

## Schedule 11

### Procedures for demonstrating compliance with variation provisions for setbacks, separations and tapering in Central Sydney

The following processes are required to be complied with in any attempt to demonstrate compliance with Section 5.1.1.1(3)(a) and (b) in regards to varying Minimum Street Setbacks, Section 5.1.1.3(5) in regards to varying Minimum Side and Rear Setbacks and Building Form Separations, and, Section 5.1.1.4(3) in regards to varying Tapering provisions.

Relevant sections of the DCP are reproduced below for ease of reference.

#### **Minimum Street Setbacks**

##### Section 5.1.1.1

(3) *Where noted in Table 5.2 Minimum Street Setbacks and on the Special Character Area maps, variation to Street Setbacks may be permitted to building massing that provides:*

- (a) *encroachment(s) 2m forward of the minimum Street Setback within the middle third of the frontage to a Public Place and provision of compensating recess(es) of equal to or greater area up to 4m behind the minimum Street Setback; or*
- (b) *equivalent or improved wind comfort, wind safety and daylight levels in adjacent Public Places relative to a base case building massing with complying Street Frontage Heights and Street Setbacks (i.e. variation to massing is governed by achieving equal or better performance).*

*Procedures for demonstrating compliance with 5.1.1.1(3)(a) and (b) are set out in Schedule 11.*

#### **Side and Rear Setbacks and Building Form Separations**

##### Section 5.1.1.3

(5) *Variation to Side and Rear Setbacks and Building Form Separations may be permitted to building massing that provides equivalent or improved wind comfort, wind safety and daylight levels in adjacent Public Places relative to a base case building massing with complying Side and Rear Setbacks (i.e. variation to massing is governed by achieving equal or better performance) .*

*Procedures for demonstrating compliance with 5.1.1.3(4) are set out in Schedule 11.*

*Note: Building massing includes all building elements at all levels. For example fins, external sun shading devices, architectural features, screens, signs, awnings etc*

#### **Built form massing, tapering and maximum dimensions**

##### Section 5.1.1.4

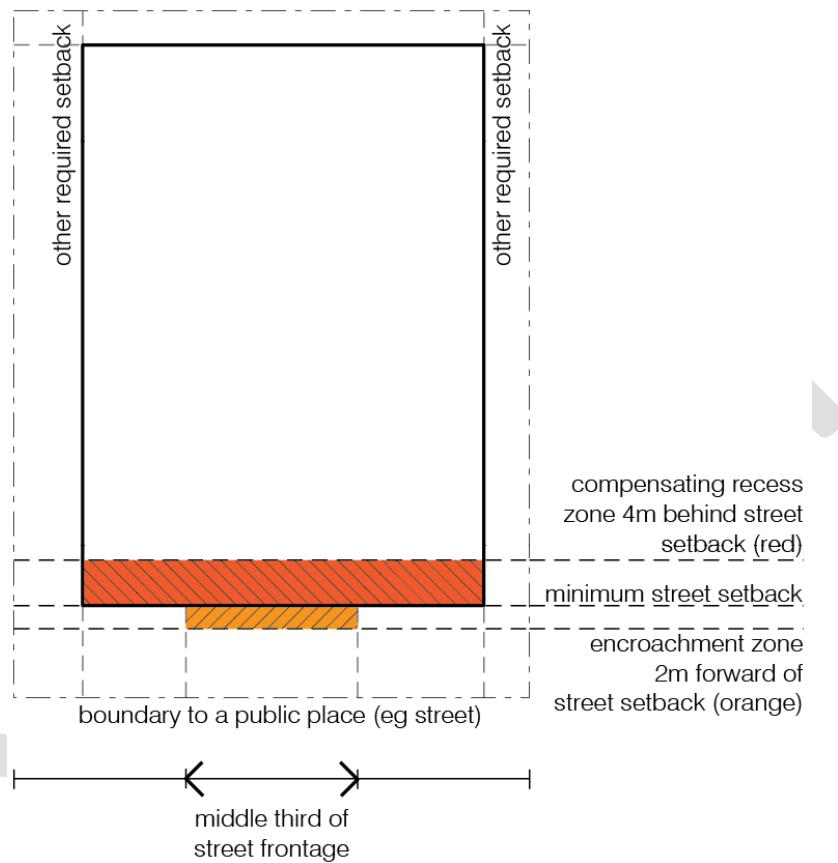
(3) *Above the Street Frontage Height the total Building Envelope Area may occupy the following proportion of the site area less any areas of heritage items and required DCP setbacks:*

