MAYOR OF LONDON

London Plan Guidance

Urban Greening Factor

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Table of contents

London Plan Policy	Policy G5 Urban Greening
Local Plan making	Planning authorities to develop local UGF targets as part of the Local Plan process.
Planning Application type and how the London Plan Guidance will be applied	All major development Applications below the threshold for major development if required by a Local Plan (section 4).
Who is this guidance for?	Planning authorities, architects, landscape architects, ecologists and applicants. For use in designing and specifying urban greening as part of development applications and masterplans and in calculating the UGF. Planning authorities in developing local UGF targets as part of the Local Plan process and in developing Area Action Plans and Opportunity Area Planning Frameworks.

1 About this document

1.1 What is the Urban Greening Factor (UGF)?

1.1.1 The UGF is a tool used to evaluate the quality and quantity of natural features proposed as part of a development application, such as planting, waterbodies and green roofs, collectively referred to as urban greening. It enables major developments to demonstrate how they have included urban greening as a fundamental element of site and building design in order to meet London Plan Policy G5 Urban greening.

1.1.2 UGF target scores should be set out in Local Plans. Where Local Plans do not have UGF scores, the London Plan UGF scores of 0.4 for predominately residential developments and 0.3 for predominately commercial developments[1] should be applied.[2]

2 Applying the UGF

2.1 Integrating urban greening into the design process

2.1.1 UGF requirements should be considered from the outset of the design process to ensure site specific constraints can be considered and opportunities fully realised, including the potential to link on-site greening into the wider green infrastructure network.

2.1.2 Appointing a suitably qualified landscape and/or ecological professional to the design team from the outset will help ensure opportunities to maximise greening are fully integrated.

2.1.3 The early evaluation of greening options should inform wider design decisions. For example, if a lack of space at ground level may result in non-compliance with the relevant UGF target score, the necessary structural considerations should be integrated early in the building-design process to

[1] Excluding B2 and B8 uses.

[2] Predominately residential developments typically result in additional pressure on local green space and are therefore attributed a higher UGF target score. The 0.4 target is therefore applicable to any major development that predominately provides dwellings, including (but not limited to) applications for homes, student accommodation, co-living and assisted living. The 0.3 target score is therefore applicable to all other forms of development, including hotels and institutional buildings.

accommodate the required specification e.g. for green roofs to meet the UGF target score.

2.2 Determining urban greening priorities

2.2.1 The UGF is designed to provide flexibility to: enable an appropriate response to meeting local green infrastructure priorities and site-specific constraints; and respond to different uses within a development.

2.2.2 Where available, a borough's green infrastructure strategy and its associated plans should be used to: understand a site's context; and determine its current and potential role within the wider green infrastructure network. Applicants should refer to any prioritisation or design standards for certain greening types set out in borough Development Plan documents, or documents such as tree strategies, biodiversity action plans, open space strategies or other design guidance.

2.2.3 The Green Infrastructure Focus Map, published by the GLA, can be used to scope appropriate types of greening and, by boroughs, to inform pre-application discussions and evaluate how successfully a final UGF submission has responded to local context.

2.2.4 London's Local Environmental Records Centre, Greenspace Information for Greater London CIC, can also provide an environmental data search service to help inform the urban greening approach.

2.2.5 Examples of how urban greening could respond to the context of a development site include, but are not limited to:

- providing green routes that promote active travel, day and night, where current opportunities are limited
- delivering a sustainable drainage system (SuDS) scheme that reduces surface water run-off where there are particular issues of surface water drainage or flooding
- taking design cues from local habitat types, or the Local Nature Recovery Plan or the Biodiversity Action Plan (e.g. as per the green roof in Figure 2.1)
- delivering publicly accessible open space to reduce local deficiencies in access to open space
- providing other types of accessible greening where deficiency in access to public open space cannot be reduced
- reducing the urban heat island effect by developing greening plans that have a cooling effect both day and night
- mitigating environmental noise from road, rail or economic activity.

Figure 2.1 Green roof design informed by local biodiversity priorities

2.2.6 Figure 2.1 illustrates how the use of specific low-nutrient substrates and the planting plan are informed by the requirements of species listed in the Local Biodiversity Action Plan. Photovoltaic (PV) panels have also been provided to respond to energy policy requirements. Further guidance on how to measure green roofs under PVs for the UGF calculation is provided in Table A1.1 in Appendix 1.

2.3 Synergies between urban greening and other policy requirements

2.3.1 Informed by local green infrastructure priorities, project design briefs or similar should identify any synergies between urban greening and other policy requirements – for example, providing natural play opportunities through the design of SuDS, as shown in Figure 2.2.

Figure 2.2 A dry swale incorporating wildflower planting and opportunities for informal play

2.3.2 Whilst the provision of urban greening can help to address other London Plan policies, the UGF tool cannot be used to demonstrate compliance with these policies as they must be addressed in their own right. This is particularly important in terms of the relationship between the UGF and other policies within Chapter 8 (Green Infrastructure and Natural Environment) of the London Plan.

