

Landscape Management Strategy Carrington Avenue, Barnsley (2371 501A)

Client: Miller Homes

Prepared by



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Landscape Management Report

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1.0 Introduction

1.1 General

TPM Landscape have been commissioned by Miller Homes to produce a landscape management report for the proposed residential development off Carrington Avenue, Barnsley. The landscape management report has been produced to ensure that future management objectives are achieved for the longevity of the project following practical completion. This document will form part of the Reserved Matters submission and any future discharge of condition applications for the proposed development and once approved will provide guidance for the establishment, maintenance and future management of all external landscaped areas and planting around the site.

1.2 Aims of the report

This report has been developed to establish long term management objectives and practices for all of the 'public' external areas associated with the proposed residential development. The report presumes that all of the external elements have been built in accordance with the approved planning drawings;

2371 101 Play Area

2371 102 Landscape Layout

A clear understanding of the design aims and intentions will help to ensure that the landscape reaches maturity in the form in which it has been designed.

1.3 Site Maintenance and Responsibility

The company responsible for maintaining the landscape, including the streetscape (verges and tree planting), areas of public open space, swales, play areas and buffer planting will be responsible for inspecting the site and for keeping a logged record of inspections, faults and rectified works.

The client is required to appoint a Landscape Contractor, whether that is the original installation contractor or a separate, competent and appropriately certified contractor. It is recommended that the landscape contractor is BALI registered.

Objectives

The overall objectives for the maintenance of the landscape include the following;

- Maintain all grassed areas as healthy and neat lawns;
- Allow shrubs and flowers to reach their species potential to ensure that they produce flowers and seed heads and grow in their natural shape and form to provide texture and interest;
- Ensure that proposed and retained trees maintain a healthy and safe condition and are allowed to reach their potential form and characteristics;
- Keep all hard surfaced areas and paths in a good state of repair and free from any potentially dangerous arisings that could cause a slip or trip hazard or reduce visual quality;
- Ensure that all furniture and features are looked after and maintained in a good state of repair and safe condition so that they do not fail or have the potential to cause harm to users.

2.0 General Description

2.1 Existing Context

The proposal site is currently an enclosed field used for recreational usages including football. The site is enclosed by palisade fencing along the northern, western and southern elevation. The eastern boundary is enclosed by a mature hedgerow and hedgerow trees that bordered the rail line. The proposal site is overlooked by houses to the west of Carrington Avenue and backed onto by houses along Honeywell Lane. There are several mature trees to the north western boundary along Carrington Avenue and on the embankment to the south along Honeywell Lane between the existing houses.

The area to the south of Honeywell Lane is enclosed by Palisade fencing and is to the west of the access to Barnsley College. The land rises to the south with several groups of trees located to the west and east.

2.2 Site Proposals

The development proposal are for a residential development to the north of Barnsley, located within an area of land bound by Carrington Avenue in the west and Honeywell Lane in the south. The proposals include 81 residential plots, areas of public open space including 'The Green' (internal to the development), and an entrance green space off Honeywell Lane. Within the area of land to the south of the development and south of Honeywell Lane a LEAP play area is proposed.

Housing Development

The private landscape associated with each individual plots will be the responsibility of the private properties. All other areas will be managed and maintained by the management company.

To the southern boundary a new site access is proposed connecting to Honeywell Lane. Several existing trees will require removal and with several trees being retained. The landscape is sloping in nature so presents itself to Honeywell Lane. Therefore seasonal bulb planting is proposed to create an attractive gateway to the development. Vegetative screening is proposed against the existing residential property boundaries. The entrance green space leads to 'The Green' where the space is proposed to be a formal lawn area with Avenue trees around the perimeter. Bulb planting will continue in swathes through the space and will visually link to the entrance space.

To the western boundary a footpath is proposed at the top of an embankment connecting north to south and internal to the development. The landscape between the footpath and the houses will be amenity lawn and planting with an estate railing creating a formal frontage to the properties. Where there are close boarded fences enclosing the proposed rear gardens (along the elevation facing Carrington Avenue) a native plant mix is proposed to provide visual screening to the boundary.

Play Area

The Leap is designed to work with the existing sloping site levels with areas for seating located on the lower ground near the site entrance along Honey well Lane to ensure it is accessible. The equipment proposed is to be naturalistic in character with wooden climbing poles, a climbing wall, boulders and stepping logs. Low level planting is proposed internal to the play area around the boundaries to provide visual interest and soften the railing enclosures. The play area will be enclosed by perimeter railings with gated access off Honeywell Lane.

