

1. Introduction

The Value of Trees

- 1.1 Healthy, open grown trees are objects of great beauty and their value to the landscape is almost universally accepted. The character of many of the finest towns and cities is defined by mature trees in avenues, parks, along streets and in urban woodlands and their presence not only adds value to property but creates a sense of place and adds greatly to quality of life. More than that, they are an essential component of the environment; they provide protection, remove pollutants from the air, fix carbon, reduce noise, produce oxygen and provide shelter for wildlife. There is great public concern about trees and, quite rightly so, many people take pleasure in seeing trees being planted and will strongly object to their unnecessary removal.

Despite this many developers and householders regard trees as a nuisance; they get in the way of development, 'waste space' that could be built upon, block sunlight and drop leaves that block gutters and make paths slippery. In addition many people do not understand or appreciate what conditions are required for healthy growth and can unwittingly cause so much damage to trees that are supposed to be retained they have to be removed on safety grounds.

Purpose of Guidance Note

- 1.2 The purpose of this Guidance Note is to,
- Encourage developers, through the Development Management process, to effectively manage existing trees and woodlands and to
 - Provide the right conditions for new trees on construction sites

By doing these, trees should thrive and grow to maturity, be safe, and cause minimal and acceptable 'disruption' to everyday life. Such trees will not only benefit those who use the site but the wider population as a whole, local wildlife and the environment for many years after the development has been completed.

This document is for guidance only and is not a legally binding interpretation of legislation.



2. Statutory and Non-Statutory Protection

Legislation

- 2.1 Falkirk Council actively encourages tree planting and management and this position is supported by legislation, and national and local planning policy.

The Town and Country Planning (Scotland) Act 1997, as amended by Planning etc (Scotland) Act 2006

Under Section 159 of this Act Scottish Ministers and the planning authority are specifically charged to:

“Ensure, whenever it is appropriate, that in granting planning permission for any development adequate provision is made, by the imposition of conditions, for the preservation or planting of trees”.

And Section 160: gives Falkirk Council the power to apply Tree Preservation Orders (TPOs)

“A planning authority may” “make an order specifying any trees, groups of trees or woodlands in their district and providing for their preservation”

Before any work is carried out to trees you should check with Council staff whether or not they are protected by a Tree Preservation Order or Conservation Area designation, are within the curtilage of a listed building or are subject to a condition of planning permission. (see 9.1 “Permissions” for contact details)

Nature Conservation (Scotland) Act 2004

Section 1(1) of the Act states:

“It is the duty of every public body and office-holder, in exercising any functions, to further the conservation of biodiversity so far as is consistent with the proper exercise of those functions”.

The Wildlife and Countryside Act 1981 Nature Conservation (Scotland) Act 2004

“Trees can provide an important habitat for many species, and larger mature trees may support bat roosts and be used by nesting birds. It is an offence under the Wildlife & Countryside Act 1981 (as amended) and the Conservation (Natural Habitats &c.) Regulations 1994, to deliberately disturb a bat roost, or nesting birds. As bats are European protected species it is important that any tree work which may affect them or their roosts is adequately assessed by a recognised bat expert prior to works commencing.”

Sites of Scientific Interest (SSSI) are designated under these acts. Permission must be obtained from Scottish Natural Heritage if treeworks are listed by them in the SSSI notification package as operations requiring consent.

For further information contact Scottish Natural Heritage (see 9.3 “Other Organisations”)

The Conservation (Natural Habitats etc) Regulations 1994 also provide protection for certain animal and plant species.

The Council will look at proposals and determine if these further the conservation of biodiversity. Further details are given in Falkirk Council Supplementary Guidance, ‘Biodiversity and Development’.

Forestry Act 1967, as amended

A felling licence is required from the Forestry Commission if more than 5 cubic metres is felled within any calendar quarter. There are certain exemptions which may apply, and the Forestry Commission should be contacted to confirm whether or not a licence is required before you start any tree felling.

Ancient Monuments and Archaeological Areas Act 1979

Many historic sites are designated “scheduled monuments” and are legally protected under the above Act. If a site is scheduled monument consult with Historic Scotland before felling trees or removing scrub.

For further information contact Historic Scotland (see “Other Organisations”)

2. Statutory and Non-Statutory Protection

National Planning Policy

- 2.2 Scottish Planning Policy (SPP) provides a statement of Government policy on nationally important land use and other planning matters.

‘Trees and Woodland’ states,

“Other woodlands, hedgerows and individual trees, especially veteran trees, may also have significant biodiversity value and make a significant contribution to landscape character and quality so should be protected from adverse impacts resulting from development.”

“Where appropriate planning authorities should seek opportunities for new woodland creation and planting of native species in connection with development schemes. Tree Preservation Orders can be used to protect individual and groups of trees considered important for amenity or because of their cultural or historic interest.”

Draft SPP

Valuing the Natural Environment states that the planning system should,

“Protect and enhance ancient and semi-natural woodland as an important and irreplaceable resource, together with other native or long established woods, hedgerows and individual trees with high nature conservation or landscape value”

Local Development Plan (LDP) Policy

- 2.3 In the current Local Development Plan (LDP) the following principles are laid out in Policy GN04 Trees, Woodland and Hedgerows

The Council recognises the ecological, landscape, economic and recreational importance of trees, woodland and hedgerows. Accordingly,

- Felling detrimental to landscape, amenity, nature conservation or recreational interests will be discouraged. In particular ancient, long established and semi-natural woodlands will be protected as a habitat resource of irreplaceable value;
- In an area covered by a Tree Preservation Order (TPO) or a Conservation Area, development will not be permitted unless it can be proven that the proposal will not adversely affect the longevity, stability or appearance of the trees. Where necessary, endangered trees and woodlands will be protected through the designation of further TPOs;
- Development which is likely to affect trees should comply with this guidance, including the preparation of a Tree Survey, Constraints Plan, and Tree Protection Plan. Where development is permitted which will involve the loss of trees or hedgerows of amenity value, the Council will normally require replacement planting appropriate in terms of number, size, species and position;
- The enhancement and management of existing woodland and hedgerows will be encouraged. Where the retention of a woodland area is integral to a development proposal, developers will normally be required to prepare and implement an appropriate Management Plan;
- There will be a preference for the use of appropriate local native species in new and replacement planting schemes, or non-native species which are integral to the historic landscape character.

2. Statutory and Non-Statutory Protection

- 2.4** Policy D02 Sustainable Design Principles of the LDP sets out the key principles of design which development proposals should accord with. Of particular relevance to trees on development sites are,

1. Natural & Built Heritage

Existing natural, built or cultural heritage features should be identified, conserved, enhanced and integrated sensitively into development;

2. Urban and Landscape Design

The scale, siting and design of new development should respond positively and sympathetically to the site's surroundings, and create buildings and spaces that are attractive, distinctive, welcoming, adaptable, safe and easy to use.

6. Maintenance

Proposals should demonstrate that provision will be made for the satisfactory future management and maintenance of all public areas, landscaping and infrastructure.

The policy also states,

“Masterplans will be required for significant development proposals requiring a co-ordinated approach to design and infrastructure, and should demonstrate how the above principles have been incorporated into the proposals. Masterplans should be informed by a development framework or brief where relevant.”

Non-Statutory Protection

- 2.5** Proposed developments that affect the following will be subject to close scrutiny and developers and builders will be expected to prepare appropriate management plans to minimise any adverse impacts.

Ancient Woodlands

Area of Great Landscape Value/Special Landscape Area

Wildlife Sites

Sites of Importance for Nature Conservation

Trees on or adjacent to Scheduled Ancient Monuments e.g.

Antonine Wall

Trees adjacent to Listed Buildings

Greenbelt

Listed in the Inventory of Gardens & Designed Landscapes



3. Pre-Planning Procedures and Survey Information

Preliminary meetings With Council Staff

- 3.1** It is important that developers and householders discuss their proposals with Council staff early in the development process to determine if they comply with planning policy and if trees or woodlands affected are protected.

If there are trees on or adjacent to the development site a tree survey should be carried out before any proposals for development are prepared.

Provision of a sketch layout of the proposed development, including access roads, car parking, and site compound in relation to all trees on the site will help in preliminary discussions. Any trees on the boundary of the site, or close to it in adjacent properties which may be affected by the proposed development should also be shown.

Preparation of a tree survey at the outset or at an early stage allows for proper consideration to be given to which trees are to be retained, which can be felled and what will need to be replanted early in the design and planning process. This can eliminate unnecessary work and expense at later stages. It can also avoid unnecessary damage to trees which are to be retained and which can be expensive to rectify once a development is underway or complete.

Requirements

- 3.2** In many places the Falkirk area is already well provided with a wide range of trees and woodlands of different size, age and species and these make a significant contribution to the landscape of its towns, villages and countryside. The Council's principle aim is to maintain and extend the tree cover throughout the Falkirk area and to encourage a diverse landscape in which trees and woodlands are a major element. It will do this by:
- Requiring retention of mature trees and woodland within a development site if they are capable of making a long term contribution to the amenity of the area.
 - Requiring new planting within a development, either to replace trees that are felled or where there are no trees at present.
 - Seeking a contribution to off-site planting where there is insufficient space on a development site for new tree planting.
 - Encouraging management which will result in the presence of a range of species of different ages from young saplings through to mature trees being present and thereby ensuring continual tree cover over the long term.

Removal of Existing Trees

- 3.3** Council staff try to take a pragmatic view when it comes to retention of existing trees, tree surgery and planting of new ones and will not insist on trees being retained if so doing would be inappropriate in design terms and on grounds of safety. Staff also accept that felling mature trees and replacing these with young stock is a valid and necessary part of long term management. Indeed this is essential if a state of continuous tree cover is to be achieved over the long term. However it cannot be presumed that permission for the removal of trees will always be given even if the developer, or householder, is willing to plant replacements. The Council will need to be satisfied that trees are being removed for the right reasons and will require evidence in the form of trees surveys prepared by qualified and experienced arboriculturalists to substantiate claims that trees need to be removed.

Tree Survey Data

- 3.4** An accurate tree survey, based on the site survey, is an essential tool when it comes to discussing site layout and determining the likely impact of the proposed development on existing trees. The survey should be undertaken by a qualified arboriculturist and be in accordance with BS5537:2012. Where tall, mature trees are involved an arboriculturalist should climb the trees to check crown health and to identify any decay organisms that may be present in the crown and are not visible from ground level.

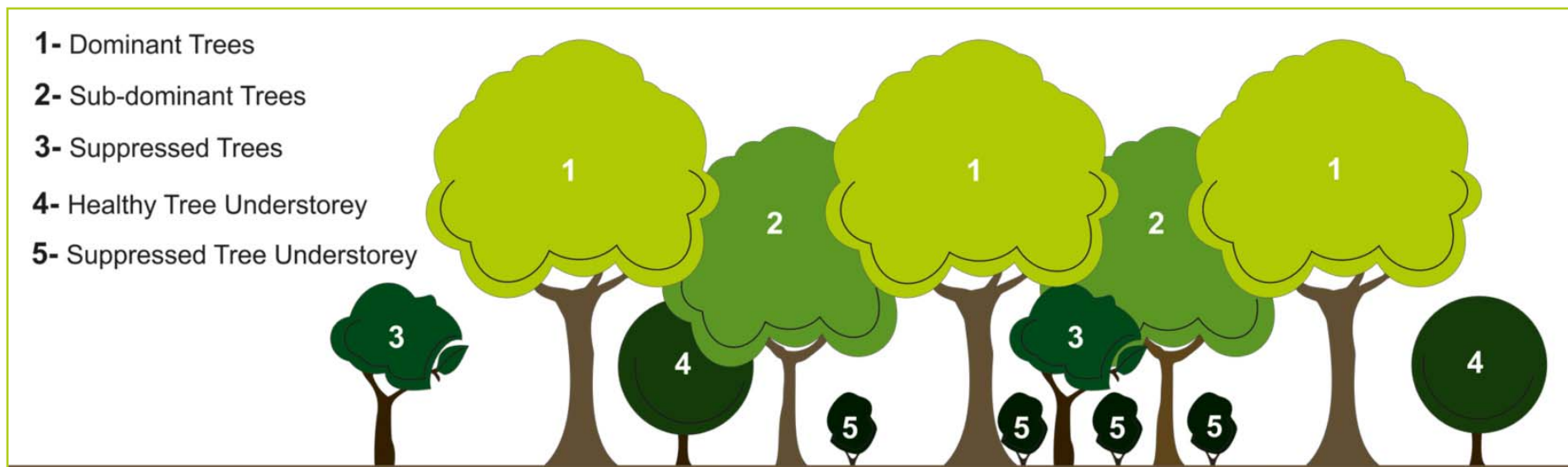
Tree surveys should:

- Clearly identify the whole site for which planning permission is being sought.
- Include all trees on the site irrespective of whether a master plan already exists for the site.
- Include the location of any trees on adjacent land that may be affected by the proposed development.
- Be based on a plan drawn at a minimum scale of 1:500 for sites over 2 hectares, 1:100 or 1:200 for smaller sites.
- Be overlain onto a full topographical survey which gives accurate spot heights, contours, (preferably at 0.5m intervals) and features such as walls, fences, services, overhead wires and watercourses. This will form the basis of the tree survey plan.