Box 1: Using urban greening to help meet wider London Plan policy requirements

Relevant policies include:

- Policy D3 Optimising site capacity through the design-led approach
- Policy D8 Public realm
- Policy S4 Play and informal recreation
- Policy G1 Green infrastructure
- Policy G4 Open space
- Policy G6 Biodiversity and access to nature
- Policy G7 Trees and woodlands
- Policy G8 Food growing
- Policy SI 1 Improving air quality
- Policy SI 12 Flood risk management
- Policy SI 13 Sustainable drainage
- Policy SI 14 Waterways – strategic role
- Policy SI 17 Protecting and enhancing London's waterways
- Policy T2 Healthy Streets

2.4 Using the UGF to deliver biodiversity net gain

2.4.1 For developments with a low baseline level of biodiversity, an ecologically informed approach can create new areas of wildlife habitat to deliver biodiversity gains alongside other green infrastructure benefits. New habitats should be designed and managed to contribute to local biodiversity priorities and the Local Nature Recovery Plan where this is in place.

2.4.2 Where protected species, or priority habitats or species, are found on a development site, or where a proposed development may impact a Site of Importance for Nature Conservation (SINC), the requirements of Policy G6 (Biodiversity and access to nature) to manage impacts on biodiversity should be met, in addition to any relevant UGF targets. In these cases, any new urban greening should prioritise helping to avoid or to mitigate the impacts of the proposed development on biodiversity; and providing locally relevant greening that complements the site's existing wildlife value and achieve an overall gain in biodiversity.

2.4.3 Development proposals should include details of how they have sought to achieve a net biodiversity gain. Applicants should ensure that any

Preliminary Ecological Appraisal Reports or Ecological Impact Assessments[3] they commission highlight opportunities for urban greening to deliver biodiversity gains, and that these documents are used to inform the project design brief.

2.4.4 The UGF and the national requirement for mandatory biodiversity net gain (BNG) are separate requirements. However, since both require consideration early on in the design process, and are concerned with greening, a design team should consider both tools alongside one another. Compliance with one requirement does not guarantee compliance with the other. Applicants should therefore submit evidence of compliance with both UGF and BNG targets.

2.4.5 Further guidance on urban greening design opportunities for wildlife is provided in Urban Greening for Biodiversity Net Gain: A Design Guide.

2.5 Maintenance and monitoring

2.5.1 Greening measures proposed to meet UGF targets as part of an application should be clearly shown and secured as part of the approved documents for a planning application.

2.5.2 Management and maintenance plans should be used to ensure that the agreed greening measures are provided and maintained in line with the proposals at planning stage. Boroughs may also use planning conditions or section 106 agreements in order to support appropriate monitoring of these measures.

3 Calculating the UGF

3.1 UGF scores and weighting

3.1.1 Different types of greening that can be incorporated into development are categorised by surface-cover types that broadly indicate their relative quality, in particular their potential for rainwater infiltration. This is used as a proxy for naturalness and functionality. Scores range from 1 for semi-natural vegetation through to 0 for impermeable sealed surfaces.

[3] Further information on different types of ecological surveys and their purpose can be accessed from the Chartered Institute of Ecology and Environmental Management.

Table 3.1 Surface-cover types and factor scores

Surface-cover type	Factor
Semi-natural vegetation (e.g. trees, woodland, species-rich grassland) maintained or established on site	1
Wetland or open water (semi-natural; not chlorinated) maintained or established on site	1
Intensive green roof or vegetation over structure; substrate minimum settled depth of 150mm – see Living Roofs for descriptions[A]	0.8
Standard trees planted in connected tree pits with a minimum soil volume equivalent to at least two-thirds of the projected canopy area of the mature tree – see Trees in Hard Landscapes for overview[B]	0.8
Extensive green roof with substrate of minimum settled depth of 80mm (or 60mm beneath vegetation blanket) – meets the requirements of GRO Code 2014[C]	0.7
Flower-rich perennial planting – see the Royal Horticultural Society (RHS) guide to perennial plants[D]	0.7
Rain gardens and other vegetated sustainable drainage elements – see CIRIA case studies[E]	0.7
Hedges (line of mature shrubs one or two shrubs wide) – see the RHS guide to hedges[F]	0.6
Standard trees planted in pits with soil volumes less than two-thirds of the projected canopy area of the mature tree	0.6
Green wall – modular system or climbers rooted in soil[4] – see the NBS Guide to Façade Greening for overview[G]	0.6

[4] Fire safety guidance restricts the use of combustible materials which will limit the use of green walls where they form part of the external wall of a building.

Surface-cover type	Factor
Groundcover planting – see the RHS guide to groundcover plants for overview[H]	0.5
Amenity grassland (species-poor, regularly mown lawn)	0.4
Extensive green roof of sedum mat or other lightweight systems that do not meet GRO Code 2014[I]	0.3
Water features (chlorinated) or unplanted detention basins	0.2
Permeable paving – see CIRIA for overview[J]	0.1
Sealed surfaces (e.g. concrete, asphalt, waterproofing, stone)	0