3.0 Health and Safety

The following potential hazards have been identified within the proposed development site which may have implications for maintenance operations:

- Contractors working on the site should make themselves aware of the location of underground services, defining the exact locations with the Statutory Authorities prior to commencing works below the surface;
- Working in areas used by residents and visitors; on foot, on bicycles, in wheelchairs and vehicles; ensuring surfaces are kept clear at all times and potentially dangerous tools or machinery are not left lying around.
- The use of chemicals known to be hazardous to humans and animals;
- Working at elevated positions;
- Working adjacent to and on highways;
- Lifting heavy objects and working with heavy machinery;
- The use of chainsaws, working at height and with heavy objects during tree works;
- The possibility that hazardous material may be deposited in or inadvertently left in areas requiring cleaning (glass, etc.); and
- Working adjacent to the rail line.

Methods for reducing the potential site risks are well established and are common practice of competent contractors. The contractor is expected to identify the hazards associated with any maintenance operations they proposed, together with an assessment of the risks involved and methods for reducing the risks. The Risk Assessment should be recorded and retained for reference in the future if necessary.

3.1 Site Operations

All operations on site are to be carried out by suitably qualified operatives with appropriate safety clothing and equipment. The maintenance contractor is to adhere to the latest guidance on safe working practice, including information from the recognised industry body, the local authority and the government Health and Safety Executive. The maintenance contractor is to carry out all operations with regard to the safety and welfare of the general public, private and public property, domestic and native flora and fauna and Statutory Services.

3.2 Disposal of materials from site

All, rubbish, leaves, grass and general arisings removed from the site are to be deposited at a licensed tip and recycling facility in the appropriate section.

4.0 Hard Elements

Maintenance operations are to be carried out in order to provide a clean, inviting and safe environment for all users of the site. For the purposes of this report it is assumed that all the works required by the planning approval have been carried out in accordance with the approved drawings.

All paving, kerbs, edges, walls and street furniture should be fit for purpose, robust and in good condition. Any damage arising from the management and maintenance works must be reinstated to the original condition and in accordance with the relevant specification of the client.

All hard works to be installed under the recommendations of the manufacturer's instructions. Hard works should not be carried out in undesirable weather conditions.

4.1 Pedestrian Surfaces and Roads

Maintenance objective

Pedestrian surfaces and roads are to be maintained in a safe and clean condition free from any defects or debris which could potentially cause injury, inaccessibility or damage to vehicles. Surfaces are to be level and free from trip or slip hazards.

Inspections

A formal visual inspection is to be carried out by the maintenance contractor at 6 monthly intervals or following reports from the client / public that surfaces require repairing, cleaning or clearing following inclement weather. A report of the inspections and rectified works should always be logged.

An annual inspection of the paving jointing and overall uniformity should be carried out to ensure the stability of the footways is maintained.

Contractors Maintenance Operations

Surfaces are to be kept free of litter, mud, arisings, deleterious material, algae and hazardous obstructions. Surfaces are to be uniform in appearance, a level surface and constructed from a homogenous material, free from ruts, grooves, cracks, hollows and pot-holes (holes greater than 75mm in diameter and 10mm depth).

Paved areas are to be repaired within 1 week of a reported fault, unless the potential hazard is severe (trip hazard) in which case the area is to be cordoned off and repaired at the earliest available opportunity.

All surfaces and foundations are to be repaired to the original specification, unless otherwise agreed with the service provider.

One operation per month (within month / months specified) - **1**
 Two operations per month (within month / months specified) - **2**
 Four operation per month (within month / months specified) - **4**
 As required - **a/r**

Operation	MONTHS												Notes
	J	F	M	A	M	J	J	A	S	O	N	D	
Pedestrian Surfaces and Roads													
Visual inspection of footways, roadways and paving areas				1						1			Carry out 6 monthly inspections, report to be logged; any faults reported should be rectified as required.
General cleaning of paving	1	1	1	1	1	1	1	1	1	1	1	1	Keep surfaces free of litter, leaves, mud, arisings and any hazardous objects. Sweep and remove any arisings, keep all areas weed free. Any build up of moss or algae should be treated as required to ensure surfaces are not slippery or dangerous.
Clean paved areas annually by relevant washing techniques for varying materials e.g. granite/concrete						1							(acid and bleach should not be used)
Apply sealant to paving	a/r	a/r	a/r	a/r	a/r	a/r	a/r	a/r	a/r	a/r	a/r	a/r	(as required after cleaning)
Apply herbicide						1				1			Apply to weeds if appear between paving, when weeds have been suppressed hand hoe out and refill mortar joints
Repair	a/r	a/r	a/r	a/r	a/r	a/r	a/r	a/r	a/r	a/r	a/r	a/r	Repair surfaces when reported or inline with faults as identified in the inspections report. Repair to original specification. Check grouting to paving and reinstate where necessary
Ensure water is drained from footways to prevent pooling				1						1			When specified or as necessary after prolonged periods of wet weather
Clear snow from pathways and roads	a/r	a/r	a/r	a/r	a/r	a/r	a/r	a/r	a/r	a/r	a/r	a/r	Clear snow following adverse weather (a/r) and apply suitable grit to key vehicle and pedestrian access routes (avoid plant areas).

