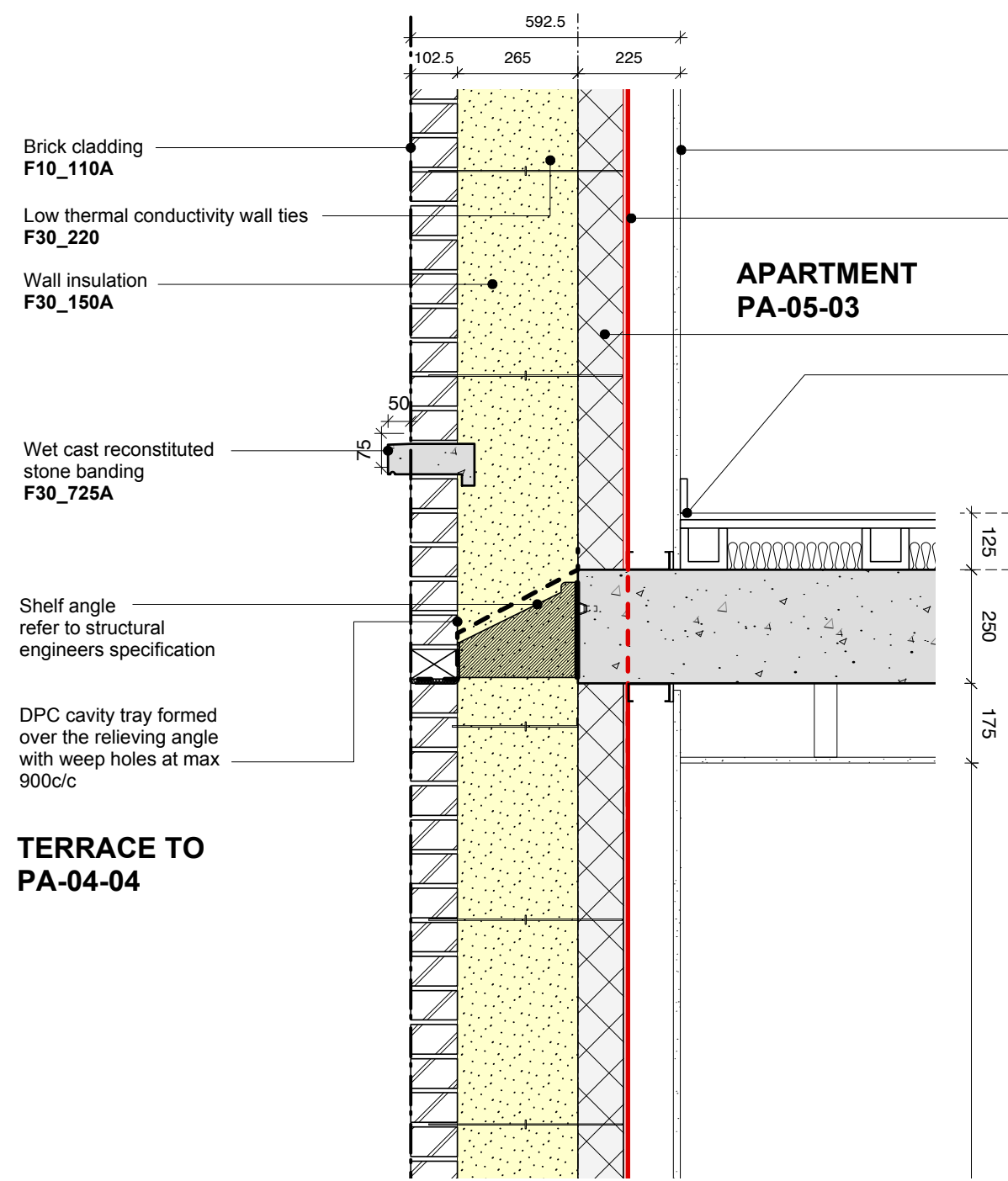
Block A/G Comparison

Primary Energy demand increase

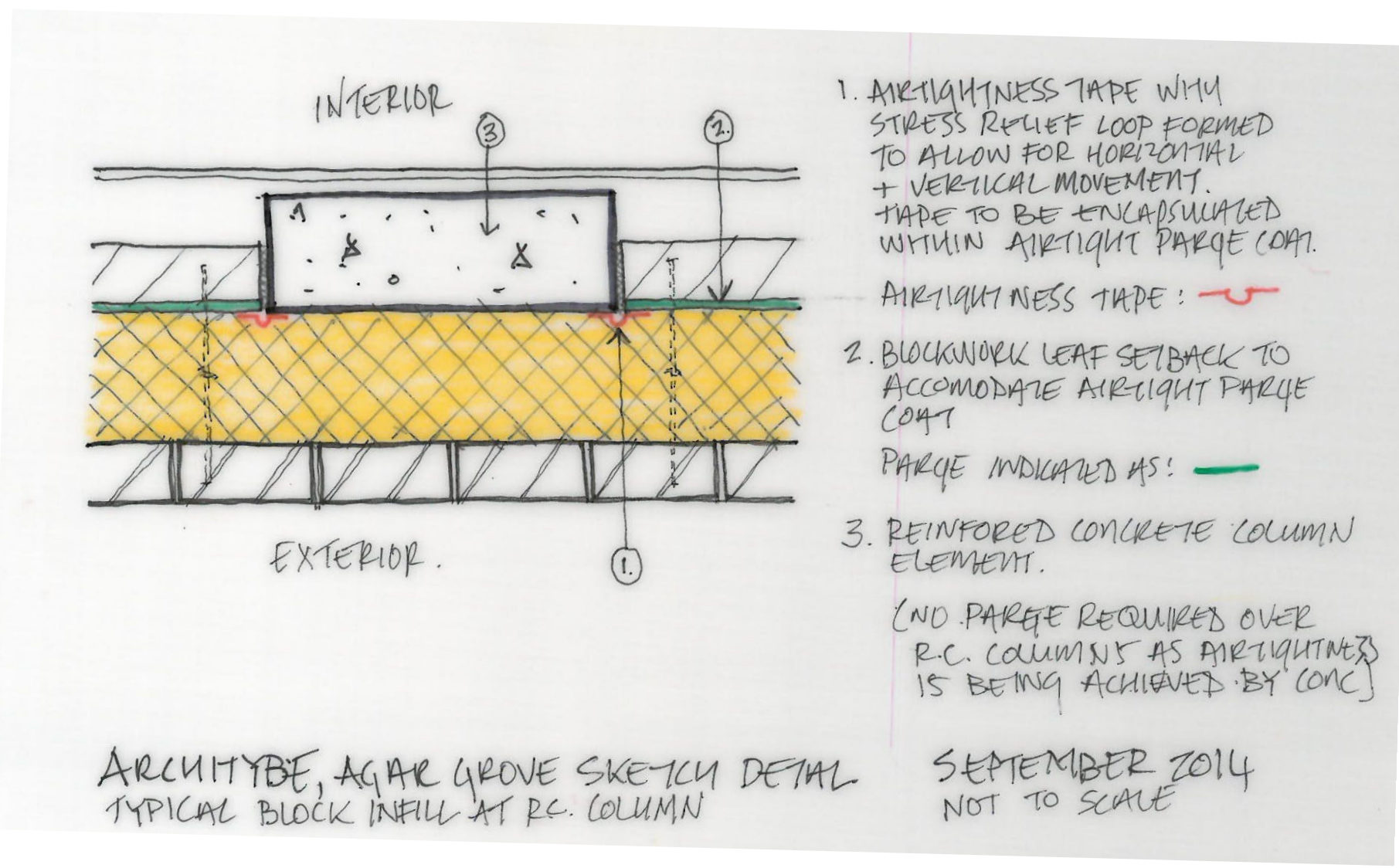


Post Tender Changes

Wall build up



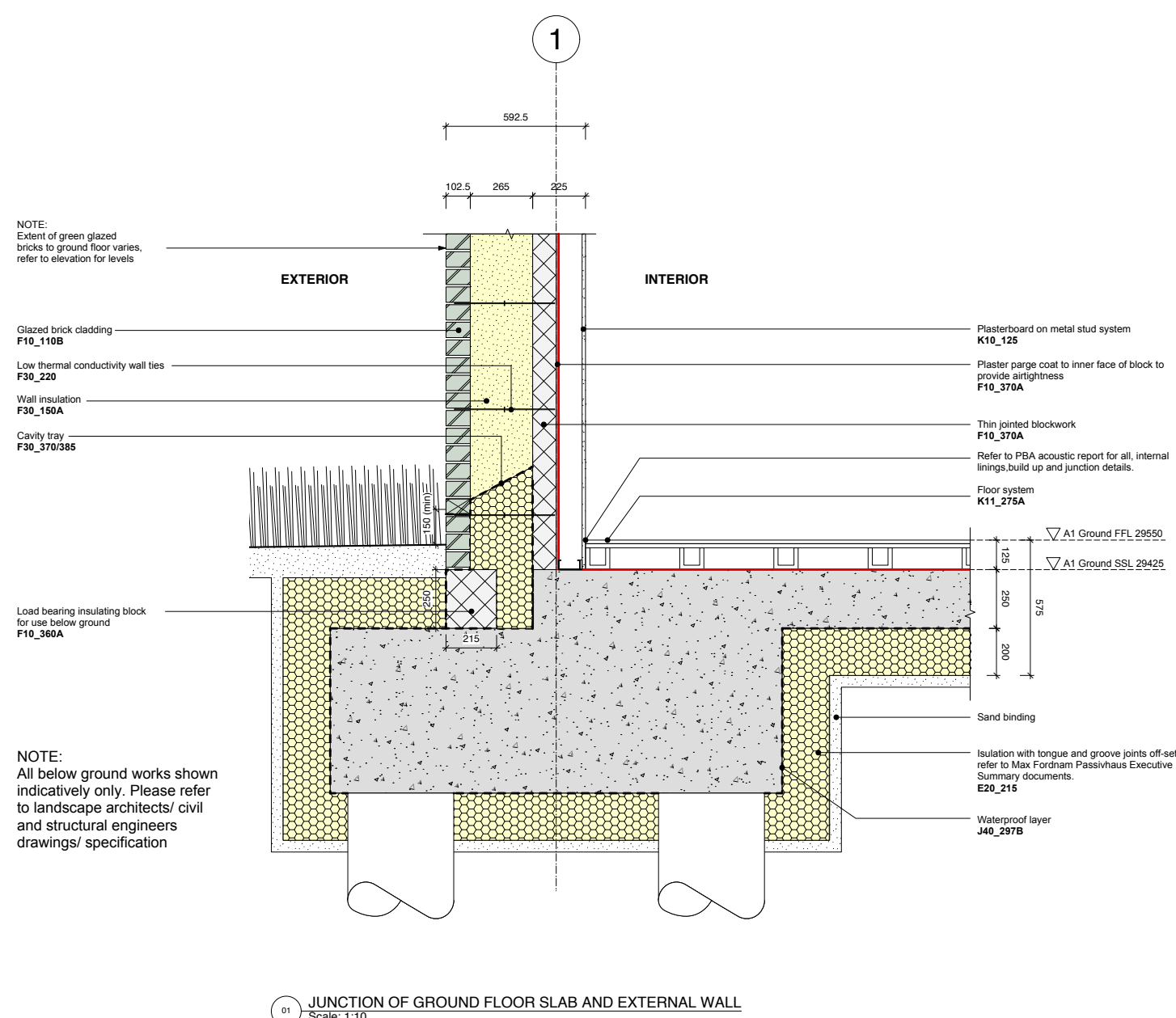
Tender



