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Graven Hill, Bicester

15 Year Landscape & Habitat Management Plan

September 2015

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Graven Hill, Bicester

15 Year Landscape & Habitat Management Plan

Client Name: EC Harris LLP
Document Reference: WIE13983-107-R-2-1-2-TA
Project Number: WIE13983

Quality Assurance – Approval Status

This document has been prepared and checked in accordance with Waterman Group's IMS (BS EN ISO 9001: 2008, BS EN ISO 14001: 2004 and BS OHSAS 18001:2007)

Issue	Date	Prepared by	Checked by	Approved by
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Comments

Comments

Our Markets


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1. Introduction

This document is intended to provide guidance as to the principal landscape and habitat management operations that will be used to manage and maintain the external spaces at Graven Hill. This will include the management of existing assets and new features for amenity, wildlife, recreational and engineering purposes. Additionally, a feed-back system will allow site-specific issues and experiences to inform future decision making and resource allocation. This document should be read in conjunction with Waterman **Strategic Landscape and Habitat Masterplan drawing No. EED13893_107_GR_LD_15**.

It is intended that the initial maintenance operations will be covered in more detail under the contractual defects liability period under which the development will be planted/ constructed. In addition to this, principal management activities will follow on from the defects liability period under a new landscape management and maintenance plan. The key activities and considerations are summarised below.

2. Existing Deciduous Woodland (Including Graven Hill Wood) Areas

(Responsibility for management – Cherwell District Council)

2.1 Design Intent

The existing areas of deciduous woodland will be managed for habitat value and as a publically accessible recreational resource. Visual amenity and screening are secondary management factors within these areas. Existing path links will be maintained, although access into the surrounding woodland areas will be passively discouraged in the interests of wildlife and habitat stability. Traditional woodland management techniques will be employed and include the removal of undesirable plantation trees and phased/ selected coppicing of suitable species. The retention of standing and fallen deadwood will be generally encouraged as a distinct habitat where not posing a hazard to persons or property.

Table 1: Existing Woodland – Summary of Management Activities

Management Area	Management Activity	Frequency
Health & Safety	Safety inspection (and dated record keeping) of all trees or woody vegetation within falling or failing distance of public footpaths, access tracks, property or on woodland boundaries. Note: risk assessments in connection with the above to be proportionate to the level of risk and target value/ frequency. Clear fallen trees or branches where blocking paths or access tracks. Presumption of retention of deadwood preferably standing or if unsafe in-situ.	Full safety inspection undertaken annually and within 72 hours of high winds (with the potential to cause tree damage/ failure). Record hazardous trees or tree defects during each scheduled maintenance visit and take immediate action to manage the risk to persons or property. Clear non-hazardous fallen trees or branches from paths and access tracks within 72 hours of reporting.
Waste collection	Collect dog waste, litter and foreign materials and dispose off-site to a suitable recycling facility (where possible).	Litter and dog bins (where provided) – weekly General paths and access tracks – every two weeks. Remaining areas – within two weeks of reporting (e.g. fly-tipping away from access tracks etc.)
Invasive species	Report presence of invasive species (e.g. Japanese Knotweed) or pests/ diseases (e.g. Chalara Dieback of Ash) and seek further specialist advice to	Checks to be undertaken during each scheduled maintenance visit.

Management Area	Management Activity	Frequency
	prevent spread and allow effective management and/ or eradication.	Report sitings of invasive pests or diseases to overseeing authority e.g. FERA or DEFRA etc.
Thinning management	Selective thinning out of undesirable woody species e.g. non-natives, conifers and those generally suppressing species of higher ecological or arboricultural value. Encourage development of natural regeneration of native deciduous tree species.	Annually during November to February.
Coppice management	Selective coppice management of suitable smaller trees and understorey species to allow greater diversity of ground for a, encourage age diversity within the canopy and develop a 'coppice with standards' type management. Phased management with maximum 10% of existing woodland understorey (by area) to be subject to coppiced in any one season.	Annually during November to February.
General management	Assess and undertake general formative pruning of young and semi-mature 'standard' trees to promote good/ natural form and balanced development, (where appropriate). Pruning to include, (but not limited to); ▪ Removal of competing leader shoots, ▪ Alleviation of crossing branches, ▪ Re-balancing canopies etc. Only branches up to 75mm diameter may be removed for this purpose.	Annually during November to February.
Access maintenance	Check footpaths, access tracks and timber boardwalks for defects including damage/ rutting/ erosion/ waterlogging etc. and ensure routes are easily passable by members of the public.	Checking undertaken during each scheduled maintenance visit. Make good within 48 hours of reporting if posing a hazard to members of the public or two weeks otherwise.

Management Area	Management Activity	Frequency
	Make good using materials to match existing (e.g. approved gravel etc.) Cut back herbage/ brambles and other growth or falls where blocking or narrowing paths and access points Report persistence issues/ failures.	
General maintenance	Check seating, bins, fencing/ gates, signage and interpretation boards etc. for defects, signs of wear or damage.	Checking undertaken during each scheduled maintenance visit. Make good within two weeks of reporting as necessary.
Vandalism	Record and report all instances of vandalism.	During each scheduled maintenance visit.