3. Pre-Planning Procedures and Survey Information

- Accurately plot the location of all trees including those in groups or woodlands. The following should be recorded in a schedule for each tree: species, height in metres, stem diameter (in millimetres) at 1.5m height above ground level, branch spread in metres taken at the four cardinal points to derive an accurate representation of the crown spread, height in metres of crown clearance above adjacent ground level age.
- Give each tree a unique reference number which is identified on site with a corresponding tag.
- Make a statement on the legal or conservation status of the trees, e.g. protected by Tree Preservation Order, in a Conservation Area, Ancient Woodland Site etc.
- Record ground level at the base of each tree.
- Record the ground levels around the edge of the group or woodland.
- Where a large number of trees are growing close together it may be impracticable to survey each tree individually. In such cases the extent of the group and total canopy spread should be plotted along with notes on species, condition, age, health, girth and height. Information about required management such as thinning, scrub removal, pruning or selective felling should also be provided. The approximate number of trees in the group or woodland should be recorded.
- If the trees are in a group or woodland the position of each tree in the group or woodland should be categorised as being: dominant, sub-dominant, suppressed, healthy understorey/healthy young trees and suppressed understorey/suppressed young trees. Each tree should be given a unique reference number and identified on site with a corresponding tag or label. The approximate number of trees in the group or woodland should be recorded.
(See Figure 1 - Woodland Structure below)
- Record the physical condition of each tree in terms of the presence of dead or decaying timber, broken branches, holes, cavities or stem damage should be assessed. The presence of fungi or other decay organisms, and any signs of insect attack should also be noted.
- Preliminary management recommendations, e.g. tree surgery to remove damaged branches or further investigation of suspected defects, disease, pest or pathogens.
- The conservation, heritage and landscape value of the trees should also be recorded.

3.5 Figure 1: Woodland Structure



3. Pre-Planning Procedures and Survey Information

- Assess the wildlife value of individual trees, groups of trees or woodlands. For example, many mature trees are used as bat roosts in summer, and ivy on a tree provides valuable cover for birds and insects. It is an offence under the Wildlife and Countryside Act 1981 and the Conservation (Natural Habitats &c.) Regulations 1994 to deliberately disturb a bat roost, or nesting birds. Further information can be found in SG05 Biodiversity and Development.
- As bats are European Protected Species it is important that any tree work which may affect them or their roosts is adequately assessed by a recognised bat expert prior to works commencing.
- The Council strongly recommends that appropriately qualified professionals are employed to carry out survey work. For example a qualified arboriculturalist will be able to carry out a comprehensive survey which accurately assesses tree health and an ecologist will be able to advise on the likely presence of bats or other protected species.
- Further details on tree surveys are given :- BS5837:2012 "Trees in relation to design, demolition and construction - Recommendations".
- For further information contact Scottish Natural Heritage (see 9.3 Other Organisations).
- This information will help you decide which trees should be removed or retained. Categorise the trees as follows:
 - Category A** Trees of high quality with an estimated remaining life expectancy of at least 40 years
 - Category B** Trees of moderate quality with an estimated remaining life expectancy of at least 20 years
 - Category C** Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150mm
 - Category U** Those in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years.

Visual Impact

- 3.6 In addition to physical condition make an assessment of the visual impact of the trees. Consider how these may:

screen surrounding properties and block undesirable views,

shelter the development from the wind,

filter noise

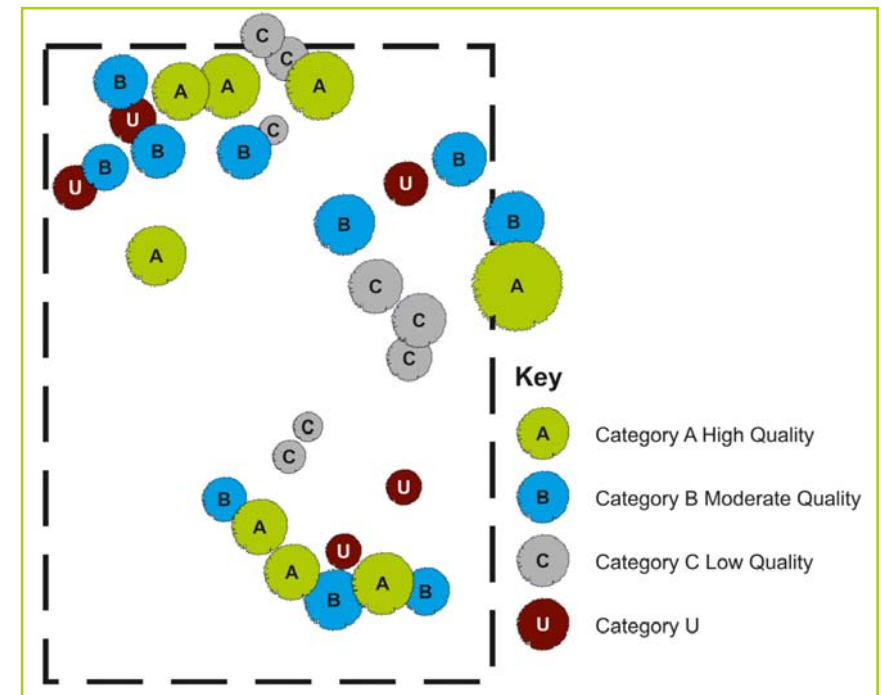
reduce the visual impact of the development,

add value to the development.

Once this information has been gathered assess the value of the trees and decide which trees should be removed or retained. This assessment should be as objective as possible and will be checked and verified by Council staff.

Tree Survey Plan

- 3.7 **Figure 1: Tree Survey Plan**



3. Pre-Planning Procedures and Survey Information

Example of a Tree Survey Table

3.8 Table 1: Example of a Tree Survey Table

Tag Number	Species	Girth	Canopy Spread	Height	Canopy Height	Life Stage	Estimated Remaining Contribution in Years	BS Category	Comments
368	Common Lime	1.50m	10m	19m	5m	M	> 40	A	Minor deadwood throughout; basal epicormic growth
369	Holly, variegated	0.25m	3m	7m	1m	M-A	> 15	C1	Canopy suppressed, poor crown form
370	Oak	0.95m	12m	20m	2m	M-A	> 40	A1	
371	Beech	0.55m	8m	14m	4m	M	> 40	A1	Minor dead wood (<50mm dia)
372	Cherry	0.50m	5m	10m	4m	M	> 35	B1	Damaged hanging branch
373	Wellingtonia	1.50m	4m	22m	3m	M	> 40	A1	
374	Cherry Laurel	0.25m	5m	4m		M-A	> 10	U	Canopy 1 sided. Poor crown form

4. Design and Construction Phases

Design Considerations

- 4.1 Once the tree survey has been completed it should be assessed along with the preliminary site layout. Decisions can then be made on how to site the proposed buildings, roads, car parks, service runs or wayleaves, paths etc. relative to the trees and woodland to be retained and a layout plan prepared.

The position of the site compound during the construction phase of the works must also be considered early in the development process. It should not be located close to or under mature trees that are to be retained. - see section 5.5 "Constraints Plan"

For sites with trees of significance the information contained in the tree survey should play a major role in influencing preliminary site layouts.

Trees on Development Sites

- 4.2 Trees on development sites suffer because:

- The development - buildings, roads, walls, service trenches, the site compound etc. have been sited too close to existing trees and
- There is inadequate protection during construction.

Damage is usually caused by:

- Changes in ground level resulting in a reduction of soil available for the tree to root into, or building soil up around the tree stem and causing the bark to rot.
- Changes in ground level can also result in changes to soil hydrology and trees becoming waterlogged or suffering from lack of water.
- Cutting or physical removal of roots and the tree becoming unstable.
- Soil contamination from spillage of fuel oil or other toxic materials.
- Soil compaction by heavy machinery and storage of materials under the tree canopy.



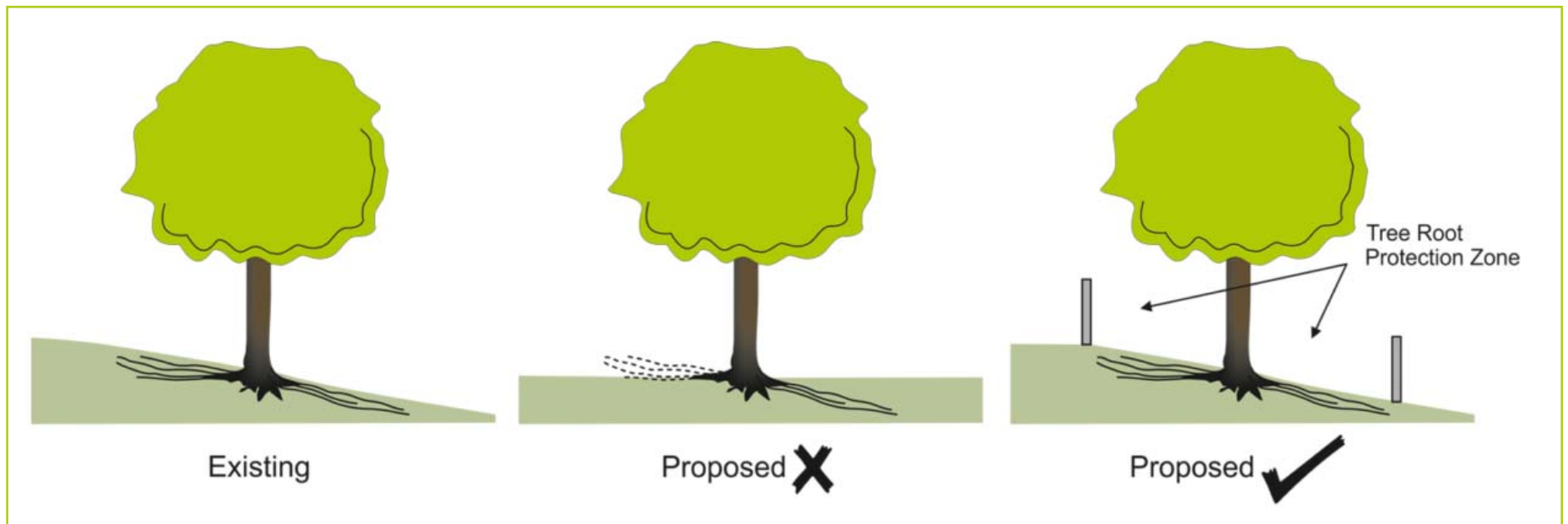
4. Design and Construction Phases

Levels

- 4.3** One area regularly overlooked by developers and householders is that of levels, and in particular change of levels during the construction phase. There is no point in designing a layout that takes account of mature trees on paper, only to find that once excavation works start on site the trees are perched way above a new building or their stems have to be buried to accommodate a new road. It must be remembered that trees, especially mature trees, cannot adapt to significant changes in ground level, or to changes in the level of the ground water table in their vicinity. The use of drawn sections through a site showing levels before and after construction are invaluable in showing how the ground will be altered with respect to trees to be retained. Where trees are to be retained there should be no change to ground level within the root protection zone. Changes around this zone should be gradual rather than abrupt.

Changes to landform and level must be clearly indicated on the application drawings.

4.4 Figure 3: Level Changes



4. Design and Construction Phases

Soil - Don't Treat Soil Like Dirt!

- 4.5** The nature and quality of the soil that trees root into is the most important factor in determining long term tree growth and health. It is a complex living system and is the medium from which trees absorb water and minerals and into which roots grow and provide anchorage for the trees.

Soils on development sites are often subject to a variety of disturbances that greatly alter their nature. Building and landscape operations frequently require stripping of topsoil and reshaping terrain (unfortunately referred to as 'muck shifting') storage of the soil in large bings, and respreading either on site or at another location. Such soils inevitably become greatly mixed and their structure will have been substantially destroyed.

Wherever possible topsoil that is to be used for tree planting should be handled as little possible, should be moved when it is dry and must be protected from contamination with toxic compounds such as diesel and cement. Amelioration of the soil with compost and fertiliser will almost certainly be required. BS3882: 'Specification for topsoil and requirement for use' sets out requirements for topsoil handling.