4.2 Metal / Timber Structures - Gates, Fences

Maintenance objective

Gates and fences are to be maintained in a secure, safe and clean condition and in good working order.

Inspections

A formal visual inspection is to be carried out at 6 monthly intervals or following reports from the client / resident that a fault or damage has occurred. A report of the inspections and rectified works should always be logged.

Maintenance Operations

Gates and fences are to be kept free of litter, deleterious material and hazardous protuberances. Surfaces and finishes are to be maintained uniform in appearance and coated in a homogenous paint, stain, enamel, or plastic coating in accordance with the original specification.

All items are to be repaired within 1 month of a reported fault, unless the potential hazard is severe, in which case the area surrounding the fault should be cordoned off and the boundary made secure, the fault should be repaired at the earliest available opportunity.

Repaint/stain railings and gates as required if the paint starts to flake off and look unsightly to the same specification as the original ensuring that any rust is removed and the surface prepared and primed before the paint is applied.

These works will be the sole responsibility of the contactor and at all times the boundaries should be maintained in sound condition.

One operation per month (within month / months specified) - **1**

Two operations per month (within month / months specified) - **2**

Four operation per month (within month / months specified) - **4**

As required - **a/r**

<u>Operation</u>	MONTHS												Notes
	J	F	M	A	M	J	J	A	S	O	N	D	
Metal / Timber Structures – Gates, Fences, Balustrades and Bridges													
Visual inspection of boundaries				1						1			Carry out 6 monthly inspections, report to be logged; any faults reported should be rectified as required. Repair if required
Clean metalwork						1							Carry out annually, removing dust and dirt being careful to not remove or damage surface finish.
Re-paint / Re-stain	a/r	a/r	a/r	a/r	a/r	a/r	a/r	a/r	a/r	a/r	a/r	a/r	As required following inspection
Strip back and repaint metalwork to match existing	a/r	a/r	a/r	a/r	a/r	a/r	a/r	a/r	a/r	a/r	a/r	a/r	Every 5years or as required following inspection

4.3 Edges - Kerbs, Edging and Walls

Maintenance objective

All 'Edges' should be maintained in a safe and clean condition and fit for purpose. All cladding, copings kerbs and steps should be secure and firmly in place.

Inspections

A formal visual inspection is to be carried out at 6 monthly intervals or following reports from the client / resident that a fault or damage has occurred. A report of the inspections and rectified works should always be logged.

Maintenance Operations

All 'Edges' are to be kept free of litter, deleterious material and hazardous protuberances. Surfaces are to be maintained uniform in appearance and with seamless levels vertically and horizontally for copings and cladding. Grout mortar between kerbs, cladding and copings to be inspected and topped up where necessary with matching colour. Metal and timber edging to be neat and secured firmly in place and aligned straight, or follow smooth uniform curves. Loose edging to be reinstated and secured. Any damaged edging to be removed and replaced with same specification.

Faults are to be repaired within 1 month of a reported fault, unless the potential hazard is severe, in which case the area surrounding the fault should be cordoned off, the fault should be repaired at the earliest available opportunity.

These works will be the sole responsibility of the contactor and at all times the edges should be maintained in sound condition.

One operation per month (within month / months specified) - **1**
 Two operations per month (within month / months specified) - **2**
 Four operation per month (within month / months specified) - **4**
 As required - **a/r**

<u>Operation</u>	MONTHS												Notes
	J	F	M	A	M	J	J	A	S	O	N	D	
Edges – Kerbs, Edging & Walls													
Visual inspection of edges				1						1			Carry out 6 monthly inspections, report to be logged; any faults reported should be rectified as required.
Clean edges						1							Carry out annually and remove detritus / chewing gum using a stiff brush and soapy water.
Apply anti-graffiti coating to raised edges if misuse becomes apparent						1							Carry out once a year or as necessary
Apply non residual herbicide				1						1			Apply herbicide to spot treat weed problems. Hand removal after herbicide has taken effect

4.4 Street Furniture

Maintenance objective

All street furniture should be maintained in a safe and clean condition. Surfaces should be smooth to the touch (avoiding potential for splinters/ injury), fixings secure and flush with the finished surface. The wood structures should be sound avoiding the potential for failure due to rot.