Notes for Table 3.1

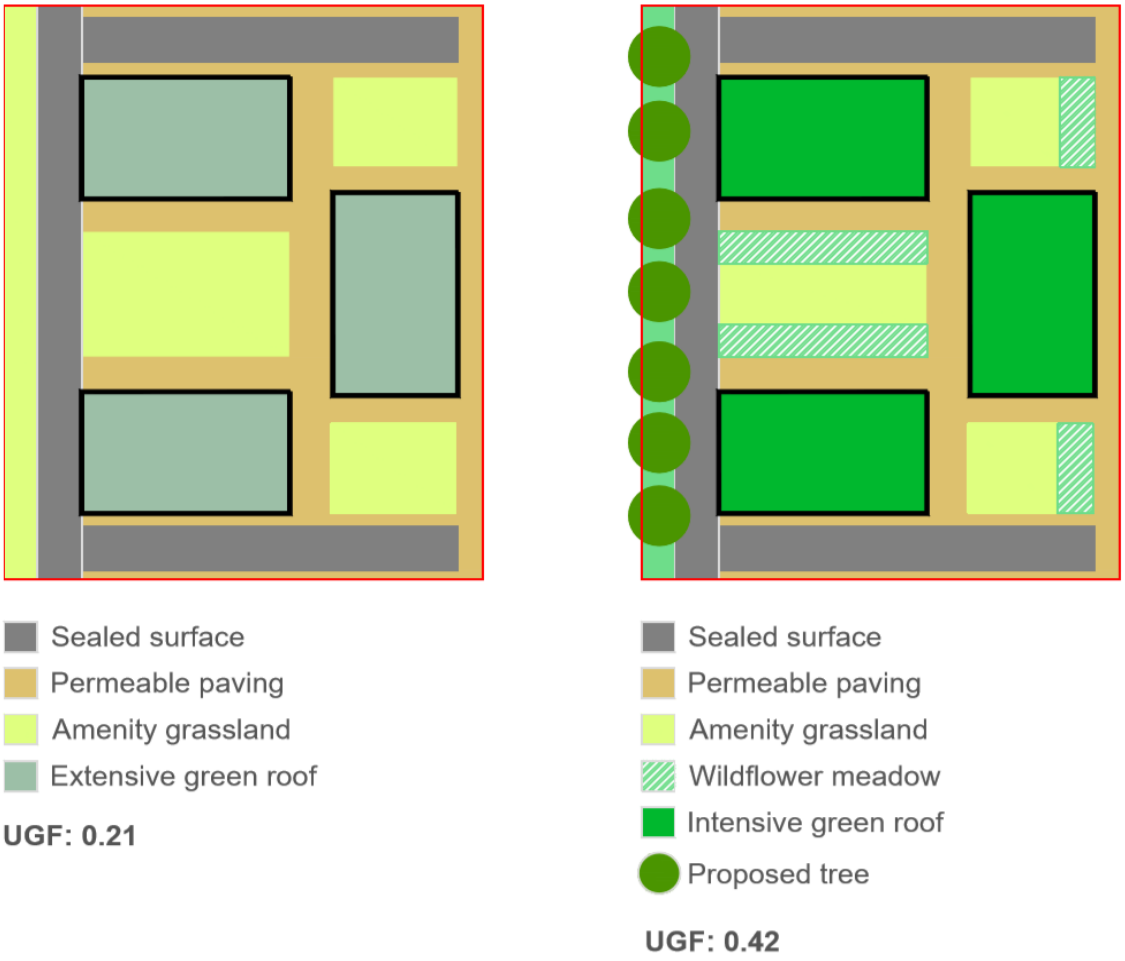
A. https://livingroofs.org/intensive-green-roofs/
B. http://www.tdag.org.uk/trees-in-hard-landscapes.html
C. https://livingroofs.org/wp-content/uploads/2016/03/grocode2014.pdf
D. https://www.rhs.org.uk/advice/profile?pid=868
E. http://www.susdrain.org/case-studies/
F. https://www.rhs.org.uk/advice/profile?pid=351
G. https://www.thenbs.com/knowledge/the-nbs-guide-to-facade-greening-part-two
H. https://www.rhs.org.uk/advice/profile?PID=818
I. https://livingroofs.org/wp-content/uploads/2016/03/grocode2014.pdf
J. https://www.susdrain.org/delivering-suds/using-suds/suds-components/source-control/pervious-surfaces/pervious-surface-types/pervious-surfacetypes.html

3.1.2 The weighting of surface-cover type scores encourages the provision of higher-quality urban greening, rather than large quantities of low-quality features. For example, while amenity grassland can contribute to SuDS and play space, it will usually require more intensive management and watering, and has relatively little ecological value compared to species-rich grassland. Accordingly, amenity grassland is awarded a factor of 0.4 and species-rich grassland is awarded a factor of 1.

3.1.3 In order to achieve the same UGF score, an area of amenity grassland would need to cover twice the size of an area of species-rich grassland. Likewise, an extensive green roof with a shallow substrate needs twice the

area of that which meets the quality standards set in the Green Roof Code.[5] Figure 3.1 shows how using better-quality surface-cover types can achieve a higher UGF score without increasing the overall footprint of greening.

Figure 3.1 Plans showing how the quality of different green surface-cover types can affect the UGF score



3.2 Calculating the UGF

3.2.1 The following steps should be followed to calculate the overall UGF score for a proposal:

- for each surface-cover type in the development, assign the corresponding UGF factor in line with the factor scores in Table 3.1

[5] The Green Roof Code is an industry-developed code of practice that covers the design, installation and maintenance of green roofs.