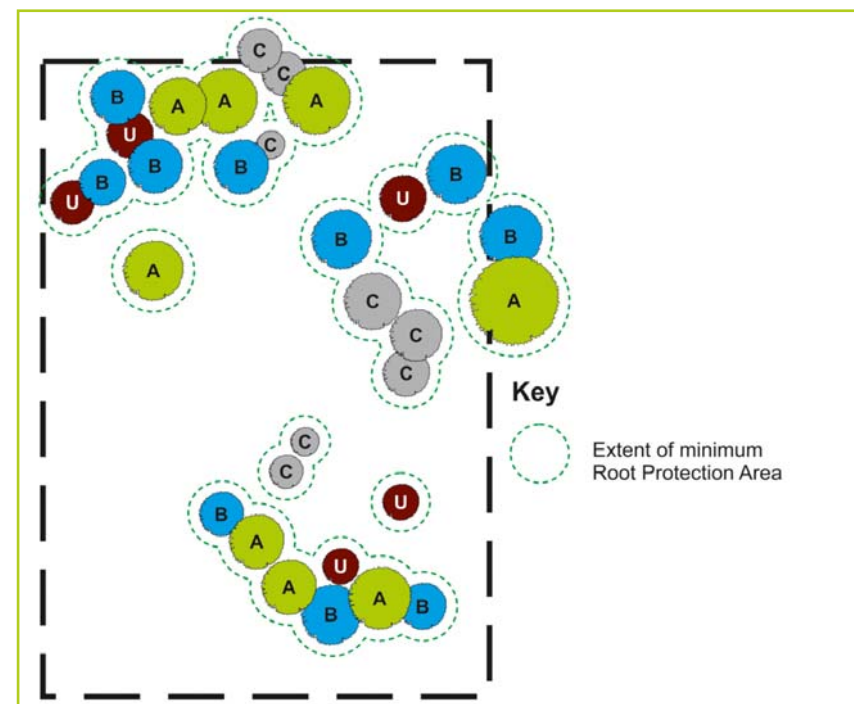
Woodland areas that are to be planted after construction work is complete must be protected as far as possible from the passage of construction machinery. Compaction of soils results in a loss of pore space between soil particles through which roots can penetrate. This can lead to a lack of air and water in the soil. If excluding machinery is unavoidable once construction work is complete all compacted soil (subsoil and topsoil) must be removed, the solum ripped to open drainage and relieve compaction and new topsoil imported into the area for planting. Research has shown a common cause of tree death, both in new woodlands and for individual specimen trees is waterlogging.

Constraints Plan

- 4.6** The tree survey plan will be used as the basis for the constraints plan which will show the area under and around the trees that should be protected from development and construction operations. In order to avoid damage to the roots or rooting environment of retained trees a root protection area should be plotted around each tree. This is a minimum area in m² which should be left undisturbed around each retained tree. The root protection area is an area equivalent to a circle with a radius 12 times the stem diameter for single stem trees, and 10 times basal diameter measured immediately above the root flare for trees with more than one stem arising below 1.5m above ground level. The calculated root protection area should be capped at 707m² which is equivalent to a circle with a radius of 15m. (See Figure 2)

Where there are young trees on a site the constraints plan should also take into account the anticipated mature height and spread of trees. Proposed buildings and structures should be positioned to avoid future issues from arising with relating to leaf fall, overhanging branches and shading.

- 4.7** **Figure 4: Tree Constraints Plan**



4. Design and Construction Phases

Tree Protection Plan

4.8 A tree may take a couple of centuries to reach maturity but can be extensively and irreversibly damaged in just a few minutes. Irreparable damage is frequently done to trees during the first few days of site works. Early erection of tree protection around the edge of the root protection area before works commence on site is essential and is the only way to prevent damage being caused to retained trees by operations in their vicinity. It is essential for those involved with the development works to appreciate the need for maintaining this exclusion zone. Any incursion into this area can quickly destroy all of the time, effort and expense which has gone into the retention of the trees.

Trees are retained on construction sites to enhance the completed development and give it an air of maturity that cannot be achieved with young planting. However, all too frequently existing trees are damaged during construction operations and are seriously disfigured or die. Such damage is often unnecessary and can be avoided if all concerned appreciate the importance of the trees from the outset.

Once the layout proposals for the development have been finalised a tree protection plan should be prepared containing the following information:

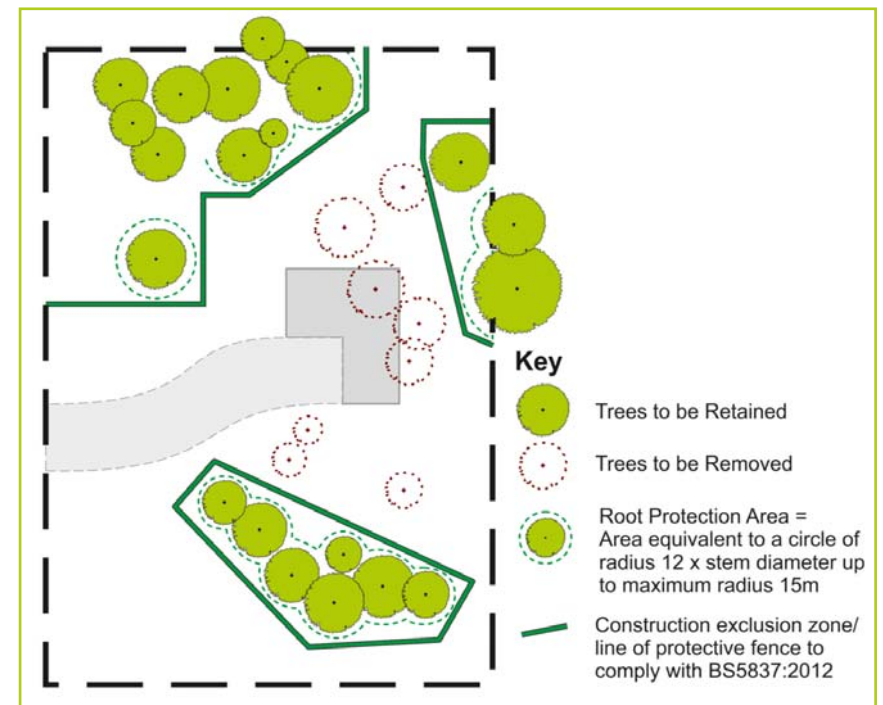
- Trees to be removed.
- Trees requiring surgery. Care should be taken during tree removal or remedial work that damage to retained trees and to the ground within the root protection area is minimised. Work to the trees should be carried out in accordance with BS 3998: Recommendations for Tree Work, and Arboriculture and Forestry Advisory Group guidelines.
- Trees To Be Retained.
- The precise location for protective barriers to form a construction exclusion zone at least as extensive as the root protection zone.
- Design details of the proposed physical means of protection. Barriers should be rigid and be well braced to resist impact. Fences must be well maintained throughout the course of site development and should not be breached at any time. Signs should be attached to the fence, at regular intervals, warning site personnel that the area is protected and to keep out.
- Any development facilitation pruning.
- Areas of future woodland planting to be protected from construction operations to prevent soil structure being damaged or contaminated.

- Ensure that boundary trees and those on adjoining land are also considered - their roots and branches may extend into the development site.

In order to avoid disturbance to the protective barriers forming the construction exclusion zone it is essential to consider all construction operations that will take place on the site. It is important to remember that the construction exclusion zone is just that - an exclusion zone - and it will not be acceptable to use the area, for example, car parking, storage of materials, locating site buildings, or as an access etc.

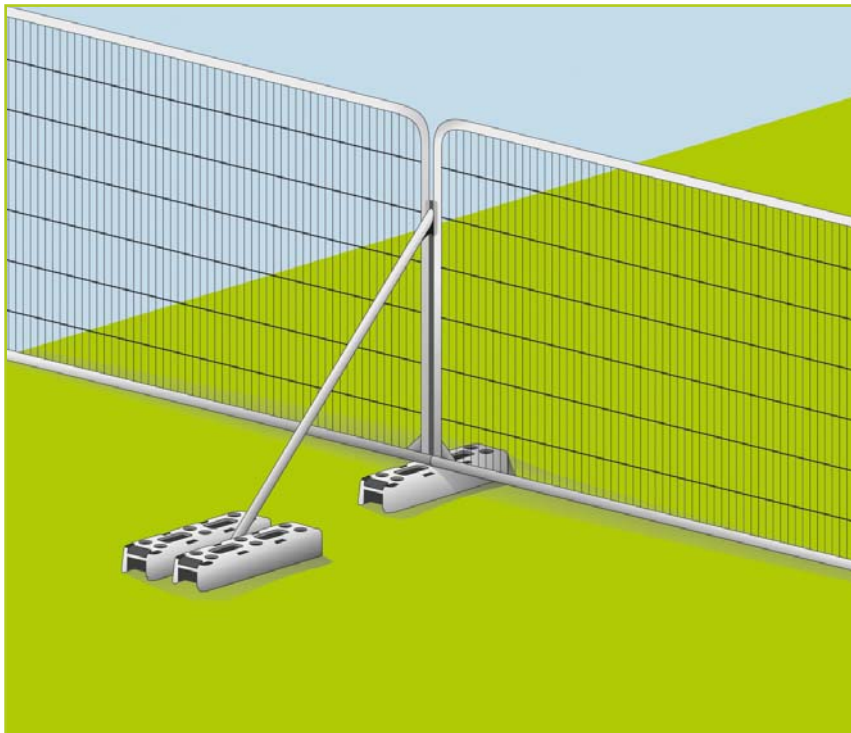
BS 5837:2012 'Trees in relation to design, demolition and construction - Recommendations' should be adhered to on all development sites.

4.9 Figure 5: Tree Protection Plan



4. Design and Construction Phases

4.10 Figure 6: Example of Protective Barrier



Damage to Underground Services

4.11 Contrary to popular belief tree roots do not ‘search’ out sewers or storm water pipes as a source of water. However they do follow water gradients in the soil and will move towards wetter soil once moisture has been encountered. Due to the granular nature of the backfill around pipes the service trench can act as a drainage route for ground water. This can lead to roots growing into the trench and around the pipe.

It is generally accepted that roots do not break or force their way into pipes but it is possible that in very confined spaces root growth may displace pipes or exert sufficient pressure to cause these to break.

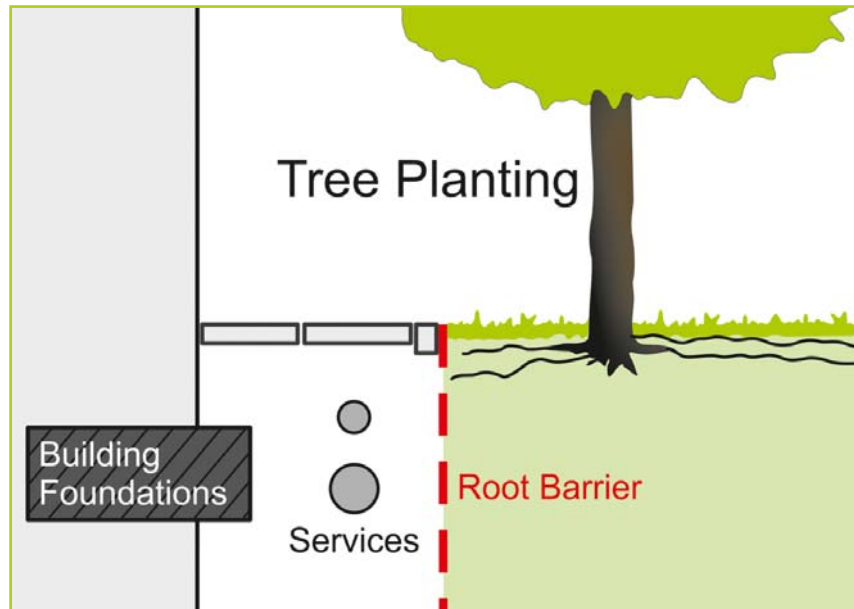
Tree roots can also physically disrupt pipes and cause them to rupture by pulling them up, or by crushing them. As the crown and upper parts of the stem of a tree flex in the wind a considerable amount of the strain is transferred to the root system. This can then be transferred to pipes in contact with larger roots. Those growing under a pipe can lift the pipe, those growing above it could bear down on it and crush it. As the tree increases in size and the wind load increases root size and the likelihood of pipe damage also increases.

The basic principle for locating service trenches is that they should be located outside the root protection zone. If placing them under the tree canopy is unavoidable use trenchless installation or excavate trenches by hand so that disruption to roots is minimised. Trenches should be located as far away from the main stem as possible to avoid problems with roots crushing or lifting pipes. A root barrier should also be installed to prevent roots penetrating pipe joints.

If feasible keep underground services together in one trench.

4. Design and Construction Phases

4.12 Figure 7: Root Barrier



Overhead Services

- 4.13 If overhead services are being installed these should not run through or be close to tree crowns. If these are being installed in an area of young trees the final tree height and crown spread should determine the location of the cables relative to the trees.

Damage to Pavements and Low Rise Structures

- 4.14 Damage to pavements and kerbs by tree roots is a common occurrence, especially in urban settings. Damage can be caused by roots lifting lightly loaded structures, such as pavements, roads or low walls, or by pushing structures over when roots or stems come into direct contact with these.

Displacement occurs as roots growing beneath the pavement or structure thicken with age. As the roots grow outwards they exert pressure on surrounding materials and can exert sufficient force to crack tarmac and to lift paving slabs. However, even though root systems can be extensive the majority of damage occurs close to the base of the tree where the expansion of the trunk and adjacent roots is greatest. Designs must take into consideration future growth.

Damage to Buildings

- 4.15 Tree roots can damage buildings and other structures both directly and indirectly. Direct action includes damage as a result of the pressures exerted by radial growth of roots. It occurs most often close to the tree and is caused by growth of the main trunk and larger roots, but diminishes rapidly with distance from the tree.

Indirect damage usually means the problems associated with the shrinkage and swelling of subsoils. Basically, as the subsoil becomes wetter it expands, and as it dries it shrinks. Such movement can result in a cyclical pattern of heave and settlement which can cause structures to lift and settle. Such subsidence related damage is generally restricted to expansive clay soils which are relatively uncommon in Scotland, though it can happen in any soil that has a high clay content. A structural engineer will be able to advise on soil suitability for building.