Inspections

A visual inspection is to be carried out at 6 monthly intervals or following reports from the client / residents that a fault/ damage has occurred. A report of the inspection should be logged.

Maintenance Operations

Any timbers that have originally been stained should have the wood stain (or similar approved) reapplied annually in the spring to rejuvenate the appearance of the wood. The wood should be pressure treated timber, however if this is not the case then the wood should be treated with a wood preserver at least once every two years (this could be combined with the wood stain application if the colour or products matches the original specification).

The street furniture should be repaired within 1 month of a reported fault, the section of wood/metal that is damaged or rotten should be replaced with a piece of timber/metal of the original specification. Where the fault may cause a risk to the user of the site the item should be cornered off until the fault is repaired.

One operation per month (within month / months specified) - **1**

Two operations per month (within month / months specified) - **2**

Four operation per month (within month / months specified) - **4**

As required - **a/r**

<u>Operation</u>	MONTHS												Notes
	J	F	M	A	M	J	J	A	S	O	N	D	
Street Furniture													
Visual inspection of furniture				1						1			Carry out 6 monthly inspections, report to be logged; any faults reported should be rectified as required.
Clean any metalwork						1							Carry out annually and remove detritus / rust.
Re-paint – Re-stain as required				1									Carry out once a year or as necessary

4.5 Play Equipment

Maintenance objective

Play areas, including play equipment, safety surface and additional play elements, to be kept in a safe and clean condition. Surfaces should be smooth to the touch (avoiding potential for splinters/ injury), fixings secure and flush with the finished surface. The wooden structures should be sound avoiding the potential for failure due to rot.

Inspections

Visual inspections of the play equipment are to be carried out at 6 monthly intervals or following reports from the residents that a fault/damage has occurred. A report of the inspection should be logged. General walk over of the site should be undertaken fortnightly to inspect for any potential issues or misuse.

Maintenance Operations

Play areas are to be kept free of litter, deleterious material and hazardous protuberances.

All play equipment and additional play elements (includes boulders, stepping logs, sleepers) to be checked for structural faults, vandalism and plant debris. All fixings to be checked that they are secure and moving parts are in good working order. All surfaces to be kept smooth and free from sharp edges and points. Timber parts to be checked for splinters, early signs of rot and splitting in the timber. A report of the inspection should be logged. All play equipment and play elements to be repaired by original manufacturer within 1 month of a reported fault, unless the potential hazard is severe, in which case the area surrounding the fault should be cordoned off and the fault repaired at the earliest available opportunity. Safety surfaces to be kept in a safe and clean condition. Loose fill to be raked monthly to ensure even spread of fibre. Levels to be monitored and maintained to safety standard BS EN 1176 and BS EN 1177.

One operation per month (within month / months specified) - **1**
 Two operations per month (within month / months specified) - **2**
 Four operation per month (within month / months specified) - **4**
 As required - **a/r**

Operation	MONTHS												Notes	
	J	F	M	A	M	J	J	A	S	O	N	D		
Play Equipment														
Post Installation Inspection (by specialist e.g. ROSPA)						1								New playgrounds and equipment should be carefully checked for compliance with claims, specifications and installation procedures before being accepted.
Visual inspection of Play Equipment, parts, surfacing and boundaries (by contractor)				1						1				Carry out 6 monthly inspections, report to be logged; any faults reported should be rectified as required.
Visual Inspection of play area for any potential issues	2	2	2	2	2	2	2	2	2	2	2	2	2	Site walk over
Annual Inspection (Specialist Contractor e.g. ROSPA)						1								This should be carried out by a specialist not connected with the playground operator or manager.
Rake Loose fill	1	1	1	1	1	1	1	1	1	1	1	1	1	Rake to creates even spread
Empty Litter Bins	a/r	a/r	a/r	a/r	a/r	a/r	a/r	a/r	a/r	a/r	a/r	a/r	a/r	During the summer months the bins may require emptying at more regular intervals

5.0 Soft Elements

For the purposes of this report it is assumed that all planting has been carried out inline with the approved planning drawings and any failed plants or trees replaced by the original contractor at the end of the 12 months Rectification Period;

5.1 Existing Trees and Hedges

Objectives

Retain all existing trees and hedges as indicated in the approved plan to preserve their contribution to the visual amenity and enclosure of areas. Ensure the existing hedge is cut annually to retain a buffer along the eastern boundary. Ensure that the trees continue to thrive and to provide visual amenity to the area.

Inspections

Existing hedge should be inspected annually and gaps should be recorded which need filling with additional plants or trimming to encourage growth to fill gaps. Record if there are any areas of significant failure to thrive which may require remedial works to the soil. Trees to be inspected annually by a qualified arboriculturalist.