- (a) *100% up to 120m above ground;*
- (b) *90% above 120m up to 240m above ground; and*
- (c) *80% above 240m above ground.*

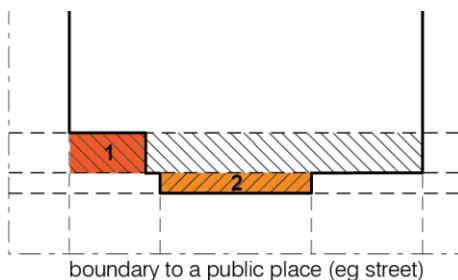
## Procedure A: Minimum Street Setback Encroachment and Compensating Recess

In order to demonstrate compliance with Section 5.1.1.1(3)(a) in regards to varying Minimum Street Setbacks, the following procedure must be followed:

- (1) Building massing with a frontage to a Public Place, where each frontage is assessed independently at each floor the building, may encroach up to a maximum of 2m forward of the required Minimum Street Setback within the middle third of the frontage if it provides an equal or greater area of compensating recesses up to 4m behind the Minimum Street Setback, but not within any other required setback.



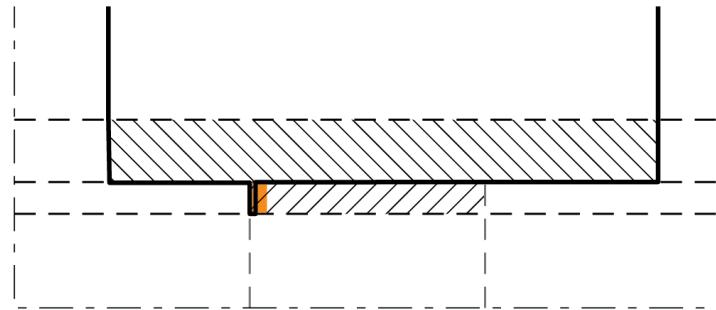
**Figure 1.1:** Setbacks provide building design flexibility – Minimum Street Setbacks may only be varied in accordance with Section 5.1.1.1(3) of the DCP and the procedures for demonstrating compliance. This diagram shows area where encroachments and compensating recess(es) may occur.



**Figure 1.2:** Example showing area of compensating recess (1) equal to area of encroachment (2).

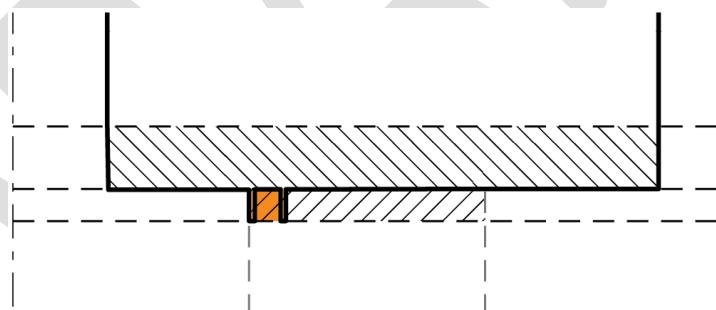
- (2) Some encroaching elements have a larger impact on daylight to a Public Place than is directly reflected in their plan area. For the purposes of assessing the area of such small or tightly spaced elements like architectural fins, any encroachments are deemed to have an area equal to their plan area except elements less than:

- (a) 1m wide – where they are treated as if they are 1m wide; and



**Figure 1.3:** Example showing a narrow fin less than 1m wide within the encroachment zone - the deemed area of the encroachment shown orange has equal depth and is 1m wide.