- measure the area of each surface-cover type in square metres (see Table A1.1 for further guidance)
- multiply the factor score by the area of the corresponding surface-cover type
- add the scores together for each surface-cover type
- divide the combined score by the total site area in square metres to determine the scheme's UGF score.

Figure 3.2 Calculating the UGF score

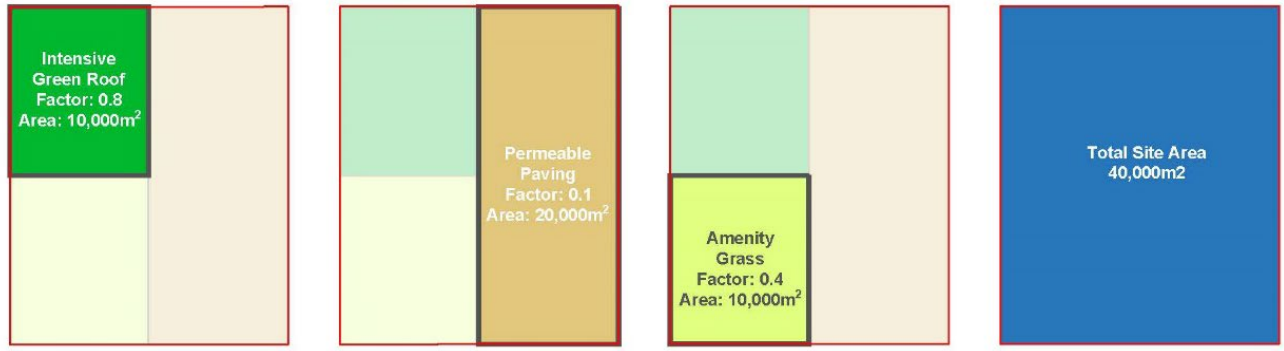


Figure 3.2 illustrates how this calculation works in practice. In this example (8,000 + 2,000 + 4,000) / 40,000 = a UGF score of 0.35.

3.2.2 In calculating the UGF score, the following principles should also be applied:

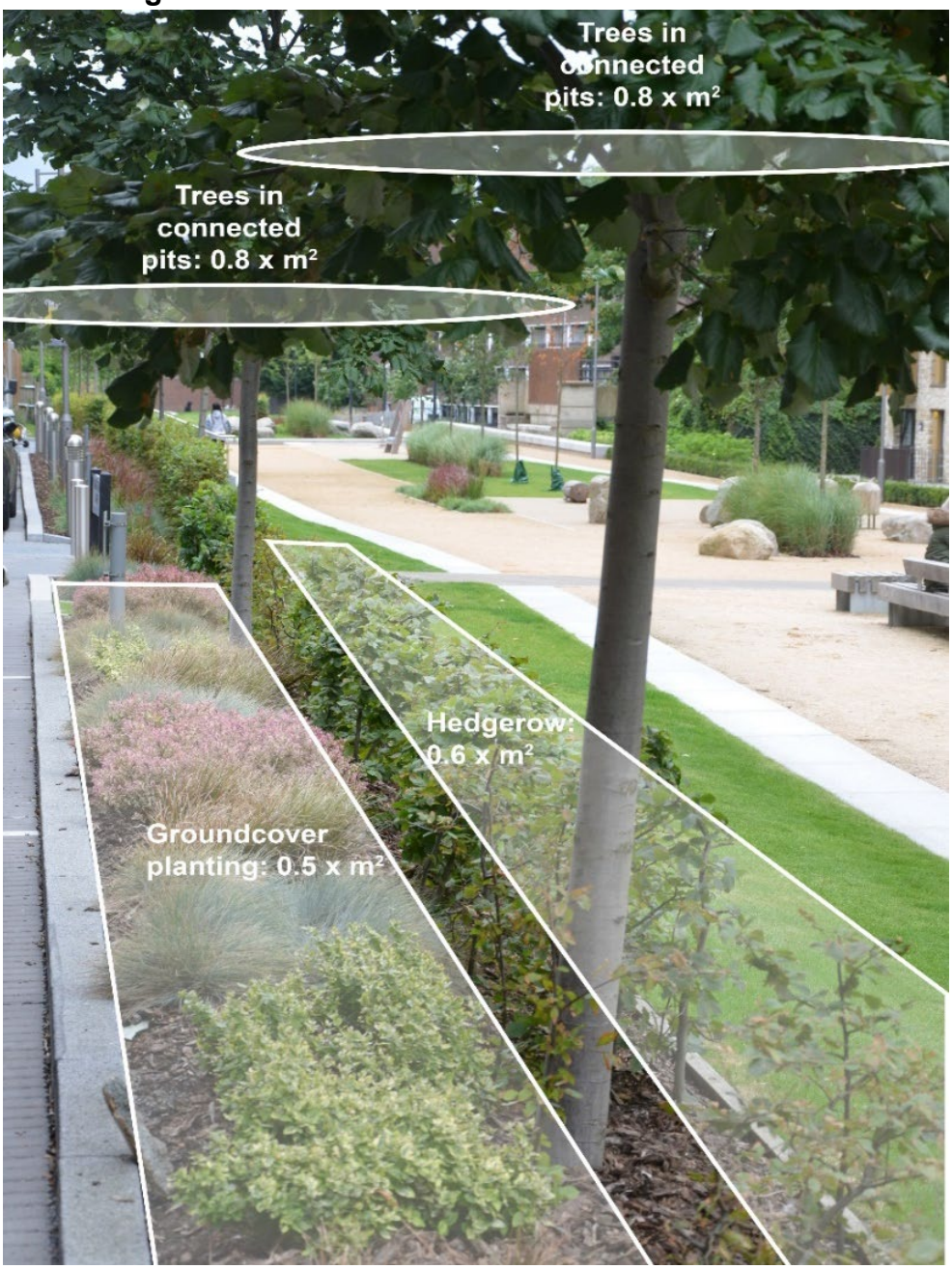
- The UGF targets set out in the London Plan are for "predominately residential" and "predominately commercial development". In the case of mixed-use developments, the use class with the highest square meterage of floorspace should be used to determine the target UGF score and the appropriate target agreed with the borough.
- The UGF should always be calculated on the total site area, equivalent to the red-line boundary.
- Adjacent areas of land not included in the red-line boundary, irrespective of ownership or management, must not be included.
- Retained surface-cover types should be included in the calculation.
- Vertical surface areas of proposed green walls should be included in the UGF calculation, but not be added to the site's total area. This may