Maintenance Operations

Any tree and hedge works should be carried out between August-February to avoid the bird nesting season. Lightly trim the tops and sides of existing hedge on an annual basis to desired height and width. Avoid trimming the hedge, when full of berries, to preserve its ecological value and valuable food source to wildlife. It is the contractor's responsibility to ascertain if any trees are covered by Tree Preservation Orders, and if so to gain the appropriate consent from the local authority.

One operation per month (within month / months specified) - **1**

Two operations per month (within month / months specified) - **2**

Four operation per month (within month / months specified) - **4**

As required - **a/r**

<u>Operation</u>	MONTHS												Notes
	J	F	M	A	M	J	J	A	S	O	N	D	
Existing Hedge													
Visual inspection of trees and hedges								1					Inspect hedge for signs of disease, damage or as required following adverse weather. replant if necessary
Remove dead, diseased or damaged limbs to promote a healthy shape to the hedge								1					Avoid bird nesting season
Prune to retain shape								1					Avoid bird nesting season
Remove and dispose of accumulation of winter leaves.											1	1	Check leaves for mammals before disposal as mammals may be in hibernation.

5.2 Proposed Individual Trees

Objectives

Trees will play an important role in providing structure to the landscape proposals and will provide a valuable asset to the site, provide screening and contribute to the visual amenity of the local area. Therefore it is important that they are given the best chance of successful establishment.

Inspections

Inspect on an annual basis when the trees are in full leaf to ensure that the trees are thriving, and record defects requiring remedial works.

Maintenance Operations

Newly planted trees take some time to establish, and until this occurs they are subject to competition from weeds. Any weeds should be removed by hand from the base of each tree and 75mm deep mulch maintained around the trunk. For woodland areas weed growth may be removed by applying a herbicide spray to the base of saplings during autumn or early spring before trees are in leaf.

If the trees show signs of poor growth or reduced vigour an application of the appropriate fertiliser can be applied. If the trees do not respond to a treatment of fertiliser, further investigations should be carried out, including the ground conditions for signs of compaction, contamination, poor quality topsoil. Remediate any problems uncovered with the soil. Should the remediation works not resolve the problem a replacement tree may need to be planted to replace the dead/dying tree.

During establishment trees will require regular watering particularly during prolonged dry periods. Mulch should also assist in retaining moisture within the soil. Water the trees minimum once a week during periods of limited rainfall over May-September (during the first full growing season) ensuring that the soil is fully saturated. Ensure all irrigation pipes are free from debris. Water shall be applied at 40litres per individual tree. Where water restrictions apply (hosepipe bans, drought orders) an alternative supply of water shall be used if possible.

Tree ties should be inspected twice annually as part of the general maintenance visits and adjusted accordingly. Damaged ties or stakes should be replaced. When the trees are established and can support themselves the ties should be carefully removed and the stakes cut down to ground level. This operation is likely to be required after 3 to 5 years dependant on establishment rates, stability and growing conditions. Underground tree guys, tree stakes and tree ties should be inspected twice annually as part of the general maintenance visits and adjusted accordingly. Damaged guys/ties should be replaced. Guys/ties will require adjusting as it is likely to take 3 to 5 years for the trees to establish dependant on stability and growing conditions.

Pruning of young trees should not generally be required unless they have dead or diseased branches. In such cases the tree branch should be pruned back (using a sharp clean knife) to an outward facing bud whilst maintaining the natural shape of the tree.

These works will be the sole responsibility of the contractor and at all times trees should be maintained in good health and in a safe condition.

One operation per month (within month / months specified) – 1.

Four operation per month (within month / months specified) - 4

Operation	MONTHS												Notes
	J	F	M	A	M	J	J	A	S	O	N	D	
Proposed Trees													
Visual inspection of trees					1								Inspect trees for signs of disease, damage or as required following adverse weather. replant if necessary
Slow release fertiliser					1								Only when necessary
Weeding/ mulch				1	1	1	1	1	1				Remove weeds and top up mulch (mulch topped up once annually) to retain a weed free around the base of each tree
Tree stakes and ties				1					1				Check and adjust, replace or remove as required until the tree has established. Check and re-adjust after strong winds. Remove in year 3-5 or as required.
Tree guying				1					1				Repair and adjustment. Check and re-adjust after strong winds
Watering					4	4	4	4	4				Water once a week during the growing season and as necessary in periods of drought only during the first 2 years until the trees have established.
Routine pruning				1					1				Should not be required for the first few years, after which pruning should only include the removal of dead or diseased branches.
Remove and dispose of accumulations of winter leaves											1	1	To be carried out to reduce risk of slipping and to maintain a tidy environment
Tree Replacements	1	1									1	1	Any trees that have failed should be replaced to the original specification and planted within the next planting season.