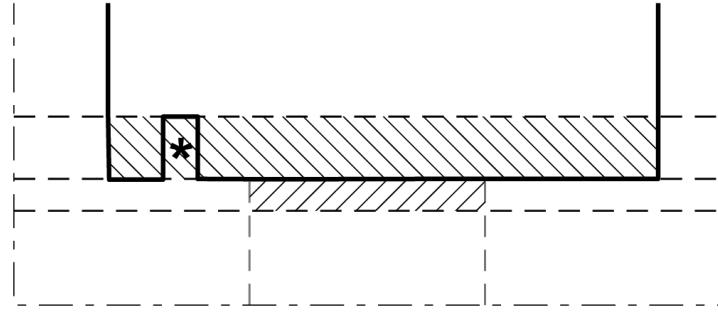
- (b) 3m apart – where they are treated as if they are a single element that has a plan area extent described by joining the element's outermost edges with straight lines.



**Figure 1.4:** Example showing 2 narrow fins less than 3m apart within the encroachment zone – the deemed area of the encroachment shown orange includes the space between the encroaching elements.

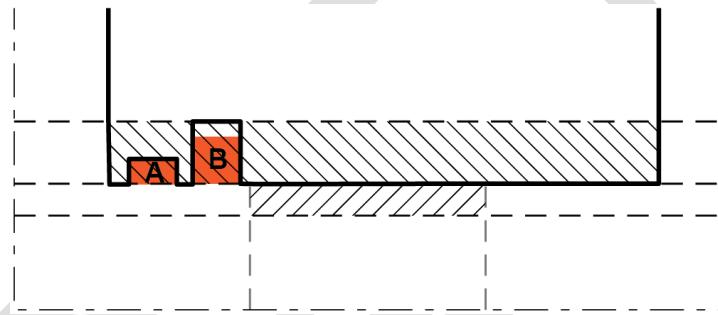
- (3) Some recesses will have a negligible or limited benefit to daylight levels in Public Places so an area of building recess will only be deemed to be a *compensating recess* if it is:

- (a) at least 3m wide (see example at “3” in Figure 1.2 which is not 3m wide so is not a compensating recess);



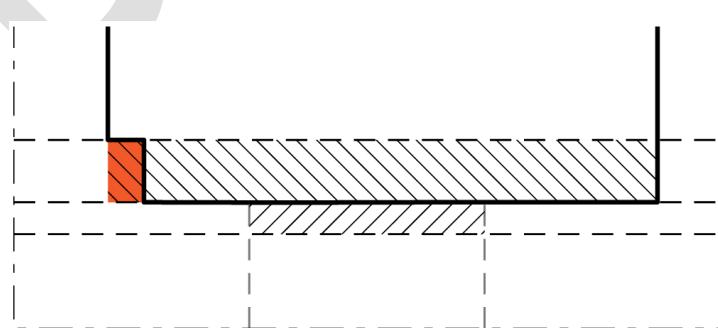
**Figure 1.5:** Example showing a slot that is not 3m wide (at the asterisk) – this is not deemed to be a compensating recess because it is too narrow to provide any daylight benefit.

- (b) wider than it is deep (ie no narrow slots [see example at “4” in Figure 1.2 which is wider than it is deep so is a compensating recess, whereas “5” in Figure 1.2 is deeper than it is wide so is only a compensating recess for that portion of the recess equal to its width]); and



**Figure 1.6:** Example showing two recesses that are both 3m wide – recess A is wider than it is deep so the full area shown red is deemed a compensating recess, recess B is deeper than it is wide so only an area with a depth equal to the width shown red is deemed as an area of compensating recess.