mean it is possible to score a UGF of more than 1, which is equivalent to the whole site area, where extensive use of green walls is proposed.[6]

- Where a surface-cover type is not included in Table A1.1, a reasonable assumption of the most relevant factor score should be made, recorded on the application drawing and referenced in the Design and Access Statement.
- Where tree canopies will grow over another permeable surface, the area of the surface underneath the canopy can also be included in the UGF calculation – see Figure 3.3.
- Where land within the site boundary is not under the control of the applicant, for instance adopted roads, these should still be included in the total site area. This may constrain the area available for urban greening. In such instances the applicant should seek to make up for the constraint by including more high-quality urban greening across the wider site.
- Where trees and other planting are proposed at ground level, but above basements or other underground structures, the relevant UGF score should be given for each surface-cover type used, rather than a generic green roof score.

[6] Fire safety guidance restricts the use of combustible materials that will limit the use of green walls where they form part of the external wall of a building.

Figure 3.3 Illustration showing how to calculate tree canopies and groundcover



3.3 Submitting a UGF calculation

3.3.1 In addition to a landscape masterplan, UGF calculations should be submitted as a separate stand-alone drawing and should include:

- a masterplan that is colour-coded according to surface-cover types
- a completed UGF table.

3.3.2 A landscape masterplan, as shown in Figure 3.4, is typically submitted as part of a planning application. It is helpful to understand the overall layout and character of the landscape design. However, it does not provide sufficient detail to support a UGF calculation submission. Landscape masterplan drawings should be accompanied by a specific UGF masterplan, shown in Figure 3.5.

Figure 3.4 Example landscape masterplan

Figure 3.5 Landscape plan from Figure 3.4 translated into UGF masterplan and UGF table

3.3.3 UGF masterplans should clearly show the different types of surface cover and their contribution to the overall UGF score. The UGF table should provide sufficient details of the type of greening to allow interpretation and checking of the UGF types. Boroughs may request further detailed information where necessary to clarify or verify proposed greening measures, e.g. in the case of large or more complex masterplans. The figures for different greening types should not be rounded. A UGF table calculator can be downloaded to assist with preparing the UGF masterplan.

3.4 Planning application stages and types

3.4.1 **Phased development** – each phase of a proposed development should demonstrate that it delivers the quality and quantity of urban greening necessary in order for the scheme as a whole to meet the UGF target.

3.4.2 **Outline applications** – where landscape design is a reserved matter, the UGF should be calculated/submitted based on the illustrative landscape plan and other information to demonstrate the UGF target will be feasible at detailed design stage.

3.4.3 A planning condition is then required to include a final UGF calculation as part of a Reserved Matters Application to ensure that the UGF target is met.

3.5 Reviewing UGF planning application submissions

3.5.1 The questions set out in Table 3.2 should be considered as part of the review process undertaken by the borough or determining authority:

Table 3.2 Reviewing UGF submissions

Key considerations	Suggested approach to reviewing compliance
Does the form and type of urban greening proposed address local needs and priorities?	Check whether the application references baseline information such as the Green Infrastructure Focus map, project-specific analysis or a borough Green Infrastructure Strategy.
Is the UGF score provided accurate?	Review the distribution of higher and lower-scoring surface-cover types. High-scoring applications will typically include higher-scoring elements. Consider the scale of the drawing, using the scale bar to check the measurements are reasonable. Check whether the total site area been used as part of the UGF calculation, or whether some areas have been excluded.

Key considerations	Suggested approach to reviewing compliance
Have assumptions been made and are they reasonable?	Any assumptions underpinning a UGF calculation should be clearly stated. For example: • the year of establishment used to calculate the area of proposed tree canopy cover • any assumption made with regard to a combined score for mixed planting schemes – e.g. a planting scheme of 50 per cent ground cover (UGF of 0.5) and 50 per cent perennial planting (UGF of 0.7) may reasonably assume a combined score of 0.6.
Is the categorisation of surface-cover types supported in the wider application material?	Check for example: • whether the quality of green roof proposed matches the detailed specification of green roof • where species-rich grassland is proposed, whether this is also proposed to be appropriately managed as such in the landscape management plan.
Has the correct UGF target score been applied?	Review the proposed use of the development, and the split of residential and commercial where appropriate, to confirm the correct target score has been applied.