4. Design and Construction Phases

Tall Trees and Buildings

- 4.16** One common area for concern is the damage trees can cause if blown over, or if large branches come off. Council staff regularly receive requests for trees to be removed because they are deemed to be too tall and therefore must be dangerous. Obviously a mature tree can dominate a building and in a strong wind its movement can worry occupants. Other common complaints are leaves blocking gutters and drains and light restriction when branches cast shade on windows or gardens.

Obviously by keeping trees further away from a structure than the fall height of the tree this problem can be avoided. However it is not always practicable, or desirable to do so. Even in a relatively low density development application of such a standard could result in no trees being planted, or existing ones not being retained, which the Council would not find acceptable in urban design terms. There are many examples in and around the Falkirk area where tall trees grow very close to buildings without causing problems.

The key to having tall, mature trees within and around a development or building is regular assessment of the trees' health by a qualified and experienced arboriculturalist. He/she will be able to advise on the presence of disease, insect attack or decay organisms, the extent of work needed and the remaining useful life of the tree.



Avoiding Damage Caused by Trees

- 4.17** Problems caused by root damage to pipes, pavements and structures largely can be avoided by careful design, allowing for future growth and by:

- Ensuring pipes are laid properly and joints are completely watertight.
- Locating service trenches outside the root protection area.
- Planting trees far enough away from pipes so that roots are unlikely to come in contact with them. Determination of the extent of the likely root protection area once a tree is mature will give a guide to planting distance.
- Installation of root barriers to stop further root growth or deflect it away from pipes, pavements and structures.
- Planting trees at least 3m away from pavements, kerbs and other structures and in ground that is being used for other amenity purposes.
- Plant trees in a continuous trench filled with improved topsoil, within a tree pit / pavement support system where they are to be planted close to a pavement or structure. This trench should be as long and as wide as practicable. Install a root barrier.
- Keeping individual planting holes as long and as wide as possible.

The rooting characteristics of different species should also be considered. Cherry, ash, poplar and willow have extensive, shallow root systems, whereas rowans, birch and beech appear to cause fewer problems to structures. However it must be remembered that root systems will adapt to ground conditions and the extent of tree root systems can vary greatly depending on ground conditions and the presence of obstacles in the soil.

5. Design and Maintenance Considerations

Design of New Planting

- 5.1** The purpose of new planting within a development should be determined at the start of the design process so that appropriate species, location and grouping of individual trees or woodland can be determined. Design advice should be provided by an experienced and competent landscape architect.

Trees, either as individuals or in a woodland block, can perform a variety of roles aesthetic and functional. They can:

- Provide shelter.
- Filter noise and dust.
- Reduce air pollution.
- Form a visual barrier to screen an unwanted view or to provide privacy.
- Provide character and create a sense of place.
- Provide natural beauty within a built environment.
- Divide a space, frame views, define routes.
- Contribute to nature conservation, biodiversity and carbon sequestration.
- Provide shade.
- Control erosion.

All new tree planting should be an integral part of the design from the outset, and not tacked on at the end to fill the spaces that are left over. As trees generally are the dominant elements of the long term landscape structure of a site their ultimate height and spread, root spread, form, habit, colour, density of foliage and maintenance requirements have to be considered. In particular the possible effect on the structural integrity of buildings, pavements, services and their effect on neighbouring land must be taken into account.

Try to plant indigenous species where possible, particularly in woodland blocks. However the Council will not insist on native species being planted in all situations and will welcome the use of non-native species selected for their form and appearance, e.g. attractive bark, flower or leaf colour where appropriate.

Try and link new planting to existing nearby tree groups around the edge of the site. This could help form valuable wildlife corridors through the site.

Useful Tree Life

- 5.2** 'Useful life' is also an important concept to consider. An oak tree, under normal conditions, can live for many hundreds of years and will dieback and decay very slowly. Under urban conditions it would not be acceptable to allow such a tree to deteriorate in such a way either aesthetically or because of the danger of falling branches or being blown over. In such a situation, if sequential pruning is not appropriate, it would be preferable to remove the tree entirely before dieback becomes significant and plant a new one. If a tree lined road is being substantially upgraded and improved it may be prudent in management terms to replace the trees at the same time thereby avoiding problems in the future. The Council will look favourably upon such a management regime if it considers it to be appropriate and there are good reasons for the trees to be removed.



5. Design and Maintenance Considerations

Distances Between Trees and Structures

- 5.3 BS 5837:2012 'Trees in relation to design, demolition and construction - Recommendations'** gives advisable minimum distances that should be maintained between young trees and new planting and structures to avoid direct damage by trees. For trees over 60cm diameter at 1.5m above ground level at maturity the figures are as follows:

3.7 Table 2: Minimum Distances

Type of Structure	Min. Distance (m) between young trees or new planting and structure		
	Stem dia. <300mm ¹	Stem dia. 300mm to 600mm ¹	Stem dia >600mm ¹
Buildings & Heavy Loaded Structures	-	0.5m	1.2m
Lightly Loaded Structures, e.g. Garages, porches	-	0.7m	1.5m
Underground Services <1m deep	0.5m	1.5m	3.0m
>1m deep	-	1.0m	2.0m
Masonry Boundary Walls	-	1.0m	2.0m
In situ concrete paths and drives	0.5m	1.0m	2.5m
Paths and drives with flexible surfaces or paving slabs	0.7m	1.5m	3.0m
¹ Diameter of stem at 1.5m about ground at maturity			

However these figures do not take into account the benefits that root barriers can have and if installed properly trees can be planted successfully within paved areas without roots causing disruption to adjoining surfaces.

From an aesthetic and practical point there seems little point in planting trees that will be allowed to reach full height and maturity any closer than 6m to a house or large building.

Where trees are growing close to a house and they have outgrown their situation the Council will look favourably at proposals for removal if there are proposals to replace these with young trees. The Council will also support proposals for tree management by pruning and reducing the size of the tree crown if it means the life of the tree can be extended usefully.

Distances Between Trees and Structures

- 5.4** Woodland structure planting in and around new developments can make a significant contribution to the amenity of an area. It can provide a visual screen, filter noise and dust, provide valuable wildlife habitat or act as a link between otherwise disconnected habitats. There is also increasing evidence that access to woodlands improves health and wellbeing.

The Council works very closely with Central Scotland Green Network Trust and together have developed the Falkirk Greenspace Initiative. Through this initiative the Council will work in partnership with organisations like the Trust to create new woodland in appropriate locations. It will require developers to contribute to such improvements (Local Development Plan Policy INF02, Developer Contributions to Community Infrastructure). The Council will encourage any proposals to establish areas of woodland within new developments, particularly if these are accessible and there is good inter-connectivity with other public places.

The criteria outlined above regarding planting individual trees also apply to woodland. However two features of woodland must be given additional and careful consideration, security and shading. Woodlands are, or are perceived to be, locations where anti-social activity takes place. Where feasible route paths through open and preferably well lit areas, and if possible have at least a few houses overlooking the woodland. Development proposals should create a safe and secure environment, (Local Development Plan Policy D02 "Sustainable Design Principles")

Similarly problems with shading caused by blocks of trees can be avoided by careful siting and keeping an area of open ground between the woodland and properties.

5. Design and Maintenance Considerations

Maintenance

- 5.5** Once new trees in a development, or in a newly planted woodland, have been planted these need to be maintained on a regular basis until fully established. All trees must be checked regularly for the following:

Stability - Can the trees withstand strong winds or are they prone to being blown over? If they are unstable the soil around them should be re-firmed, topped up as required if settlement has occurred and stakes either re-firmed or installed.

Damaged And Broken Shoots - Damaged and broken shoots can look untidy and become the point of entry for disease and decay organisms. These should be removed as soon as possible and all pruning work carried out in accordance with good horticultural practice and to **BS3998:1989** “Recommendations for tree works”

Weed Growth - Weed species such as grasses compete very vigorously with newly planted trees for water and nutrients. It is essential that a circle of at least 1 metre is kept weed free for at least three years after planting.

Water - In prolonged periods of dry weather the soil around tree roots can dry out very quickly. Water stress is the most frequent cause of dieback in amenity trees and accounts for around 50% of all deaths. Provision must be made for regular watering during such conditions to avoid drying out of soil. It should also be remembered that the larger the tree planted the greater the stress it will be under and the greater will be its water requirement. After planting and whilst the soil is wet, and weed free, application of a mulch can be beneficial to moisture retention. Mulches can be organic, such as partially composted woodchip or tree bark, naturally inert such as gravel, or inorganic like synthetic mats and landscape fabrics.

Shelters And Protection - Establishment of broadleaved species is helped by the use of individual tree shelters which can also protect the plants from rabbit, deer and vole damage. These must be fixed securely and weed growth around the base regularly treated with herbicide to avoid problems of excessive weed growth within the shelter.

The Council will require full details of how newly planted trees, areas of amenity shrub planting and woodland are to be maintained and by whom before planning permission is given for a development.

Enforcement

- 5.6** The Council will treat seriously any damage to trees in the following categories:

Trees protected by Tree Preservation Order (TPO) or Conservation Area status. Unauthorised felling or other damage to protected trees is a criminal offence and could result in those responsible being reported to the Procurator Fiscal. Substantial fines can be imposed by the courts for serious and persistent offenders. Under planning legislation the planning authority can also require that replacement trees are planted.

Trees On Development Sites. Where trees are not already covered by statutory protection, conditions may be included within the planning permission requiring their protection. Failure to comply could result in the planning authority taking enforcement action to remedy the breach, and could involve stopping all work on site until the situation is remedied.



6. Permissions and Contacts

Permissions

6.1 Tree Works Consent

Tree works consent is required where work to tree/s protected by a Tree Preservation Order or Conservation Area is to be carried out.

Contact:

Planning Officer (Landscape)
Planning & Environment Unit,
Development Services,
Abbotsford House,
David's Loan,
Falkirk
FK2 7YZ

Tel 01324 504950

Email : planenv@falkirk.gov.uk

Planning Permission

Development Management Unit
At the address & telephone number above
Email : dc@falkirk.gov.uk

Other Council Contacts

6.2 Planning history relating to trees contact:

Development Management Unit
At the address & telephone number above
Email : dc@falkirk.gov.uk

Trees and roads or footpaths contact:

Design and Development Services,
at the address & telephone number above
Email: roads@falkirk.gov.uk

Trees on Council owned land:

Estates Management
Corporate & Neighbourhood Services
Falkirk Council
Earls Road
Grangemouth
FK3 8XD
Tel 01324 501104/501103
Email : contact.centre@falkirk.gov.uk

Other Organisations

6.3 Felling Licences contact:

Forestry Commission
Central Scotland Conservancy
Bothwell House
Hamilton Business Park,
Caird Park
Hamilton ML 0QA
Tel: 01698 368530
Email: centralscotland.cons@forestry.gsi.gov.uk
www.forestry.gov.uk

Trees within Sites of Special Scientific Interest (SSSI) contact:

Scottish Natural Heritage
Silvan House
3rd Floor East
213 Corstorphine Road
Edinburgh
EH12 7AT
Tel 0131 316 2600
Email: forth@snh.gov.uk
www.snh.gov.uk

Trees on Scheduled Monuments or on a site listed in the Inventory of Gardens and Designed Landscapes

Historic Scotland
Longmore House
Salisbury Place
Edinburgh
EH9 1SH
Tel 0131 668 8600
www.historic-scotland.gov.uk

Central Scotland Green Network Trust (from 04/14)

Hillhouseridge
Shottskirk Road
Shotts
ML7 4JS
Tel 01501 824190
Email: supportunit@centralscotlandgreennetwork.org
www.centralscotlandgreen network.org

6. Permissions and Contacts

Arboriculturists

Arboricultural Association
The Malthouse,
Stroud Green,
Stonehouse,
Gloucestershire,
GL10 3DL
Tel 01242 522152
Email: admin@trees.org.uk
www.trees.org.uk

Landscape Architects

Landscape Institute
12 Roger Street
London
WC1N 2JU
Tel 020 7685 2640

Further Reading

- 6.4 “Tree Roots in the Built Environment”
Roberts, Jackson & Smith; TSO 2006

BS 3998:2010 Tree work. Recommendations

**BS 5837:2012 Trees in relation to design, demolition and construction
- Recommendations**

This guidance is part of a series of Supplementary Guidance booklets produced by the Planning & Environment Unit. See page opposite Contents.



Falkirk Council
Development Services

Open Space and New Development

Supplementary Guidance SG13 Consultative Draft



Falkirk Council
Development Services

Supplementary Guidance

A suite of supplementary guidance (SGs) is currently being produced by the Council. Most of these SGs are updated versions of previous Supplementary Planning Guidance (SPG) whilst others cover new topic areas (*denotes new SGs). There are 16 SGs in the series, all of which seek to provide more detailed guidance on how particular local development plan policies should be applied in practice.

These SGs form a statutory supplement to the Local Development Plan, and are intended to expand upon planning policies and proposals contained in the proposed plan.

A full list of the supplementary guidance available in this series is found below.