5.3 Proposed Whip Planted Shrub Areas

Objectives

The proposed whip planted shrub mix areas will define the edges of the site and create visual screening against residential boundaries. They will also provide important habitats for birds and mammals. The shrubs should be maintained to ensure strong early establish and ongoing development.

Inspections / Monitoring

Inspect the whip planting annually when they are in fully leaf to ensure that they are thriving and record defects requiring remedial works. Ensure the shelter guards are intact, installed correctly and are not restricting growth

Short Term Management Operations (5 years)

Newly planted whips and bare root stock take some time to establish, and until this occurs they are subject to competition from weeds. To reduce competition, an area around the plants should be maintained with an area of bark mulch around the base and kept weed free. Herbicides should be avoided if possible unless grass and weeds are affecting the establishment of the plants. After 3-5 years or after the plants have established this should not be necessary. If they show signs of poor growth or reduced vigour an application of the appropriate fertiliser should be carried out.

Any failed shrubs should be replaced to the original specification, however this should be carried outside of the bird nesting season.

During establishment trees and shrubs may require regular watering particularly during prolonged dry periods during the summer months. These areas should be watered if there has been a period of dry weather between May to September.

Shelter guards, canes and ties should be inspected and adjusted accordingly to ensure they are not restricting growth. Damaged guards, canes or ties should be replaced. When the plants are established and can support themselves the guards, canes and ties should be removed to avoid constricting growth. This operation is likely to be required after 3 to 5 years dependant on establishment rates, stability and growing conditions. The guards should be checked after strong winds and reaffixed where necessary.

Long Term Management Operations (5+ years)

Once the whips have established and their canopies begin to touch, it is important to consider thinning. This is likely to be required at around 10 years of growth. The operation must be carried out by a qualified contractor with a felling licence. Ensure thinning works our outside the bird nesting season.

More regular / routine pruning of the whip planting on establishment should only be carried out on the shrubs/trees which are close to publicly accessible areas and should include the following operations:

Remove dead, diseased, damaged or dying branches only where they pose a risk to the safety of the users of the site. (Dead wood is an important habitat for wildlife within a healthy woodland ecosystem and should not be removed unnecessarily). Large woody material (girth of over 10cm) should be collected to create log piles within the planted areas, these should be stacked neatly and safely to ensure that they do not pose a risk to the users of the site.

One operation per month (within month / months specified) - 1

Four operation per month (within month / months specified) - 4

As required - a/r

First 5 years

Operation	MONTHS												Notes
	J	F	M	A	M	J	J	A	S	O	N	D	
Proposed Whip Planted Shrub Areas													
Visual				1					1				Inspect trees and shrubs for signs of disease, damage or as required following adverse weather. replant if necessary
Slow release fertiliser					1								Only when necessary
Weeding/ mulch				1	1	1	1	1	1				Remove weeds and top up mulch (mulch topped up once annually) to retain a weed free around the base of each tree. Report any non-native invasive species and carry out process for removal in accordance with National legislation.
Tree stakes, ties and guards				1					1				Check and adjust, replace or remove as required until the tree has established. Check and re-adjust after strong winds. Remove in year 3-5 or as required.
Watering					4	4	4	4	4				Water once a week during the growing season and as necessary in periods of drought only during the first 2 years until the trees have established.
Routine pruning				1					1				Pruning should only be carried out where trees are in close proximity to public access, or where they pos a potential safety risk.
Tree Replacements	1	1									1	1	Any trees that have failed should be replaced to the original specification and planted within the next planting season.

One operation per month (within month / months specified) - 1
As required - a/r

5+ years

Operation	MONTHS												Notes
	J	F	M	A	M	J	J	A	S	O	N	D	
Proposed Whip Planted Shrub Areas													
Visual				1					1				Inspect trees and shrubs for signs of disease, damage or as required following adverse weather. replant if necessary
Weeding/ mulch				1					1				Remove weeds and top up mulch (mulch topped up once annually) to retain a weed free around the base of each tree. Report any non-native invasive species and carry out process for removal in accordance with National legislation.
Tree stakes, ties and guards				1					1				Check and adjust, replace or remove as required until the tree has established. Check and re-adjust after strong winds. Remove in year after 5 years or as required.
Thinning / felling trees	a/r	a/r							a/r	a/r	a/r	a/r	Thin out woodland trees once canopies begin to touch to allow sufficient sunlight to reach understorey planting. Felling to be carried out by a qualified contractor approximately every 10-15 years.
Routine pruning				1					1				Pruning should only be carried out where trees are in close proximity to public access, or where they pose a potential safety risk.
Deadwood				1					1				Large woody material (girth of over 10cm) should be collected to create log piles within the woodland areas. Other deadwood to be retained unless cause identified as being due to disease or if the deadwood poses a risk to public safety.