3.6 What happens when the target is not met?

3.6.1 The role of UGF is to demonstrate urban greening has been included as a fundamental element of site and building design. As such it cannot be effectively delivered off-site. If a proposal does not meet the UGF target score, the borough should first request the applicant to review options for improving the quality or quantity of urban greening proposed onsite to increase the scheme's UGF score.

3.6.2 Where this review confirms that the target score cannot be met, robust justification should be provided by the applicant setting out the specific constraints to delivery, the options considered to meet the target, and the reasons why it is not achievable.

3.6.3 Where a target cannot be met, a borough may wish to consider options for securing offsite greening in the immediate vicinity of the site (where practical) or financial contributions to make up any shortfall.

4 Development of borough targets

4.1 Setting a local UGF target

4.1.1 The establishment of new borough targets should be based on evidence relating to the need and opportunity for new green infrastructure, ensuring it is both locally ambitious and achievable. Targets should be set out, where possible, in Development Plan documents. Boroughs should apply the target UGF scores set out in the London Plan when assessing major applications if they do not have relevant evidence to set a local target.

4.1.2 When developing local UGF targets, boroughs should retain the following key elements of Policy G5:

- the calculation methodology
- the surface-cover types set out in London Plan Table 8.2
- the surface-cover factor scores set out in London Plan Table 8.2.

4.1.3 Any preference for specific surface-cover types should be expressed through a prioritisation in local Development Plan documents. A recommended process for developing local UGF targets is set out in Figure 4.1.

4.1.4 The targets in the London Plan were informed by the 'Urban Greening Factor for London' report (2017) which provides a rationale for the overarching approach.

Figure 4.1 Recommended process for developing local UGF policies

Step 1: Define a green infrastructure baseline

4.1.5 Where available, a borough's green infrastructure strategy should be used to determine and evidence local UGF targets.

4.1.6 Boroughs that do not have a green infrastructure strategy, and wish to consider setting new UGF targets, will need to gather evidence of sufficient scope and detail to support target setting. This should include an assessment of the local need for green infrastructure (e.g. types and/or locations) and the identification of opportunities to address this need through the planning process.

4.1.7 Boroughs should consider how other related plans and strategies may inform green infrastructure needs and priorities. This could, for example, include flood-management plans; catchment plans; biodiversity action plans; London's local nature recovery strategy or borough local nature recovery plans; and tree strategies. It could also include Local Plans and related documents such as Opportunity Area Planning Frameworks, Area Action Plans and Neighbourhood Plans.

4.1.8 The GLA have published green infrastructure data and tools to assist boroughs in planning for green infrastructure.

4.1.9 When undertaking a local needs assessment exercise, boroughs should do the following:

- Map and categorise existing green infrastructure assets. This includes open spaces of different scales; trees and woodlands; and habitats (SINCs and land with other biodiversity designations or value).
- Overlay other information that is relevant to understanding the green infrastructure network baseline, such as the walking and cycling network; areas of deficiency in access to open space (including hours of public access where this is available); and areas of deficiency in access to nature.

- Overlay information about environmental issues or challenges that green infrastructure could help to address, such as poor air or water quality, surface water flooding, noise or overheating, both day and night.
- Overlay demographic data such as the Indices of Deprivation[7] (the Health Deprivation and Disability Domain will be of particular interest given the significance to health of green space access) and other relevant information, such as deficiency in access to play space, to understand any interrelationships between datasets.
- Overlay other relevant spatial strategies or plans that the borough may have – for example, improving green and blue space or active travel networks.

Step 2: Identify opportunities for new greening

4.1.10 The identification of opportunities should be focused on what can be delivered through the planning system. Overlaying site allocations, Opportunity Areas and the location of other regeneration or significant infrastructure projects onto the baseline map provides the opportunity to understand where land use changes could secure appropriate types of new greening.

4.1.11 This process can help understanding of borough-wide thematic issues and/or locally specific issues concentrated in certain areas that new urban greening in developments could help to mitigate, or where it could enhance the existing green infrastructure network. Examples could include a low level of tree-canopy cover across a borough or localised surface water run-off contributing to poor water quality. The UGF can also contribute to biodiversity enhancement and nature recovery by delivering greening measures that are in line with opportunities identified in Local Nature Recovery Plans.

4.1.12 This spatial understanding can indicate where developments could cumulatively contribute to addressing more strategic priorities that could not be achieved on an individual site.

4.1.13 As well as local sources of data, the GLA's Planning Data Map and Infrastructure Map can be used to identify relevant areas or challenges.

Step 3: Retain London Plan target scores or propose change

4.1.14 Based on the analysis of the green infrastructure baseline and opportunities for greening in steps 1 and 2, boroughs should then consider the following options:

[7] Ministry of Housing, Communities & Local Government, English indices of deprivation 2019: technical report, 26 September 2019

- retain the targets set out in the London Plan
- set new targets that apply to the whole borough
- set different targets for different locations within a borough
- introduce different targets for different use classes
- introduce a target for minor developments.