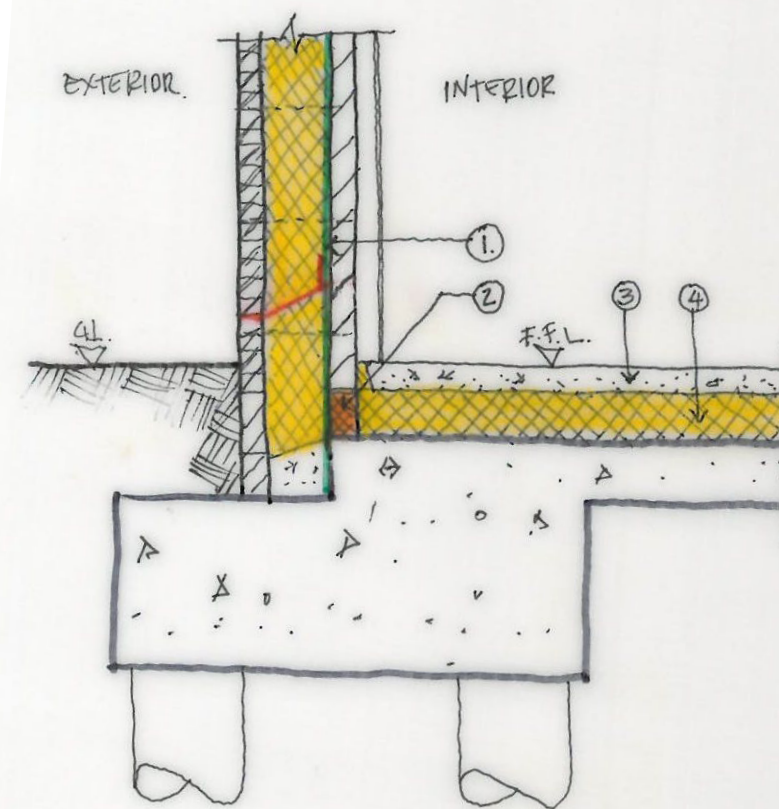
Post Tender

Post Tender Changes

Wall/floor slab junction



Tender



ARCHITYPE, AGAR GROVE SKETCH DETAIL
GROUND FLOOR SLAB/EXTERNAL WALL JUNCTION.

SEPTEMBER 2014
NOT TO SCALE

Post Tender

Lessons Learned

- Set up to succeed
- Procurement
- Use PH in planning strategy
- Use PH to focus efforts in the design
- Simple form
- No single aspect flats
- **Is PH relevant to mass housing?**
- **Is PH possible for mass housing?**