- SG01 Development in the Countryside ***
- SG02 Housing Layout and Design**
- SG03 House Extensions and Alterations**
- SG04 Shopfronts**
- SG05 Biodiversity and Development**
- SG06 Trees and Development**
- SG07 Frontiers of the Roman Empire (Antonine Wall) World Heritage Site**
- SG08 Local Nature Conservation and Geodiversity Sites ***
- SG09 Landscape Character Assessment and Landscape Designations ***
- SG10 Education and New Housing Development**
- SG11 Healthcare and New Housing Development ***
- SG12 Affordable Housing**
- SG13 Open Space and New Development**
- SG14 Spatial Framework and Guidance for Wind Energy Development**
- SG15 Low and Zero Carbon Development ***
- SG16 Design Guidance for Buildings in Conservation Areas ***

Open Space and New Development

1. Introduction



2. Guidance on Provision of Open Space & Play Facilities



3. Public Open Space, Installation, Maintenance and Adoption Procedures



4. Worked Examples



5. Appendices



1. Introduction

Planning Strategy

- 1.1 The vision of the Falkirk Council Local Development Plan is for Falkirk to be:
“A dynamic and distinctive area at the heart of Central Scotland, characterised by a network of thriving communities and greenspaces, and a vibrant and growing economy which is of strategic significance in the national context, providing an attractive and sustainable place in which to live, work, visit and invest.”
- 1.2 To support this vision the Proposed Plan makes provision for 7,964 new houses in the period between 2014 and 2024 distributed across the Council area. The spatial strategy takes into account the physical and environmental capacity and social and economic needs of each community, in order to ensure their future viability and a healthy level of self-containment.
- 1.3 The Council is firmly committed to ensuring that developers provide for the physical, environmental and community infrastructure which is required to serve new development and make it sustainable. This is particularly important in the context of a strategy of growth, where the impact of new households may place a serious burden on existing infrastructure in some areas. Such provision will normally be secured either through conditions or legal agreements.

The Value of Open Space

- 1.4 Play is a vital element of the physical and mental development of all children it helps them to learn, develop physical and social skills and is, of course, fun. However, open space and play areas are not solely for children. Open space is vital to the quality of the urban environment and the physical and mental health of its residents, it can also provide valuable wildlife habitat. It helps to define a sense of place within settlements, contributes to their landscape structure and provides areas for recreation and physical exercise. Open space, where linked into networks can be extremely valuable for active travel and can form corridors through which wildlife can migrate through the urban area.
- 1.5 It is the Scottish Government's and Falkirk Council's objective to encourage provision, through the planning system, of new open space and play areas, and to protect and enhance existing areas wherever possible. Construction of new development brings people into an area adding to the pressure on existing open spaces and creating the need for new ones. Developers will therefore be expected to contribute to enhanced provision.

Terminology

- 1.6 Open space is the term used within this supplementary guidance to encompass all functional and publicly accessible greenspace and bluespace. Open space forms a key component of the wider green network.

1. Introduction

Purpose of the Supplementary Guidance

- 1.7** This document provides the Council's guidance on the provision of open space in new development and its contribution towards the development of the Central Scotland Green Network (CSGN) within the Council area. Its status as statutory Supplementary Guidance will mean that it forms part of the Development Plan. Specifically it advises on:
- The overall standards for provision of open space within new development.
 - How the requirements for open space for new development will be calculated.
 - What types of open space should be provided.
 - Whether the open space should be provided on-site or a financial contribution towards off-site provision will be sought.
 - How financial contributions towards open space will be calculated.
 - The process for the delivery and subsequent maintenance of new open space.
- 1.8** The guidance is intended to be used in tandem with the Council's open space audit and Open Space Strategy, which will be used to identify whether on-site or off-site open space provision is more appropriate and the areas where financial contributions towards off-site provision will be invested.
- 1.9** The document is structured as a step by step guide to provide developers with easy to follow advice on how to prepare their planning proposals for submission.

Planning Policy Context

1.10 National Policy Guidance

National policy guidance on open space and recreational facilities is contained in Planning Advice Note (PAN) 65: Planning and Open Space and Scottish Planning Policy (SPP). PAN 65 introduces a typology of open space, highlights the need for open space audits and suggests different approaches to assessing future requirements depending on the type of open space. Scottish Planning Policy (SPP) reinforces the need to carry out open space audits and produce open space strategies which should be used to inform standards for open space provision in all new developments. Greenspace Scotland has also been set up to promote the creation of greenspace in and around communities. National guidance has supported the Central Scotland Forest Trust which has adopted the Falkirk Greenspace Initiative as its local expression.

- 1.11** Scottish Planning Policy (SPP) reinforces the need to carry out open space audits and produce open space strategies which should be used to inform standards for open space provision in all new developments. It also recognises the value to people and nature of linking greenspaces into green networks and encourages the identification of opportunities to achieve this.

- 1.12** The National Planning Framework identifies the Central Scotland Green Network as a national development with wide ranging environmental objectives. These include a well-planned increase in woodland cover to substantially improve the landscape settings of our towns and cities, bringing vacant and derelict land into beneficial use, improving biodiversity and amenity, and helping to absorb carbon dioxide. Enhancements are encouraged to networks of other habitats, including wetlands, to counter fragmentation and assist species migration. The development of footpath and cycleway networks and other facilities and attractions to create a more sustainable transport network and expand the range of recreational opportunities close to major centres of population, helping to encourage active travel and healthier lifestyles are also envisaged.

1. Introduction

1.13 Falkirk Local Development Plan

Policy INF04 “Open Space and New Residential Development” is the primary policy influencing this supplementary guidance. It states:

Policy INF04 Open Space and New Residential Development

Proposals for residential development of greater than 3 units will be required to contribute to open space and play provision. Provision should be informed by the Council’s open space audit, and accord with the Open Space Strategy and the Supplementary Guidance SG13 on ‘Open Space and New Development’, based on the following principles:

1. New open space should be well designed; appropriately located; functionally sized and suitably diverse to meet different recreational needs in accordance with criteria set out in Supplementary Guidance SG13 ‘Open Space and New Development’.
2. Where appropriate, financial contributions to off-site provision, upgrading, and maintenance may be sought as a full or partial alternative to direct on-site provision. The circumstances under which financial contributions will be sought and the mechanism for determining the required financial contribution is set out in Supplementary Guidance SG13 ‘Open Space and New Development’.
3. Arrangements must be made for the appropriate management and maintenance of new open space.

1.14 Other policies within the LDP which have an influence on this supplementary guidance are:

- Policy GN01 “Falkirk Green Network” indicates that new development should contribute to the green network, where appropriate, through the integration of green infrastructure into masterplans or through enabling opportunities for green network improvement on nearby land;
- Policy INF02 “Developer Contributions to Community Infrastructure” indicates that developers will be required to contribute towards the provision, upgrading and maintenance of community infrastructure. It indicates that open space qualifies as community infrastructure under the terms of this policy;
- Policy INF03 “Protection of Open Space” indicates that the Council will protect all urban open space which is considered to have landscape, amenity, recreational or ecological value. It states that where the loss of open space is considered to be acceptable its release for development will need to be compensated for by qualitative improvements to other parts of the green network in the local area. Details of the appropriate value of compensation for the loss of open space are set out at paragraph 2.34 of this SG; and
- Policy INF07 “Walking and Cycling” indicates that pedestrian and cycle facilities in new development should offer appropriate links to existing networks in surrounding areas, in particular to facilitate school journeys and provide connections to public transport, as well as links to other amenities and community facilities.

1. Introduction

1.15 Falkirk Open Space Strategy

The Open Space Strategy recognises that the Council area is generally well endowed with open space (approximately 9.6 Ha/1000 people). Accordingly, the general thrust of the strategy is to seek to improve the quality of existing open spaces so that they can be considered to be fit for purpose and to ensure that communities have access to different types of open space within acceptable walking distances.

1.16 The strategy provides a robust basis for guiding investment into open space and is a key document in deciding what kind of open space is appropriate within new developments. It sets a standard of all development having access to 5 hectares per 1000 people of different types of open space.

1.17 The strategy includes an audit of the open space resource providing a snapshot of the quantity and quality of provision. The strategy indicates the priorities for investment in open space, setting out where there is a need to form new open spaces and where there is a need to upgrade the quality of existing open spaces. The strategy was formed through careful analysis of a quantitative audit and qualitative assessment of open spaces together with an analysis of their distribution throughout the Council area and an understanding of the needs and aspirations of the communities for their open spaces.

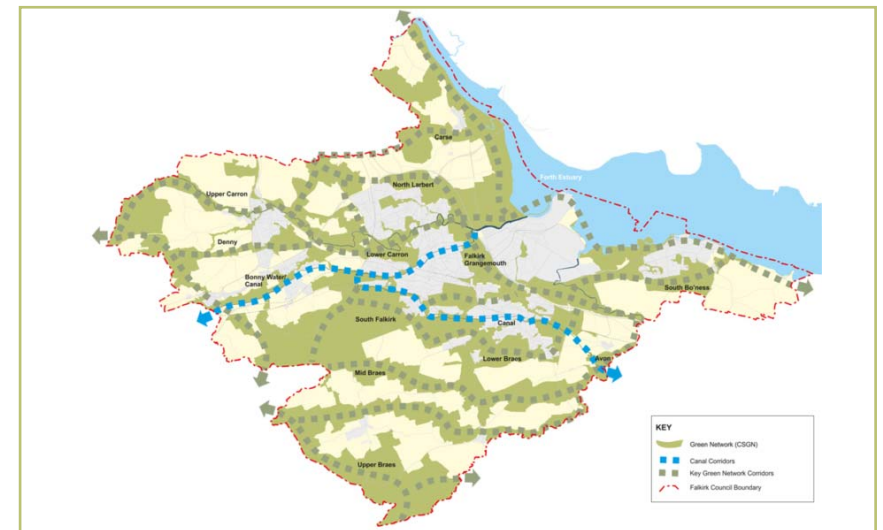
1.18 It is anticipated that the Open Space Strategy will be reviewed and updated in 2015. Dependant on the results of the review, this SG may need to be subsequently updated to reflect its aspirations.

1.19 Falkirk Greenspace

Falkirk's Green Network is known locally as Falkirk Greenspace and is spatially defined in the LDP at Map 3.5. It contains a number of inter-connected corridors and components within which distinct green network opportunities are identified.

1.20 Falkirk Greenspace - A Strategy for Our Green Network was approved by the Council in 2013, its strategic aims are:

- To promote the ongoing landscape-scale transformation across the Falkirk Council area;
- To develop a more co-ordinated approach to the broad range of activities that contribute towards a good quality green network; and
- To steer partnership activity and target investment to best deliver a good quality green network within the Council area.



2. Guidance on Provision of Open Space & Play Facilities

Which developments have to contribute to open space provision?

- 2.1 Residential development of greater than 3 units will be required to provide new open space or contribute financially towards the improvement of existing open space. In all cases, where the development forms part of a larger scheme within which open space provision has been already been assessed and conditioned at the planning permission in principle stage, there will be a requirement to comply with the terms of any agreement or condition.
- 2.2 Non residential development is still likely to be required to provide on site open space. The reason for this requirement is in order to ensure that the sustainable design principles and urban design objectives of the LDP (set out in policies D02 and D03) of the LDP are achieved. It is not considered appropriate to set out minimum requirements for open space provision in non residential development in this SG as this will be determined by the unique nature of each development and the characteristics of the site where development is to take place.

How much open space has to be provided?

- 2.3 The Open Space Strategy has set an aspirational standard of all development having access to 5ha of different types of open space /1000 people.
- 2.4 Following an analysis of existing levels of public open space within settlements and recognition that not all open space is functional open space, it is considered that a reasonable translation of the aspirational standard within the Open Space Strategy would be to require new housing developments to provide functional open space at a rate of 70m²/dwelling. Of this 70m², 30% should be active open space and 70% should be passive open space. A detailed explanation of the rationale for this open space requirement is contained within Appendix 1.

2.5

CONSULTATION QUESTION 1:

Is the rationale for setting the open space requirement per dwelling at a rate of 70m²/dwelling as set out in Appendix 1 reasonable? If not why not and what would be a more reasonable approach?

One alternative to this approach would be not to distinguish between functional and non functional open space and require new housing developments to provide open space at a rate of 112m²/dwelling (assuming an average household size of 2.24 people).

Another alternative would be to only require new open space to be created within settlements which currently fall below the 5ha/1000 people standard.

2.6

For planning permission in principle applications where the number or exact size of dwellings is not yet known, assumptions will have to be made in order to formulate an appropriate open space requirement. This may involve estimating the number of dwellings to be delivered on-site based on overall site area and an appropriate open space requirement per dwelling. In such circumstances the amount and type of open space to be provided on-site will be set out in a condition together with a requirement for a planning agreement setting out an appropriate 10 year maintenance charge for the on-site open space and/or an appropriate financial contribution per dwelling to off-site open space upgrading.

2. Guidance on Provision of Open Space & Play Facilities

- 2.7 For all planning applications there will be a different open space requirement for houses and for flats, this is set out in table 1 below:

Table 1 : Residential Open Space Requirement

Type of Dwelling	Active Open Space	Passive Open Space	Total Open Space Requirement
Flat	10.5 m ²	24.5 m ²	35 m ²
House	21 m ²	49 m ²	70 m ²

2.8

CONSULTATION QUESTION 2:

Should the open space requirement be set out as in table 1 above differentiating between houses and flats, or should an alternative method be used? Alternatives could include a flat rate regardless of house type or a rate scaled by house size.



When should open space be provided on-site and when will financial contributions to off-site provision be sought?