4.1.15 Guidance on how a borough could approach each of the options is set out below.

a) Retain the targets set out in the London Plan

4.1.16 The London Plan targets have been set to be sufficiently challenging and applicable to development across London. The evidence gathered in steps 1 and 2 may indicate it is appropriate to retain the target scores set out in the London Plan.

b) Set new targets that apply to the whole borough

4.1.17 Where evidence of need and opportunities concludes that there is a rationale for borough-wide change, then a borough may decide to set a new local UGF target across the whole borough.

4.1.18 Examples of when this approach may be suitable include, but are not limited to, the following:

- The identification of a severe deficiency in green infrastructure compared to neighbouring boroughs. This comparison may be quantified using local or regional data, such as the GLA's green cover map.
- The identification of significant potential for new urban greening across the majority of a borough's area, for example if a very high percentage of the borough falls within one or more Opportunity Areas or Strategic/Local Areas for Regeneration.

c) Set different targets for different locations within a borough

4.1.19 This approach is most suitable either when the local needs assessment highlights significant environmental or social challenges in particular places, or where significant land-use change provides opportunities to deliver increased levels of new green infrastructure in a specific area.

4.1.20 These areas may include, but are not limited to:

- Opportunity Areas
- areas of deficiency to open space or to nature
- proposed green corridors identified as part of a green infrastructure strategy.

4.1.21 Where locally specific targets relate to Opportunity Areas, they should be written into Opportunity Area Planning Frameworks or planning policy documents. Where they relate to proposed green corridors, specific guidance detailing the typology of the greening required should be included in the green infrastructure strategy and/or local nature recovery plan and referenced in the local UGF policy.

4.1.22 Areas subject to different UGF targets should be recorded on a map so that applicants can easily determine the relevant target.

d) Introduce different targets for one or more different use classes

4.1.23 The London Plan sets targets for predominately residential and predominately commercial development and excludes development in use classes B2 and B8. A borough that anticipates a significant proportion of co-located industrial/residential applications may look to set a new target for this mix of use classes.

4.1.24 Reviewing the impact of planned development on the existing green infrastructure network may also provide justification for changing a target for a specific use class. For example, if a borough has widespread deficiency in access to open space, it may be beneficial to increase the target score for residential development, since new residential developments would place additional pressure on the existing open space network. In such instances, the increase should be accompanied by guidance setting out the type of green infrastructure most suitable to address the deficiency.

e) Introduce a UGF policy for minor development applications

4.1.25 This additional approach is most suited to boroughs where minor applications deliver a high proportion of development, and where other policy approaches would not be more appropriate e.g. requiring specific greening typologies such as green roofs, SuDS or trees to be provided in all minor developments above a certain threshold (to be determined by the borough).

4.1.26 The Small Site Design Codes LPG includes examples of how small housing developments can be designed to achieve no net loss of green cover, in line with Standard A4.3 in the Housing Design Standards LPG and Policy H2 Small Sites of the London Plan.

Steps 4 and 5: Testing, monitoring and review

4.1.27 Boroughs should implement a periodic review of their policy to determine if UGF targets set have remained achievable and ambitious.

4.1.28 If developments are consistently overachieving compared to the London Plan UGF target, a higher borough-wide UGF target, or a higher locally specific target, may be appropriate. This may occur, for example, if applications regularly include large areas of existing green cover leading to compliance with the target without the need for new greening.

4.1.29 The UGF scores secured at planning stage for relevant development types are recorded in the Planning London Datahub. This data can be used by boroughs to inform their own UGF policy reviews and support Local Plan preparation.

Appendix 1 Categorising and measuring surface-cover types

A1.1.1 Table 8.2 in the London Plan sets out the UGF factor score that should be applied to 16 different surface-cover types. Table A1.1 provides further guidance on how to categorise and measure the 16 surface-cover types when calculating a UGF score. The scores are based on planting as expected at maturity

Table A1.1 Surface-cover types and measurement details

Surface-cover type	Factor	Notes	How to measure
Semi-natural vegetation (e.g. trees, woodland, species-rich grassland) maintained or established on site.	1	Includes all priority habitats listed on page 181 of the London Environment Strategy, and habitats of principal importance (Priority Habitats) listed in schedule 41 of the Natural Environment and Rural Communities Act (2006). Newly created woodland is defined as a diverse mixture of tree species, where the intention is to develop a structurally diverse habitat with an understory and ground layer of vegetation. Groups of standard trees that would be maintained as such should be awarded a UGF of 0.8 or 0.6, depending on the relationship between canopy and soil volume, as set out below. Species-rich grasslands/meadows should include a range of perennial flowers and grasses that will not be frequently cut. Includes dense naturalistic, mixed-species shrub planting (e.g. edible shrub beds) and native scrub. Includes trees that form part of areas of semi-natural vegetation e.g. within meadows or wetlands. Other retained trees should be included in the relevant Standard Trees category.	All proposed forms of vegetation to be measured by area in square metres. Existing and proposed woodland should be measured in square metres as the area to be retained or planted, and not by current or predicted canopy cover.