5.4 Proposed Ornamental Shrub Beds

Objectives

The shrub beds should have total vegetation cover with no gaps as they establish in order to minimise maintenance requirements, and to provide a neat and tidy appearance to the proposed landscape setting. The pruning operations should be carried out under guidance of a horticulturally qualified manager, with a view to allowing the shrubs and herbaceous plants to achieve their species potential in terms of form, flower and structure.

Inspections

Inspect the shrub beds annually and record gaps which need filling with additional plants, areas thinned, or pruning operations to encourage growth to fill gaps. Where there has been a significant failure of plants to thrive, carry out investigations to locate the source of the problem and consult the landscape architect prior to replacement planting.

Maintenance Operations

Newly planted areas take some time to establish. Until this occurs, young plants are subject to competition in their root zone from weeds. During this time weeds should be removed by hand and the bark mulch should be maintained to the original specified depth (75mm) until the canopies meet. After which weed growth should be more suppressed and only localised weeding should be required.

During establishment all the plants will require regular watering particularly during prolonged dry periods. Water the shrub beds min once a week during periods of limited rainfall over April-September (during the first full growing season) ensuring that the soil is fully saturated. Watering should be undertaken by low pressure hose sprinkler or evenly sprayed over the whole area at a rate of 25litres/m². Ensuring watering is not undertaken during the heat of the day to avoid scorching of the plants.

Shrubs which grow over paths or obscure sight lines should be pruned. Should individual species grow excessively during the first five years, pruning should consist of the removal of individual branches to maintain the natural shape of the plant or selective thinning.

Routine annual pruning of shrubs should not be required within the first three years, although some of the herbaceous plants and flowering shrubs should be maintained in accordance with the list below to encourage new growth and longer flowering periods;

Herbaceous Plants General; these are the plants which generally have soft stems and will die back in the winter months. Any dead stems and leaves should be tidied up in the spring when the threat of frost has gone. Old and dead vegetation can be cut with secateurs back to the base or gently pulled by hand, to encourage the new growth to push through, arisings should be disposed of in the green waste. Allow seed heads to remain on the plants for winter interest and insect habitats. Some herbaceous plants can be spilt and replanted if they start to become open or scruffy.

Some of the more prolific early summer flowering plants will benefit from a light prune after flowering to encourage a second flowering in early autumn, prune the plants back to young new leaf growth removing all of the old flower heads.

Grasses; Seed heads on the grasses should be allowed to remain on the plants throughout the winter for visual interest. In the spring for deciduous grasses cut back old seed heads and any dead vegetation to encourage new growth.

Specimen shrubs in planting beds; allow the shrubs to establish as individual specimens, in the case of the multi stemmed woody shrubs clear leaves from the base to allow herbaceous vegetation and shrubs to establish underneath.

Cornus; The shrubs should be reduced in height to 300mm every three years in the spring to encourage strong stem colour and vigour

One operation per month (within month / months specified) - **1**

Two operations per month (within month / months specified) - **2**

Four operation per month (within month / months specified) - **4**

As required - **a/r**

Operation	MONTHS												Notes
	J	F	M	A	M	J	J	A	S	O	N	D	
Proposed Shrub Beds													
Visual inspection of shrubs and perennials				1					1				Inspect Plants for signs of disease, damage or as required following adverse weather. replant if necessary
Hand weed				1	2	2	2	2	1				Hand weed beds upto once a fortnight during the summer months, remove weeds and tidy up the bark mulch surface. If necessary treat prolific weeds with a non residual glyphosate based herbicide, ensure that after the weeds have died they are removed to prevent the bed from looking unsightly.
Watering					4	4	4	4	4				Water once a week during the growing season as necessary in periods of drought only during the first two years until the shrubs have established.
Mulch				1									Top up mulch in the spring once the bed has been weeded, this should not be required after year 3-5 when the planting has established.
Plant replacement	1	1									1	1	Replace dead and dying plants to original specification during the next planting season
Remove dead foliage and old flower stems	a/r	a/r	a/r	a/r	a/r	a/r	a/r	a/r	a/r	a/r	a/r	a/r	Remove and dispose of foliage and stems. If diseased remove as necessary as soon as possible.