- (c) is clear to the sky for the full height of the building.
- (4) Notwithstanding 3(a) and (b) above, the full area of a building recess contiguous with any other required setback (other than the relevant street setback) is a compensating recess



**Figure 1.7:** Example showing a narrow deep recess that is contiguous with a required side setback – the full area shown red is deemed a compensating recess.

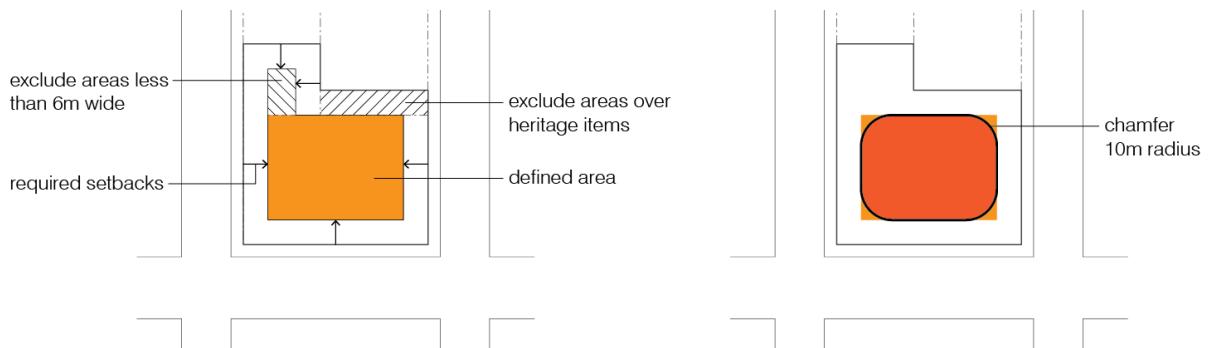
- (5) On corner sites, the compensating recesses for each frontage are assessed independently of each other. That part of a recess that complies with the criteria for both street frontages may be counted as compensation toward encroachments on each frontage