Surface-cover type	Factor	Notes	How to measure
Wetland or open water (semi-natural; not chlorinated) maintained or established on site.	1	Includes, rivers, streams, canals and other natural or semi-natural bodies of water.	Measure in square metres.
Intensive green roof or vegetation over structure. Substrate minimum settled depth of 150mm.	0.8	The minimum substrate depth should inform the factor applied to roofs designed to have a variable substrate depth.	Measure in square metres. Include total area of intensive green roof, including areas that are underneath PV cells, if proposed.

Surface-cover type	Factor	Notes	How to measure
Standard trees planted in connected tree pits with a minimum soil volume equivalent to at least two-thirds of the projected canopy area of the mature tree.	0.8	Existing trees should be included where the trunk is on site. The entire canopy should be included in the UGF calculation, including any portion of the canopy that is beyond the site boundary. Where a tree canopy overhangs the site, but the trunk is off-site, the tree canopy should not be included in the UGF calculation. With regard to the relationship between tree canopy and soil volume: • tree canopy should be measured in square metres • soil volume should be measured in cubic metres. For example, to achieve a UGF of 0.8, a tree with a projected canopy (as shown on the landscape plan and not exceeding that published by the supplier nursery) of 50 square metres would require a soil volume of at least 33 cubic metres (two-thirds of 50 is 33). Note that best-practice guidance concerning the useful depth of soil under trees should be taken into consideration.	Measure projected tree canopy in square metres. Projected tree canopy is to be measured as shown on the Landscape Masterplan drawing and should not exceed published maximum canopy area stated by supplier nursery. Features underneath the tree canopy should also be calculated in their own right according to their own factor, e.g. where trees stand over amenity grassland.

Surface-cover type	Factor	Notes	How to measure
Extensive green roof with substrate of minimum settled depth of 80mm (or 60mm beneath vegetation blanket) – meets the requirements of GRO Code 2014.	0.7	The minimum substrate depth should inform the factor applied to roofs designed to have a variable substrate depth. Includes extensive 'brown' biodiverse green roofs with equivalent substrate depths.	Measure in square metres. Include total area of extensive green roof, including areas that are underneath PV cells, if proposed.
Flower-rich perennial planting.	0.7	Includes mixed ornamental herbaceous planting. Where mixed planting is proposed in a bed – e.g. perennials, ground cover and shrubs – assign the whole planting bed to the dominant cover type.	Measure in square metres.
Rain gardens and other vegetated sustainable drainage elements.	0.7	Where a sustainable drainage element is covered in a higher-scoring surface-cover type, e.g. a detention basin of flower-rich grassland, the higher factor should be used.	Measure in square metres.
Hedges (line of mature shrubs one or two shrubs wide).	0.6	Ornamental shrub beds, allotments and other areas set aside for food growing should also be assigned this factor score.	Measure in square metres.

Surface-cover type	Factor	Notes	How to measure
Standard trees planted in pits with soil volumes less than two-thirds of the projected canopy area of the mature tree.	0.6	Existing trees should be included where the trunk is on site. The entire canopy should be included in the UGF calculation, including any portion of the canopy that is beyond the site boundary. Where a tree canopy overhangs the site, but the trunk is off-site, the tree should not be included in the UGF calculation. With regard to the relationship between tree canopy and soil volume: • tree canopy should be measured in square metres • soil volume should be measured in cubic metres. For example, to achieve a UGF of 0.6, a tree with a projected canopy, as shown on the landscape plan and not exceeding that published by the supplier nursery, of 50 square metres would require a soil volume 33 cubic metres or below (two-thirds of 50 is 33). Note that best-practice guidance concerning the useful depth of soil under trees should be taken into consideration.	Measure projected tree canopy in square metres. Projected tree canopy is to be measured as shown on the Landscape Masterplan drawing and should not exceed published maximum canopy area stated by supplier nursery. Features underneath the tree canopy should also be calculated in their own right according to their own factor.

Surface-cover type	Factor	Notes	How to measure
Green wall – modular system or climbers rooted in soil.	0.6	Proprietary green wall systems to be included. Climbers are to be included where the design intent is to achieve the covering of a wall. Fire safety guidance restricts the use of combustible materials that will limit the use of green walls where they form part of the external wall of a building.	Measure surface area on the vertical plane in square metres. The total site area should not be increased to include the area of a green wall.
Groundcover planting.	0.5	N/A	Measure in square metres. Include total area of ground cover, including areas that are underneath tree canopies.
Amenity grassland (species-poor, regularly mown lawn).	0.4	Also includes species-poor grasslands that will be managed by infrequent cutting.	Measure in square metres. Include total area of amenity grassland, including areas that are underneath tree canopies.

Surface-cover type	Factor	Notes	How to measure
Extensive green roof of sedum mat or other lightweight systems that do not meet GRO Code 2014.	0.3	Includes lightweight 'brown' biodiverse green roofs that do not meet the GRO code 2014.	Measure in square metres. Include total area of extensive green roof, including areas that are underneath PV cells, if proposed.
Water features (chlorinated) or unplanted detention basins.	0.2	N/A	Measure in square metres.
Permeable paving.	0.1	Blue roofs (water-storage tanks under a permeable but unvegetated roof deck) should be awarded the same factor score as permeable paving.	Measure in square metres.
Sealed surfaces (e.g. concrete, asphalt, waterproofing, stone).	0	Includes artificial grass	Measure in square metres.