- 2.9 In residential developments of more than 3 houses, open space should be provided on-site except in the following circumstances:

- 1) Generally in residential developments of under 20 houses or under 40 flats except in locations where the Open Space Strategy indicates an under provision of open space;
- 2) There is sufficient open space of different types nearby which are able to serve the development through suitable upgrading. This will involve the identification of the range of open spaces within the vicinity of the development site, an assessment of their quality and an indication of their relative size in relation to the catchment they serve. The following table shows the Council's accessibility standards for different types of open space:

Table 2 : Open Space Type Maximum Walking Distances

Type of Open Space	Maximum Walking Distance
Playspaces, Public Parks and Gardens, Informal Recreation Space	400m
Sports Areas	800m
Natural/Semi Natural Space and Green Corridors	1200m

2. Guidance on Provision of Open Space & Play Facilities

3) It is not practical, reasonable or desirable to provide the open space on-site:

- Where the size of the residential development site cannot physically accommodate the amount of open space required. This may particularly be the case in high density residential developments, such as those in Falkirk Town Centre, due to the density and mix of uses.
- Where site constraints dictate that it is not physically or financially viable, or where it is functionally inappropriate to accommodate all of the required open space on-site.
- Where the open space requirement generated by a development is not big enough to allow an open space above the functional minimum size shown in the table below:

Table 2 : Open Space Type Minimum Functional Size

Open Space Type	Minimum Functional Size
Equipped Playspace	400m ²
Informal Play/ Recreation Space	1000m ²
Sports Area	600m ² MUGA 8000m ² Full size sports pitch (excluding run off areas and parking/ changing facilities)
Allotments/ Community Garden	500m ²
Parks	2000m ²
Civic Space	No minimum size
Semi Natural Space	25m width
Green Corridor	25m width

- 4) Where provision of open space which would serve the needs of new residents can be made off-site on land in the developer's control.
- 5) In masterplanned development where a centralised open space facility is planned.
- 6) There is a green network opportunity nearby which investment from the proposed development would assist in delivering.

2.10 The open space audit has identified all of the open spaces within towns and villages and within 1200m of a settlement boundary, it can be interrogated to identify how far a development site is from each type of open space identified above. This will help to quickly identify where there is a need for open space to be provided on-site and where the site is close enough to an existing facility to provide the opportunity for investment in that facility.

2.11

CONSULTATION QUESTION 3:

Are the rules for deciding whether an open space requirement should be met through on site provision or financial contributions towards off site creation/improvement appropriate? In particular, is the threshold of only requiring on site open space if the development is of more than 20 houses appropriate and are the stated minimum functional sizes of open spaces appropriate? If not what alternatives would you suggest?

2. Guidance on Provision of Open Space & Play Facilities

What type of on-site open space facilities should be provided?

2.12 Functional and Non Functional Open Space

Not all open space is functional open space. As noted previously at paragraph 2.4, the open space requirement per dwelling relates only to functional open space. Open space must be appropriately sited, designed and maintained and must also be fit for purpose if it is to be considered to be functional. The following types of open space are generally considered to be functional and will contribute towards meeting a development's open space requirement:

- Equipped play areas;
- Informal Play/ Recreation Spaces;
- Sports Areas;
- Parks;
- Civic Spaces;
- Semi Natural Spaces;
- Green Corridors; and
- Other functional greenspace (allotments, cemeteries, churchyards and publicly accessible school grounds).

2.13 Not every piece of open ground can contribute towards meeting a development's open space requirement; the following are not considered to be functional and will not be considered to contribute towards meeting a development's open space requirement:

- Above ground SUDS features with no amenity value;
- Small areas of landscaping;
- Structure planting; and
- Road verges.

2.14 However, if it can be demonstrated that the above types of non-functional open space have a high biodiversity or amenity value and can contribute towards the enhancement of the Falkirk Integrated Habitat Network and/or the Green Network then they will be considered to contribute towards meeting a development's open space requirement.

2.15

CONSULTATION QUESTION 4:

Is it appropriate to differentiate between functional and non-functional open space? If it was decided not to differentiate, then the open space requirement per dwelling would have to increase to 112m² per dwelling.



2. Guidance on Provision of Open Space & Play Facilities

2.16 Active and Passive Open Space

Open space has been split into two distinct categories: passive and active open space. New residential development is required to contribute towards both active and passive open space.

2.17 Active open space includes the following sub categories:

- Informal play / recreation space - including multi use games areas, kick about pitches, skate parks, climbing areas;
- Children's equipped play areas - generally equipped for children of primary school age and toddlers;
- Sports Areas - Large and generally flat areas of grassland or specially designed surfaces, used primarily for designated sports i.e. playing fields, golf courses, tennis courts, bowling greens; areas which are generally bookable.



2.18 Passive open space includes the following sub categories:

- **Amenity greenspace** - Landscaped areas providing visual amenity or separating different buildings or land uses for environmental, visual or safety reasons e.g. road verges or greenspace in business parks, and used for a variety of informal social activities such as sunbathing, picnics or kickabouts;
- **Other functional greenspaces** - allotments, churchyards and cemeteries;
- **Parks** - Areas of land normally enclosed, designed, constructed, managed and maintained as a public park or garden;
- **Green corridors** - Routes including canals, river corridors and old railway lines, linking different areas within a town or city as part of a designated and managed network and used for walking, cycling or horse riding, or linking towns and cities to their surrounding countryside or country parks. These may link green spaces together;
- **Natural/ semi natural space** - Areas of undeveloped or previously developed land with residual natural habitats or which have been planted or colonised by vegetation and wildlife, including woodland or wetland areas; and
- **Civic space** - Squares, streets and waterfront promenades, predominantly of hard landscaping that provide a focus for pedestrian activity and make connections for people and wildlife, where trees and planting are included.

2.19 There may be instances where certain types of open space display both active and passive qualities e.g. parks and accessible woodlands. Where there is doubt over whether a certain element of open space is to be considered as active or passive open space, this should be discussed and agreed with Council Officers.

2.20

CONSULTATION QUESTION 5:

Is it appropriate to differentiate between the provision of active or passive open space? If it was decided not to differentiate, then the cost of providing off site contributions to open space in lieu of on site provision would need to rise.

2. Guidance on Provision of Open Space & Play Facilities

2.21 Opportunities to link into the green network and the core path network

Wherever possible, developers will be encouraged to put together an open space proposal which maximises opportunities to link the development into the Central Scotland Green Network (CSGN) and the Core Path network.

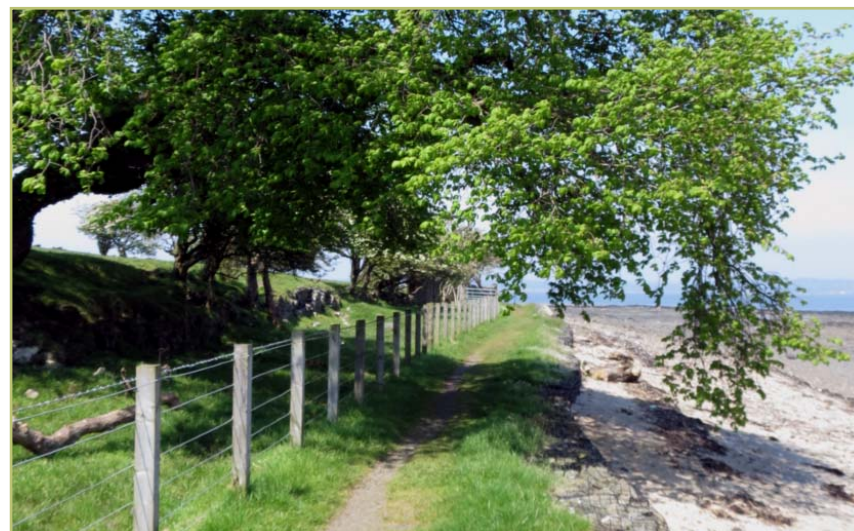
2.22 Green network corridors and components are identified in Map 3.5 of the LDP and green network opportunities are identified on the LDP Proposals Map. Methods of linking the development into the CSGN can include the following:

- Providing path links to existing adjacent components of the green network;
- Undertaking habitat enhancement works on site which improve the biodiversity value of the adjacent component of the green network or link different parts of the existing habitat network;
- Introducing robust structure planting which helps to improve the landscape setting of the adjacent component of the green network;
- Introducing functions on site which enhance the recreational value of the adjacent component of the green network;
- Implementing one of the green network opportunities identified in the LDP.

2.23 Evidence has shown that the closer people are to their nearest accessible greenspace, the more likely they are to use it. Evidence has also shown that there is a link between how close people are to their nearest accessible greenspace and relative levels of deprivation. Linking open spaces through the active travel network can help to reduce the distances people have to travel to their nearest accessible greenspace. Linking development sites to the active travel network can also reduce the distance new residents need to walk to access different functions of open space.

2.24 Falkirk Council's Core Paths Plan shows a network of nearly 400km (250 miles) of paths. These are the most important routes identified by land managers, walkers, cyclists, horse riders and local residents. Methods of linking open spaces within new development to the Core Path network can include the following:

- Locating on site open space to be as close as possible to the existing core path network;
- Providing path links between on site open space and the adjacent core path network;
- Carrying out off site access improvements and constructing missing links to ensure that the distance to the core path network is reduced as far as is practical.



2. Guidance on Provision of Open Space & Play Facilities

2.25 Open Space as part of a mixed use scheme

Where a planning application is made for a mixed use scheme there may be some doubt as to whether all of the open space provided as part of the overall application should be considered as counting towards meeting the open space requirement. For example a mixed use scheme with distinct residential and commercial elements may provide substantial amenity open space to provide a landscape setting for the commercial units; however, it is debatable how well this space is likely to be used by occupants of the residential element of the scheme.

2.26 In such cases, planning officers will have to use their professional judgment to decide whether the open space should count towards meeting the development's overall open space requirement. Key issues influencing the final decision will be:

- What function is the open space intended to provide?
- Is the open space close enough to the scheme's residents to encourage its use?
- Is the space appropriately designed to encourage wider public use?

2.27 Non - standard Residential Development

There are a number of circumstances where residential developments are only expected to provide certain categories of open space. These are as follows:

- **Rest homes and nursing homes** - these types of development will only be expected to provide for informal amenity open space as other forms of open space are clearly not reasonably related to such proposals.
- **Single bedroom dwellings and student accommodation** - these types of development will not be expected to provide children's play areas, since it is unlikely that a significant number of children will reside in such dwellings.
- **Houses in multiple occupation** - these types of development will need to be considered individually, taking account of the estimated number of people residing in such properties.

2.28 Planning Application Requirements for Developers

Functional open space of a certain type should only be provided on-site where it can be built to the minimum functional size shown in Table 3. The Council would rather see new development contributing to the improvement in quality of existing open space than the provision of new areas which are not large enough to be fit for purpose. The only exception to this is where there are no equipped playspaces within a safe walking distance of the development, in such a circumstance an equipped playspace could be provided at less than the minimum functional size.

2.29 The combination of open space types provided on-site should be steered by the Open Space Strategy, should respond to local open space needs and should be agreed in consultation with Council officers. The decision will be dictated by:

- The scale, type and needs of the development;
- The provision of open space in the vicinity of the development; and
- The priorities the open space strategy has identified for the area.

2.30 To assist in calculating the area of open space provided by new development planning applications will be required to be accompanied by a plan and schedule of proposed open space provision setting out how much open space of the types outlined above is proposed. Areas should be expressed in square metres. An example of a schedule of proposed open space provision is shown in appendix 2.

2. Guidance on Provision of Open Space & Play Facilities

What level of financial contributions will be required towards improvement of off-site open space?

- 2.31** Where the entire open space requirement generated by a development is not provided on-site, a commuted sum towards the qualitative improvement of nearby open space, or towards provision of new open space will be required.

Active Open Space: £42/m²

Passive Open Space: £21/m²

- 2.32** These figures, have been up-rated from those contained within the Public Open Space, Falkirk Greenspace and New Development SPG (which was published in June 2011) using the BIS construction output price (All New Construction) index published for quarter 2 of 2013 and rounded to the nearest pound. These figures will be uprated again prior to publishing the finalised SG. These figures include proposed maintenance costs and were calculated based on what is asked for by other local authorities around the UK.

2.33 **CONSULTATION QUESTION 6:**

Are the costs of upgrading of off site open space indicated in 2.26 above appropriate? Can you provide details of a more appropriate figure with appropriate justification? Is the BIS construction output price (All New Construction) index an appropriate index to use as a measure of inflation of the price of upgrading existing open space? If not, what would be a more appropriate index to use and why?

- 2.34** Where a proposed development involves the loss of existing open space compensation will be sought at a level equivalent to the commuted sum per square metre of the type of open space lost. For example, if a development involved the loss of an 8000m² sports pitch then the commuted sum would be equivalent to 8000m² of active open space i.e. £336,000. The commuted sum compensating for the loss of existing open space is additional to the open space requirement generated by the development itself.

- 2.35** Table 4 below shows the indicative commuted sum payments required in residential developments where no open space is provided on site.