#### **Procedure B: Equivalent or improved wind comfort and wind safety and daylight levels in adjacent Public Places**

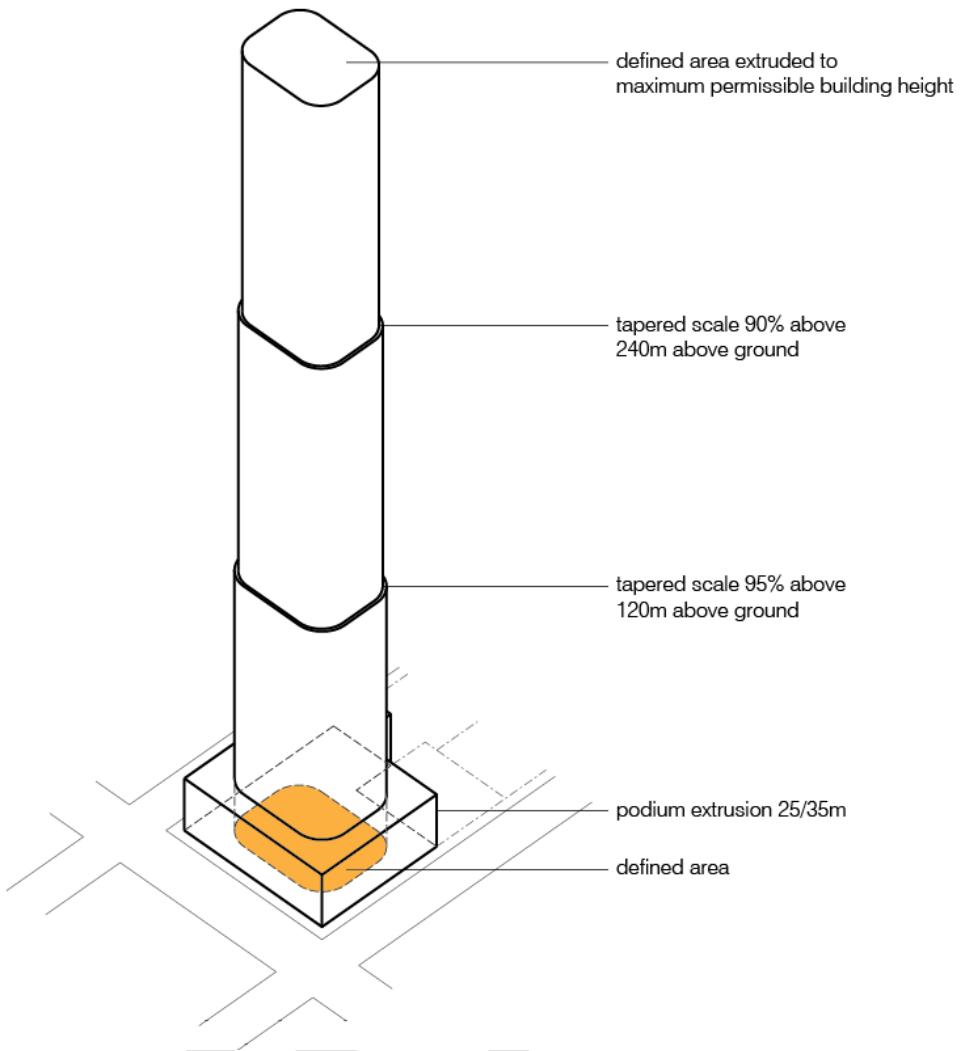
In order to demonstrate compliance with Section 5.1.1.1(3)(b) and Section 5.1.1.3(5) in regards to varying Minimum Street Setbacks and Side and Rear Setbacks, Building Form Separations and Tapering provisions respectively, the following procedure must be followed:

- (1) Procedure B can only be used to vary setbacks for sites larger than 1000m<sup>2</sup>.
- (2) Where (1) is satisfied, variation to relevant setbacks may be permitted to building massing that provides equivalent or improved wind comfort, wind safety and daylight levels in adjacent Public Places relative to a base case building massing with complying Height, Street Frontage Heights, Street Setbacks, Side and Rear Setbacks and Tapering.
- (3) The base case building massing with complying Street Frontage Heights, setbacks and tapering is established by modelling 3 dimensional podium and tower components as follows:
  - (a) The podium is modelled by extruding the subject site boundary vertically 35m above existing ground level (as it varies around the site perimeter) for buildings up to 120m high and 25m above ground level for taller buildings.
  - (b) The Tower Component is modelled by defining an area set out by the required street, side and rear setbacks, excluding areas over heritage items and Tower Component areas narrower than 6m wide. For Tower Components where at least one face is longer than 30m the resultant area is chamfered with a 10m radius at all external corners. The resultant shape is extruded to the maximum permissible building height as it varies around the site. The resulting tower form must be tapered by scaling it horizontally in both horizontal directions (X and Y) by 95% between 120-240m and by 90% above 240m above ground level.

Note: the maximum permissible building height excludes architectural roof features but includes all other relevant controls including LEP height controls, Sun Access Planes, No Additional Overshadowing Controls, Special Character Area height and setback controls, View Controls Airport restrictions etc.



**Figure 1.8: Defining the base case tower component area and building massing**



**Figure 1.9:** Tapering the base case tower building massing

- (4) To demonstrate equivalent (improved) wind comfort, wind safety and daylight levels in adjacent Public Places relative to the base case building massing (established in (3) above), the following must be modelled and reported for the base case building massing and the proposed scheme:

- (a) wind speeds as defined by Section 5.1.9 *Managing Wind Impacts*, Sydney DCP 2012:
  - (i) for comfort, where the:

*Wind Comfort Standard for Walking* is an hourly mean wind speed, or gust equivalent mean wind speed, whichever is greater for each wind direction, for no more than 292 hours per annum measured between 6 am and 10 pm Eastern Standard Time (i.e. 5% of those hours) of 8 metres per second.