Apply slow release fertiliser				1									Only if plants have shown signs of poor health in the previous season. Apply a slow release fertiliser or well rotted manure in the spring.
General pruning				1									Should not be required in the first 1-3 years, however remove any branches that are obstructing paths, growing into the grassed areas or taking over other plants in the bed.
Selective thinning				1									In year 5 when the plants have established, thin out plants if overcrowded in the bed.
Plant specific maintenance				1									For maintenance of Cornus and Viburnum carry out specific maintenance operations as fully described in item 5.5
Clear snow	a/r	a/r	a/r	a/r						a/r	a/r	a/r	Remove snow from foliage after excessive fall if weight of accumulation may cause damage

5.5 Proposed Lawn Areas

Objectives

Lawns should be well maintained at all times as overgrown and patchy grass can be unsightly.

Inspections

Lawn and grassed areas can be inspected as part of the regular maintenance operations, although they should be formally inspected annually to assess requirements in terms of topdressing, over seeding etc.

Maintenance Operations

Remove any litter or leaves before cutting. Arising's should be removed from site.

The sward should be cut to maintain the grass between 25mm and 50mm height. The grass should be cut min 12 times per year during the growing season which may require fortnightly cuts during some months.

A fertiliser application to be applied only as required, either as a spring feed for shoot growth or as an autumn feed for root growth using the appropriate feed application.

In addition these applications should compensate for any areas of poor growth or excessive wear. An application of selective herbicide should be made during early summer to prevent any weed species from having a detrimental affect to the appearance of the sward and to prevent any infestation becoming severe.

In periods of dry weather conditions it may be required to water the lawn at a rate of 15litres/m². Ensuring watering is not undertaken during the heat of the day to avoid scorching of the grass.

Other maintenance applications which will be required from time to time include the following: topdressing, overseeding, scarifying, spiking etc to alleviate common problems such as thatch, compaction, poor drainage, malnourishment etc. These items should be addressed in the annual check.

These works will be the sole responsibility of the contactor.

One operation per month (within month / months specified) - **1**
 Two operations per month (within month / months specified) - **2**
 Four operation per month (within month / months specified) - **4**
 As required - **a/r**

Operation	MONTHS												Notes	
	J	F	M	A	M	J	J	A	S	O	N	D		
Lawn Areas														
Inspection				1										Carry out an inspection of the establishment of the grass sward to identify any damaged areas, excessive weed growth, poor grass cover etc which may require remediation works over the coming year.
Cut				1	2	2	2	2	2	1				Cut grass to 25-50mm with an appropriate mechanical mower, remove all arisings.
Cut edges				1	2	2	2	2	2	1				Edges to paths and shrub beds to be cut with a neat edge avoiding damage to the shrubs and tree trunks and the arisings removed from the beds or swept off the paths and disposed of in a licensed tip.
Reform edges				1				1						Twice a year the soft grass edges should be redefined with a half moon spade to form neat straight edges and any grass encroaching onto footpaths taken back
Apply fertiliser application				1						1				Once in the spring and once in the summer as required
Topdressing, over seeding, scarifying, spiking	a/r	a/r	a/r	a/r	a/r	a/r	a/r	a/r	a/r	a/r	a/r	a/r	a/r	As required if identified in the annual inspection
Remove fallen leaves, debris and litter	1	1	1	1	1	1	1	1	1	1	1	1	1	Remove prior to cutting (do not blow or sweep into adjacent planting beds)

5.6 Bulb Planting

Objectives

To ensure bulbs thrive within lawned areas providing seasonal interest at key locations within the public spaces.

Inspections

Bulb planting in grassed areas can be inspected as part of the regular maintenance operations associated with the lawn maintenance. They should be formally inspected annually to assess requirements in terms of gaps, flower quality, etc.

Maintenance Operations

Where grass areas are planted with naturalising bulbs, the grass will be cut 6-8 weeks after the bulbs have flowered to allow sufficient time for the bulb to regain the necessary nutrients to ensure it will flower the following season. Normal mowing will then resume until the bulbs start to reappear. Apply fertiliser if required towards the end of February if required.

One operation per month (within month / months specified) – 1

Two operations per month (within month / months specified) - 2

Four operation per month (within month / months specified) - 4

As required - **a/r**

Operation	MONTHS												Notes
	J	F	M	A	M	J	J	A	S	O	N	D	
Bulbs													
Inspect bulbs during flowering season			1	1	1								Visual inspection to identify any issues
Cut back foliage after 6-8 weeks after flowering ends					1	1	1						Season varies depending on species and cultivar
Apply fertiliser if required		1											To promote healthy growth

6.0 Handover Procedures

The maintenance period will run concurrently with the rectification period so it may be prevalent to have the same contractor for both the construction side of the operations and the Maintenance Contractor, to help avoid disputes. After the rectification period the management and maintenance objections need to remain in place for the following operational years of the development site.

To ensure a smooth handover between management contractor companies a clear documented record of works will be required.