Table 4 : Residential Open Space Commuted Sum Requirement

Type of Dwelling	Active Open Space	Passive Open Space	Total Commuted Sum Per dwelling
Flat	£441	£514.50	£955.50
House	£882	£1029.00	£1911.00

- 2.36** The value of play equipment proposed for installation on-site will be discounted against the commuted sum payment for active open space. Where no commuted sum is required for active open space, developers will still be expected to provide an appropriate standard of play equipment on-site (see worked example 2 & 4 in section 4).
- 2.37** Where a developer proposes to provide more active open space on-site than is required for the size of the development, the over provision can be discounted against any passive open space requirement (see worked example 3 in section 4).
- 2.38** Commuted sum payments will be secured by a Section 75 Agreement or a Section 69 Agreement or by condition. In most situations, the commuted sum payment will be made towards upgrading existing provision. However, in situations where commuted sum payments are to be made for the provision of new open space, appropriate land values at the time of determining the planning application would need to be considered in addition to the figures shown in table 4 above, to allow for the purchase of new land.
- 2.39** Where financial contributions towards the creation of new open space or towards the upgrading of existing open space are taken as part of a planning agreement, the Council will endeavour to spend the money for those purposes. Where money collected is unspent after a period of 10 years, the money will be repaid in full to the developer including interest at the lowest bank rate.

2. Guidance on Provision of Open Space & Play Facilities

Where will the financial contribution be invested?

- 2.40** Where an open space improvement project for investment has not been identified at the planning application stage, the Council's developer contributions implementation group will determine priorities for investment. In general it will be appropriate for this group to decide how to spend open space contributions in line with the Council's strategic aims for improving the open space resource as set out in the Open Space Strategy, Core Paths Plan and Falkirk Greenspace Strategy without the need for further consultation with the public.
- 2.41** The Open Space Strategy and Audit sets out where there are quantitative and qualitative deficiencies in open space for each settlement and sets out the priorities for investment to improve the overall provision of open space. The strategy will be the principal document guiding where financial contributions will be spent.
- 2.42** Active open space contributions can generally be used to provide or improve play and sports facilities but can also be used to provide better path networks which enable opportunities for walking, cycling and running.
- 2.43** Passive open space contributions can generally be used to enhance the design and aesthetic quality of open spaces; improve their biodiversity and nature conservation value as well as upgrading the facilities which enhance the visitor experience of the open space (e.g. improved paths, street furniture, signage, interpretation facilities etc.)
- 2.44** In general, the financial contributions will be put towards improving the quality of open space within the minimum walking distances of the site set out in Table 2. The improvement of existing open space which is not fit for purpose will be prioritised over the improvement of open space which is currently fit for purpose. Investment in more strategic open space provision outside the minimum walking distances set out in table 2 may be appropriate where it complies with the policy tests set out in planning circular 3/2012 in relation to: necessity; planning purpose; relationship to proposed development; scale and kind; and reasonableness.
- 2.45** If there are no appropriate open spaces within the minimum walking distances, then money will either be put towards: the creation of a new open space as close to the site as is practicable; or improving the quality of open space as close to the site as is practicable. Alternatively, where the new development is close to a green network opportunity, investment may be directed towards its implementation.

- 2.46** Where developers have provided financial contributions towards the improvement of off site open space, they are encouraged to inform their potential house purchasers of this community investment.



2. Guidance on Provision of Open Space & Play Facilities

What if the requirement for financial contributions affects the viability of the development?

- 2.47** With reference to the prevailing economic conditions and circumstances, if it can be demonstrated to the satisfaction of the Council that the benefits of developing a site which is financially marginal, outweighs the requirement for open space provision or contributions, then this will be a material consideration in determining any planning application.

2.48 Checklist for Developers

Step 1: Determine whether your development will be required to contribute towards open space provision using the guidance contained within this document.

Step 2: Determine how much open space will be required and of what type.

Step 3: Put together a proposal for open space provision based on the scale, type and needs of your development. This should involve:

- Analysis of your site to identify opportunities for providing on-site open space;
- Analysis of the Open Space Strategy and the area surrounding your site to identify opportunities for improving nearby existing open space;
- Identification of opportunities to link the development to the existing green network and core path network

Step 4: Approach the Council to discuss your proposal with relevant officers and agree appropriate split between on and off-site open space provision.



3. Public Open Space, Installation, Maintenance and Adoption Procedures

Installation

- 3.1 There are three ways in which developers can achieve the necessary standards in public open space and play areas:
- The developer or a specialist agent designs and installs the new open space and play areas to the satisfaction of the Council;
 - The developer pays an agreed sum to the Council or to a mutually acceptable third party to design and install the new open space and play areas. If a third party is used the location and design of the play area must be to the satisfaction of the Council;
 - The developer pays an agreed sum to the Council to implement improvements to existing public open space and play areas nearby.
- 3.2 Where a developer designs and installs the new open space, a bond will be required from developers to ensure open space is installed satisfactorily. The value of the bond will be set at 100% of the agreed cost of installation. This will be returned when the open space is in place and of a satisfactory standard. If the Council is required to undertake any works to bring the open space up to a satisfactory standard, then the cost of those works will be deducted from the bond before it is returned to the developer.

Adoption and Maintenance

- 3.3 The Council will expect the development and ongoing maintenance/upkeep of all open space and play areas within developments to be satisfactorily provided for by, for instance, robust and certain factoring arrangements. The Council, where it is not satisfied with such arrangements, reserves the right, at its discretion, to require that the Council takes over responsibility for such maintenance and upkeep of open space and play areas within developments such adoption of responsibility being subject to:-
- All such open space and play areas having been constructed to the relevant British and/or European standard prior to the Council taking on any maintenance responsibility;
 - Payment of a sum equivalent to ten times the annual maintenance cost of the open space and play area being made to the Council prior to the Council taking on any maintenance responsibility.

3.4

CONSULTATION QUESTION 7:

Is the requirement that developers must pay a sum equivalent to ten times the annual maintenance cost of the open space to be adopted by the Council appropriate? If not then what should the requirement be?

- 3.5 In certain circumstances, the Council, at its discretion, may seek transfer of the ownership of such open space and play areas to the Council at no cost to the Council and with payment to the Council of a sum equivalent to ten times the annual maintenance cost of the open space and play area concerned. The developer should come to an agreement with Council Officers as to the annual maintenance cost of the open space to be maintained or adopted by the Council.
- 3.6 For residential developments with on-site open space provision which remains with the developer or managing agency, applicants will be expected to enter into a Section 75 Agreement ensuring that the open space is maintained for the lifetime of the development to guarantee that any open space provided becomes established and is not neglected.
- 3.7 It is crucial that high quality levels can be sustained in new open space, this has bearing on both the plants and materials selected. This means designing to reduce the maintenance burden and allowing for ongoing costs (e.g. use of wildflower meadows within parks which do not require intensive grass cutting). It also presupposes that management regimes are set up to take on future maintenance responsibilities which can take the form of a development trust or a management company.

4. Worked Examples

- 4.1** Four hypothetical developments of differing scales have been worked through to illustrate the variety of ways the guidance will work and how the type of open space a development should provide is determined by:
- The scale, type and needs of the development;
 - The provision of open space in the vicinity of the development; and
 - The priorities the open space strategy has identified for the area.
- 4.2** The first two worked examples relate to detailed applications for residential development. The third example relates to a residential planning permission in principle application. The final example relates to a detailed application for a mixed use development comprising, retail, business, leisure and housing.



4. Worked Examples

Worked Example 1

- 4.3 A block of 20 flats is proposed to be built in the middle of Falkirk on a 0.2ha area of underused amenity open space.

Step 1: Determine if the development will have to contribute towards open space provision.

All residential developments have to contribute towards open space provision.

Step 2: Determine how much open space will be required and of what type.

Active Open Space: $20 \times 10.5\text{m}^2 = 210\text{m}^2$

Passive Open Space: $20 \times 24.5\text{m}^2 = 490\text{m}^2$

Step 3: Put together a proposal for open space provision based on the scale, type and needs of your development.

Q. Should contributions be on-site or off-site?

- A. At 20 flats, the development falls below the 20 housing unit equivalents threshold and contributions should be directed towards improvement of off site open space. The development is in the middle of Falkirk and is built at a high density, the developer has indicated that it is not financially viable to provide the entirety of the required open space contribution on-site. The nearest children's equipped play area is over 500m from the site which is over the 400m threshold but as there would be no safety concerns from children walking from the site to that play area and the likelihood of large numbers of children living in the new flats is relatively low, it is not considered appropriate to ask for any on-site open space. The entirety of the open space contribution will be required to be paid as a commuted sum towards off-site improvements.

Q. What level of financial contribution will be required?

A. Active Open Space: $\text{£}42\text{m}^2 \times 210 = \text{£}8,820$

Passive Open Space: $\text{£}21\text{m}^2 \times 490 = \text{£}10,290$

Compensation for loss of Open Space: $\text{£}21\text{m}^2 \times 2000 = \text{£}42,000$

Total Open Space Contribution: = £61,110

Q. Where will the financial contribution be spent?

- A. Investment should be directed towards the upgrading of the nearest active and passive open spaces which the Open Space Strategy has identified as having a qualitative deficiency. The active open space payment is relatively small and it would be hard to make meaningful improvements to a nearby play area or sports area with this money alone. The money will therefore be held by the council and added to the pot of money being collected to upgrade the sports pitches 700m from the site. The quality of civic space in Falkirk Town Centre has been highlighted by the Open Space Audit as being in need of investment, the passive open space contribution will therefore be put added to the funds being put together to upgrade civic space.



4. Worked Examples

Worked Example 2

- 4.4 A brownfield site is proposed to be developed for 120 flats comprising 90 x two bedroom flats and 30 x three bedroom flats. The site sits on the Forth Clyde Canal and is near to both a Core Park and a large area of managed semi natural open space.

Step 1: Determine if the development will have to contribute towards open space provision.

All residential developments have to contribute towards open space provision.

Step 2: Determine how much open space will be required and of what type.

Active Open Space: $120 \times 10.5\text{m}^2 = 1260\text{m}^2$

Passive Open Space: $120 \times 24.5\text{m}^2 = 2940\text{m}^2$

Step 3: Put together a proposal for open space provision based on the scale, type and needs of your development.

Q. Should contributions be on-site or off-site?

- A. The development is situated on the banks of the Forth Clyde canal and is built at a high density, the developer has indicated that it is not financially viable to provide the entirety of the required open space contribution on-site. The Open Space Strategy shows that: the nearest play area to the site is further than 400m away and is accessed along a busy road; there is a nearby Core Park which has poor quality sports pitches in need of investment; and there is a newly formed nature park nearby, however, accessibility to the nature park from the southern part of the town is restricted.

The opportunities presented by the site suggest that an element of on-site open space would be appropriate. The developer, recognising the amenity value of having an attractive canal frontage, proposes to build in 1500m^2 of civic space along the canal frontage.

Although it is accepted that the developer wishes to limit the amount on-site open space, there is no play area for younger children within safe walking distance of the site. Given that there are a number of larger flats proposed as part of the development it seems reasonable that there may be some children amongst its residents. The canalside is also likely to become popular for families to walk along. Taking this into account the developer has been asked to build a 200m^2 toddlers play area into the scheme with £10,000 worth of play equipment.

The balance of the open space contribution will be required to be paid as a commuted sum towards off-site improvements.

Q. What level of financial contribution will be required?

- A. A 200m^2 toddlers play area has been provided on-site (This was considered to be appropriate given the space limitations on-site) leaving a residual requirement of 3190m^2 of active open space. 1500m^2 of civic space has been provided on-site along the canal frontage leaving a residual requirement of 5279.7m^2 of passive open space.

Active Open Space Contribution:	$\text{£}42\text{m}^2 \times 1260\text{m}^2$	=	$\text{£}52,920$
	- $\text{£}42\text{m}^2 \times 200\text{m}^2$	=	$\text{£}8,400$
Installed Play Equipment Discount:			<u>$\text{£}10,000$</u>
		=	$\text{£}34,520$

Passive Open Space Contribution:	$\text{£}21\text{m}^2 \times 2940\text{m}^2$	=	$\text{£}61,740$
	- $\text{£}42\text{m}^2 \times 200\text{m}^2$	=	<u>$\text{£}31,500$</u>

Installed Play Equipment Discount: = $\text{£}30,240$

The applicant has proposed that the on site toddler's play area will be managed and maintained by the Greenbelt Company. A condition has been put on the planning decision notice which requires the applicant to submit the proposed management and maintenance regime to the Council for approval. The applicant proposes to pass the civic space on site to the Council for adoption and maintenance. The applicant and the Council have agreed that the annual maintenance cost of the civic space is £3000.

10 year maintenance cost: $\text{£}3,000 \times 10 = \text{£}30,000$

Total Open Space Contribution: = $\text{£}94,760$

Q. Where will the financial contribution be spent?

- A. There is an opportunity to improve access from the southern part of the town to the core park and nature park by building a bridge from the site over the adjacent water body and connecting to the civic space running along the canalside. As access is being improved to both active and passive open space, the cost of the bridge can be covered by either the active or passive open space contribution. Any residual sum will be used to go towards the improvement of sports pitches within the core park.

4. Worked Examples

Worked Example 3

- 4.5 A Planning Permission in Principle application is submitted for a greenfield residential development of approximately 200 houses and a 70 bed nursing home to the east of Bonnybridge. The site is bounded to the north by the Bonny Water, to the south by the Forth and Clyde Canal and is near to a Local Park.