*Wind Comfort Standard for Sitting in Parks* is an hourly mean wind speed, or gust equivalent mean wind speed, whichever is greater for each wind direction, for no more than 292 hours per annum measured between 6 am and 10 pm Eastern Standard Time of 4 metres per second and applies to Public Places protected by Sun Access Planes and/or No Additional Overshadowing Controls.

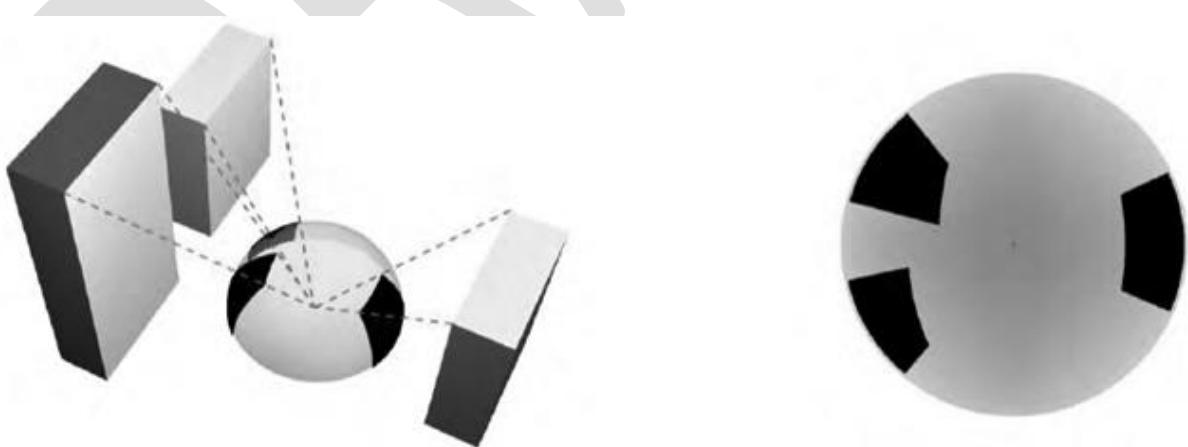
*Wind Comfort Standards for Sitting and Standing* is hourly mean wind speed, or gust equivalent mean wind speed, whichever is greater for each wind direction, for no more than 292 hours per annum measured between 6 am and 10 pm Eastern Standard Time of; 4 metres per second for sitting; and 6 metres per second for standing.

- (ii) wind speeds for safety, where *Wind Safety Standard* is an annual maximum peak 0.5 second gust wind speed in one hour measured between 6am and 10pm Eastern Standard Time of 24 metres per second
- (5) the average annual daylight level (which may be approximated by the average *Sky View Factor*)

*note:* *Sky View Factor (SVF)* means the extent of sky observed above a point as a proportion of the total possible sky hemisphere above the point. SVF is calculated as the proportion of sky visible when viewed from the ground (as an abstract horizontal surface) up. SVF is a dimensionless value that ranges from 0 to 1. A SVF of 1 denotes that the sky is completely visible to the horizon in all directions; for example, in a flat terrain. When a location has topography or buildings blocking view to any part of the sky, it will cause the SVF to decrease proportionally.

- (6) Wind speeds must be measured within the existing city form
- (7) Daylight levels or SVF must be measured within the existing city form (including developments under construction as if they were completed) and should exclude any elements within a Public Place e.g. trees and awnings.

**Figure 1.10:** Measuring wind speeds and Average daylight level or Sky View Factor measuring minimum distance from the site boundaries



**Figure 1.11:** *Sky View Factor* means the extent of sky observed above a point as a proportion of the total possible sky hemisphere above the point.