



1<sup>st</sup> October 2019

Emily Ball

Our ref:21-SO1-1119597805-2  
Your ref: n/a

Sydney Metro  
Level 43, 680 George Street  
Sydney NSW 2000

Dear Emily,

**Sydney Metro OSD Pitt St South  
BASIX Energy 35 Target**

GHD are engaged by Sydney Metro to provide advice on the environmental sustainability strategy and performance outcomes for the proposed Pitt Street South OSD. We have previously issued advice during initial design development including preparation of an ESD strategy and framework report that accompanied the Stage 1 Development Application reference SSD 8876. The following performance requirements are included in the project approval:

- BASIX Energy 35
- 5 Star Green Star Rating (assumed to be Design and As Built V1.2 tool which is the version available coinciding with the date of the original Development Application and notice of determination).

Sydney Metro have requested that GHD provide further advice in relation to the application of the BASIX 35 targets to the Pitt Street South Site.

- Achieving BASIX Energy 35 in a development of this type would require omission of any form of mechanical ventilation in common areas such as lobbies and corridors. Such systems and servicing would be desirable to maintain high level of acoustic amenity, indoor air quality and thermal comfort.
- In addition to limiting common area mechanical services, on site renewable or low carbon energy generation would be required to offset some of the building energy use. However the potential for using onsite system is constrained due to the following:
  - Solar: A number of inherent site constraints exist including limited roof area, overshadowing from adjacent buildings and the roof profile required to maintain the sun access plan into Hyde Park. As such use of solar photovoltaics for renewable energy generation is not practical or feasible.
  - Combined Heat and Power Plant (CHP) - A CHP could be employed to generate a portion of the electricity on site with waste heat being used for hot water. However this will be reliant on gas use and whilst this is currently lower in carbon intensity than grid supplied electricity it is not considered a suitable long term strategy due to broader transition to a net zero carbon economy.
- The developer would be required to install appliances with the highest energy efficiency ratings.

Notwithstanding the BASIX requirements, the project will still need to implement energy reduction measures over and above minimum standards to achieve the 5 Star Green Star rating. This will therefore provide a benchmark for ensuring best practice energy performance.

We therefore conclude that whilst not beyond realms of possibility, a BASIX Energy 35 target is not likely to be compatible or practical to achieve for the proposed development. As such, we recommend that the condition B10(a)(i) be amended to require a BASIX Energy Score of 30.

BASIX 30 remains a challenging target in a high rise residential building and will still require the developer to implement a number of features to reduce energy usage.

Sincerely  
GHD

A handwritten signature in dark ink, appearing to read 'I-Dixon'.

**Ian Dixon**  
Technical Director