Step 1: Determine if the development will have to contribute towards open space provision.

All residential developments have to contribute towards open space provision. In addition the site is in an urban fringe location, so it will be expected to contribute towards landscape and/or access improvements as part of the Falkirk Greenspace Initiative.

Step 2: Determine how much open space will be required and of what type.

As this is a PPP application with no indication of the on site split between houses and flats assumptions will need to be made to calculate the necessary open space requirement. In discussion with the applicant it has been assumed that 75% of the dwellings will be houses and 25% of the housing will be flats. The nursing home is only required to provide passive open space, it seems reasonable that the nursing home should provide 49m² of passive open space per 5 beds.

Active Open Space:	50 x 10.5m ²	=	525m ²
	+ 150 x 21m ²	=	3,150m ²
		=	3,675m²
Passive Open Space:	50 x 24.5m ²	=	1,225m ²
	+ 150 x 49m ²	=	7,350m ²
	+ (70÷5) x 49m ²	=	<u>686m²</u>
		=	9,261m²

Step 3: Put together a proposal for open space provision based on the scale, type and needs of your development.

Q. Should contributions be on-site or off-site?

- A. The developer is particularly keen to provide substantial areas of sports pitches (10,000m²) as part of his development, however the Open Space Strategy has also identified opportunities: for upgrading the green corridor along the Forth and Clyde Canal; upgrading the green corridor along the Bonny Water which is identified in the Local Plan as an environmental enhancement opportunity; and upgrading the nearby Local Park. On-site and off-site contributions seem the most appropriate way forward in this respect.

Q. What level of financial contribution will be required?

- A. The application proposes to provide 10,000m² of playing fields. This is over and above the active open space requirement. Given that playing fields also have a passive function it seems reasonable in this circumstance to discount over provision of active open space against the passive open space requirement. The development also proposes 2500m² of amenity open space.

Active Open Space Contribution:	£42m ² x 3675m ²	=	£154,350
	- £42m ² x 10000m ²	=	£420,000
		=	£0

Passive Open Space Contribution:	£21m ² x 9261m ²	=	£194,481
	- £21m ² x 2500m ²	=	£52,500

Residual Active:	- £21m ² x 6325m ²	=	<u>£132,825</u>
		=	£9,156

The on-site open space has been passed to the Council for adoption and maintenance. There is a requirement therefore for a commuted sum to be paid towards the maintenance of the open space. The annual maintenance costs of the sports areas and amenity open space has been agreed between the applicant and the Council at £11,500.

10 year Maintenance Cost:	£11,500 x 10	=	£115,000
Total Open Space Contribution:		=	£124,156

Q. Where will the financial contribution be spent?

- A. Financial contributions are in lieu of a passive open space contribution therefore it would not be appropriate to put money towards the upgrading of sporting or play facilities at the nearby local park. A £9,156 contribution will go towards implementing green network opportunity GN12 for habitat enhancement along the Rowan Tree Burn.

4. Worked Examples

Worked Example 4

- 4.6** A mixed use development on a 12 hectare site of retail, business and leisure use, and 150 houses is planned on a brownfield site in the urban fringe near a recreation ground.

Step 1: Determine if the development will have to contribute towards open space provision.

All residential developments have to contribute towards open space provision.

Step 2: Determine how much open space will be required and of what type.

Residential (Active Open Space): $150 \times 21\text{m}^2 = 3150\text{m}^2$

Residential (Passive Open Space): $150 \times 49\text{m}^2 = 7350\text{m}^2$

Step 3: Put together a proposal for open space provision based on the scale, type and needs of your development.

Q. Should contributions be on-site or off-site?

- A.** The site is utilising an old brownfield site, there are substantial areas where ground conditions dictate that development on that part of the site would be inappropriate. The Open Space Strategy has identified that the development sits in an area which has a lack of provision of public parks and playspaces within an acceptable walking distance. The Open Space Strategy also reveals that the site is within 800m of a sports area and 1200m of a community both of which are in need of qualitative improvement.

Given the proposed scale of the residential use on-site, the fact that that there is limited local provision of open space and there are areas of the site which would lend themselves to being used as open space, provision of on-site open space is appropriate. As there is a sports area and a community woodland within acceptable walking distance of the site, both of which are in need of qualitative improvement, a financial contribution towards their improvement would be more appropriate than on-site provision of sports areas or natural/semi natural open space.

The development is large enough to be able to provide a new 4000m² public park with a 1000m² active play area and a 1000m² community garden to serve the needs of future residents. £80,000 of play equipment is proposed to be provided on-site. To improve the attractiveness of the setting for the business, retail and leisure uses 4000m² of amenity open space is planned within that part of the site. However this amenity space is located approximately 10 minutes walk from the nearest residential unit within the scheme so it is not considered to contribute towards meeting the site's overall open space requirement.

Q. What level of financial contribution will be required?

A.

Active Open Space Contribution:	$\text{£}42\text{m}^2 \times 3150\text{m}^2$	=	£132,300
	- $\text{£}42\text{m}^2 \times 1000\text{m}^2$	=	£42,000
	=	=	£90,300
Installed Play Equipment Discount	-	=	£80,000
	=	=	£10,300
Passive Open Space Contribution:	$\text{£}21\text{m}^2 \times 7350\text{m}^2$	=	£154,350
	- $\text{£}21\text{m}^2 \times 3000\text{m}^2$	=	£63,000
	=	=	£91,350

The public park, active play area and community garden have been passed to the Council for adoption and maintenance. There is a requirement therefore for a commuted sum to be paid towards the maintenance of those areas of active open space. The developer and the Council have agreed that the annual maintenance cost of the open space to be passed to the Council is £10,000.

10 year Maintenance Cost:	$\text{£}10,000 \times 10$	=	£100,000
Combined Total Open Space Contribution:		=	£191,350

The ownership of the amenity open space planned to serve the business retail and leisure uses will remain with the freeholder. Applicants will be expected to enter into a Section 75 Agreement ensuring that the open space is maintained for the lifetime of the development to guarantee that any open space provided does not become neglected.

Q. Where will the financial contribution be spent?

- A.** Investment should be directed towards the upgrading of nearby open spaces which are in need of qualitative improvement. The £10,300 active open space contribution will therefore be put towards planned upgrading at the nearby sports area and the £91,350 passive open space contribution will be spent on managing and extending the nearby community woodland.

4. Worked Examples

Worked Example 5

- 4.7 A housing development of 8 houses and 16 flats is proposed on 5000m² of a wider 7500m² amenity open space in Falkirk which has been deemed to be surplus to recreational .

Step 1: Determine if the development will have to contribute towards open space provision.

All residential developments are required to contribute towards open space. In addition where open space is lost as a consequence of development compensation will be sought to make qualitative improvements to other parts of the green network in the local area.

Step 2: Determine how much open space will be required and of what type.

Active Open Space:	16 x 10.5m ²	=	168m ²
	+ 8 x 21m ²	=	<u>168m²</u>
		=	336m²

Passive Open Space:	16 x 24.5m ²	=	392m ²
	+ 8 x 49m ²	=	<u>392m²</u>
		=	784m²

Step 3: Put together a proposal for open space provision based on the scale, type and needs of your development.

Q. Should contributions be on-site or off-site?

- A. The development site is within 400m of a park and playspace and within 1200m of a semi natural open space. The development site is further than 800m from a sports area but the active open space requirement is not big enough to warrant on site provision of such a facility. The Open Space Audit indicates that the open spaces in the vicinity of the site are not all fit for purpose and could benefit from investment. Off site contributions are most appropriate in these circumstances.

Q. What level of financial contribution will be required?

A.

Active Open Space Contribution:	£42m ² x 336m ²	=	£14,112
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Passive Open Space Contribution:	£21m ² x 784m ²	=	£16,464
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Compensation for loss of amenity open space:	£21m ² x 5000m ²	=	£105,000
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Total Open Space Contribution:		=	£135,576
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Q. Where will the financial contribution be spent?

- A. The residual area of amenity open space following development of housing can be improved following development. £50,000 will be invested there. The development site lies close to the Forth and Clyde Canal towpath which is in need of investment, £25,000 will be directed towards this project. The site is adjacent to a large semi natural open space which is in need of intensive woodland management and path improvement, the remaining £60,576 will be invested here.



5: Appendix 1 : Calculating the Open Space Requirement

- 5.1** The 2007 open space quantitative audit measured the amount of public open space within urban or village limits (as defined in the Local Plan). It identified that there was, on average: 9.88 hectares of open space; and 7.93 hectares of publicly usable open space per 1000 people across the towns and villages of the Falkirk Council area.

	Within Urban Limits	Within 500m of Village Limits	Within 1200m of village limits
Open Space	9.88 ha	27.28 ha	38.33 ha
Publicly Usable Open Space	7.93 ha	23.52 ha	33.89 ha

The 2010 Open Space Strategy set an aspirational standard of all development having access to 5ha of different types of open space /1000 people.

Falkirk Council considered options on how to translate this aspirational standard into an open space requirement for new residential development.

The quantitative audit of open space revealed the respective proportions of public open space that existed within settlement boundaries as follows:

Table 1 : Breakdown of overall public open space by open space type

Open Space Type	Proportion of Overall Public Open Space
Public Parks and Gardens	30%
Amenity Greenspace	36%
Sports Areas	5%
Natural/Seminatural	27%
Other Open Space	2%

A detailed breakdown is shown in the spreadsheet overleaf.

If this is applied to the 5ha standard set out in the open space strategy then this would deliver the following open space standards:

Table 2 : Amount of Open Space/1000 people by Open Space Type

Open Space Type	Amount of Open Space/ 1000 people	Functional Open Space	Active Open Space	Passive Open Space
Public Parks and Gardens	1.5 ha	1.5 ha	0.5 ha	1.0 ha
Amenity Greenspace	1.8 ha	0.6 ha	0.2 ha	0.4 ha
Sports Areas	0.25 ha	0.25 ha	0.25 ha	0 ha
Natural/Semi Natural	1.35 ha	0.45 ha	0 ha	0.45 ha
Other Open Space	0.1 ha	0.33 ha	0 ha	0.33 ha
Total	5 ha	3.13 ha	0.95 ha	2.18 ha

Not every piece of open ground is functional open space. The open space audit does not distinguish between functional and non functional open space. It seemed reasonable therefore to make some allowance for areas of non functional open space in the overall 5ha standard. For the purpose of this exercise it has been assumed that the entirety of public parks and gardens and sports areas are functional but only one third of Amenity Greenspace, Natural/Semi Natural Open Space and Other Open Space is likely to be functional. This would leave an overall requirement for 3.13ha of open space per 1000 people. The 2011 Census revealed that Falkirk Council had an average household size of 2.24 people per house. Based on an assumption that each dwelling will accommodate on average 2.24 people this equates to 70.11m² per dwelling. It seems reasonable therefore to require that new housing development provide open space at a rate of 70m² per dwelling. If this were applied to a 1ha housing site of 25 units the open space requirement would equate to 0.175ha (1750m²) or 17.5% of the total site area.

It should be noted that the type specific standards above do not allow an analysis to be made of how many areas within Public Parks and Gardens or Amenity Greenspace are playspaces or kick about areas (active open space). To allow for this it has been assumed that approximately one third of public parks and gardens and amenity greenspaces are suitable for active purposes. This suggests that overall approximately 70% of open space is passive and 30% is active.

5: Appendix 1 : Calculating the Open Space Requirement

Open Space Type	Bonnybridge and Banknock	Bo'ness	Denny	Falkirk	Grangemouth	Larbert & Stenhousemuir	Polmont	Villages	Towns	Total		Hectares Per 1000 People	5ha Standard	%age of total
6.1 Public Parks and Gardens	7.98	99.79	22.08	117.87	52.07	48.10	66.15	9.24	414.04	423.28		2.86	1.49	29.71%
6.2 Private Gardens/Grounds	132.06	146.29	143.32	354.21	141.95	264.23	262.01	137.17	1444.07	1581.24		10.69	N/A	
6.3 Amenity Greenspace	28.84	38.98	35.59	129.89	150.94	60.57	56.57	13.22	501.37	514.59		3.48	1.81	36.12%
6.4 Playspace for Children and Teenagers	0.45	0.30	0.52	0.30	0.41	0.25	0.17	0.11	2.40	2.51		0.02	0.01	0.18%
6.5 Sports Areas	1.14	2.52	6.34	5.63	8.29	43.41	5.34	1.17	72.68	73.84		0.50	0.26	5.18%
6.6 Green Corridors	1.31	0.00	2.20	9.82	0.88	0.04	1.33	0.03	15.57	15.60		0.11	0.05	1.10%
6.7 Natural/ Semi Natural Greenspace	13.13	42.64	46.07	61.16	99.89	32.90	64.20	8.79	359.99	368.78		2.49	1.29	25.89%
6.8 Other Functional Greenspace	0.57	6.03	4.75	1.92	1.37	5.90	1.20	2.46	21.74	24.20		0.16	0.08	1.70%
6.9 Civic Space	0.00	0.00	0.00	1.32	0.35	0.00	0.00	0.00	1.67	1.67		0.01	0.01	0.12%

5: Appendix 2 : Schedule of Proposed Open Space Provision





Falkirk Council
Development Services