### RC Flat Roofs

RC flat roofs shall remain inaccessible except for maintenance purposes only1. Activating the rooftop for uses such as roof terraces may be allowed depending on the merits of the proposal. No structures shall be allowed unless otherwise approved by URA. Where allowed, structures (including any safety barriers) shall comply with height controls2 and the following guidelines.

1 RC flat roofs that are accessible via ladders for maintenance purposes only are subject to agencies’ requirements for safety barriers to ensure the safety of maintenance personnel. Safety barriers shall not exceed 1m in height and may be considered beyond the permissible building envelope.

2 Height controls applicable, include:

* Absolute technical height constraints@ (e.g. Aviation paths restrictions, military and telecommunications installations).
* Conservation guidelines (available at [URA SPACE](https://www.ura.gov.sg/maps/))
* Urban design height controls (available at [URA SPACE](https://www.ura.gov.sg/maps/))

@ The absolute technical height (Based on Singapore Height Datum [SHD]) shall take precedence if it is stricter than any of the other height controls.

Solar Panels

The installation of solar panels on RC flat roofs may be considered if they meet the following criteria:

1. Solar panels are installed between 10 to 15 degrees relative to the horizontal plane to optimise the performance of solar panels and minimise glare to the buildings in the vicinity.

Installation of solar panels and M&E equipment such as inverters for the solar panel system does not require planning permission except in locations and contexts described below.

#### Planning Permission

1. **Areas subject to urban design guidelines and Conservation Areas1 shall require planning permission due to their impact on the roofscape.**  
     
   1 For Conservation Areas, installation of solar panels without any additional works are treated as localised works for the purpose of repair and maintenance and are considered Category 3 works for Conserved Buildings. Applications for such Category 3 works can be made by owners and contractors. Refer to the Conservation Guidelines [here](https://www.ura.gov.sg/Corporate/Guidelines/Conservation) and information on submission procedure [here](https://www.ura.gov.sg/Corporate/Guidelines/Conservation/Additions-Alterations/Types-Works).
2. **Elevated solar panels2 located in developments on the following land use zones shall require planning permission:**

|  |  |
| --- | --- |
| * Residential (landed housing, flats and condominium housing developments) * Residential with Commercial at 1st Storey * Mixed Commercial & Residential * Commercial * Hotel | * White * Residential / Institution * Commercial / Institution * Educational Institution * Place of Worship * Civic & Community Institution |

2 A solar panel is deemed to be elevated if it is raised more than 1m from the roof level for landed housing developments or 1.8m from the roof level for other developments.

1. **Spaces under solar panels are enclosed or put to commercial use**  
     
   Planning permission shall be required if the spaces under elevated or non-elevated solar panels are enclosed or put to commercial uses such as Outdoor Refreshment Areas. In such instances, the spaces shall be computed as GFA.

#### Assessment of Storey Height

Elevated solar panels that require planning permission may be assessed as an additional storey for storey height control purposes unless they comply with the guidelines below:

**Guidelines for Elevated Solar Panels**

|  |  |
| --- | --- |
| **Parameter** | **Guidelines** |
| Extent | Within the 45-degree line from the springing line of the roof level |
| Height | Maximum 1m above roof level |

<https://www.ura.gov.sg/-/media/Corporate/Guidelines/Development-control/GFA/GFA55_Solar_Panels_Landed.jpg?h=100%25&w=100%25>

*Extent and Height of Elevated Solar Panels*

*Last updated on 27 June 2022*