Notes:

1. Contractor to have regard to the presence of protected wildlife when scheduling and undertaking routine maintenance operations e.g. nesting birds and bats etc. (Active bird nests protected between March and September, inclusive).
2. Arisings from woodland maintenance to be laid out in windrows within understorey areas a minimum 5.0m from publically accessible paths or areas.
3. Refer to Forestry Commission guidance in relation to the management of Chalara Dieback of Ash where this is positively identified on site, (likely within the 15 year period covered by this management plan; http://www.forestry.gov.uk/ashdieback
4. In managing the perceived hazard posed by trees and tree related defects, the contractor should have regard to guidance within National Tree Safety Group '***Common sense risk management of trees***' (2011) document.

3. Existing Coniferous Woodland Plantation Area

(Responsibility for management – Cherwell District Council)

3.1 Design Intent

The existing conifer plantations have a distinctive character that contrasts with the adjacent areas of deciduous woodland. These areas will be actively managed in the interests of visual amenity and recreation with improved visual and spatial permeability and allow the development of 'natural' play spaces within a strongly arboreal context. The diversification of the age structure will be achieved by the selective removal of undesirable tree species/ weaker specimens and undertaking of new plantings. This will allow easier long term management and improve habitat value whilst safeguarding the distinctive character of this woodland.

Table 2: Existing Coniferous Woodland Plantation Area – Summary of Management Activities

Management Area	Management Activity	Frequency
Health & Safety	Safety inspection (and dated record keeping) of all trees or woody vegetation within falling or failing distance of public footpaths, access tracks, property or on woodland boundaries. Note: risk assessments in connection with the above to be proportionate to the level of risk and target value/ frequency. Clear fallen trees or branches where blocking paths or access tracks. Presumption of retention of deadwood preferably standing or if unsafe in-situ.	Full safety inspection undertaken annually and within 72 hours of high winds (with the potential to cause tree damage/failure). Record hazardous trees or tree defects during each scheduled maintenance visit and take immediate action to manage the risk to persons or property. Clear non-hazardous fallen trees or branches from paths and access tracks within 72 hours of reporting.
Waste collection	Collect dog waste, litter and foreign materials and dispose of off-site to a suitable recycling facility (where possible).	Litter and dog bins (where provided) – weekly General paths and access tracks – every two weeks. Remaining areas – within two weeks of reporting (e.g. fly-tipping away from access tracks etc.)
Invasive species	Report presence of invasive species (e.g. Japanese Knotweed) or pests/diseases (e.g. *Phytophthora ramorum*) and seek further specialist advice to prevent spread and allow	Checks to be undertaken during each scheduled maintenance visit.

Management Area	Management Activity	Frequency
	effective management and/ or eradication.	Report sitings of invasive pests or diseases to overseeing authority e.g. FERA or DEFRA etc.
Thinning management	Selective thinning out of weaker and suppressed trees recommended to alleviate excessive competition, allow the better development of stronger specimens and greater visibility within understorey areas. (Up to 50% of the existing even aged tree stand may be progressively thinned over the 15 year life of this management plan).	Annually during dormant season (November to February). Phased thinning with maximum 10% area of existing coniferous woodland area to be thinned in any one season.
Replacement planting	Where existing coniferous trees have been lost through natural causes or wind-throw, identify suitable locations for, and undertake replacement coniferous plantings. This will encourage age diversity within the canopy.	Annually during November to February.
Access maintenance	Check footpath and access tracks for defects including damage/ rutting/ erosion/ waterlogging etc. and ensure routes are easily passable by members of the public. Make good using materials to match existing (e.g. approved gravel or treated timber to board walk areas etc.) Report persistence issues/failures.	Checking undertaken during each scheduled maintenance visit. Make good within two weeks of reporting as necessary.
General management	Assess and undertake general formative pruning of young and semi-mature 'standard' trees to promote good/ natural form and balanced development (where appropriate). Pruning to include, (but not limited to); removal of competing leader shoots, alleviation of crossing branches, re-balancing canopies etc. Only branches up to 75mm diameter may be removed for this purpose.	Annually during November to February.

Management Area	Management Activity	Frequency
General maintenance	Check seating, bins, fencing/ gates, signage and interpretation boards etc. for defects, signs of wear or damage.	Checking undertaken during each scheduled maintenance visit. Make good within two weeks of reporting as necessary.
Vandalism	Record and report all instances of vandalism	During each scheduled maintenance visit.

Notes:

1. Contractor to have regard to the presence of protected wildlife when scheduling and undertaking routine maintenance operations e.g. nesting birds and bats etc. (Active bird nests protected between March and September, inclusive).
2. Small gauge arisings (<75mm diameter) from management works within coniferous woodland to be chipped and evenly spread within woodland areas to a depth not exceeding 50mm. Larger gauge arisings and timber (>75mm) to be laid out in windrows within understorey areas a minimum 5.0m from publically accessible paths or areas.
3. New or replacement coniferous tree species which are suitable for coniferous woodland areas include, (but are not limited to); Scots Pine (*Pinus sylvestris*), Dawn Redwood (*Metasequoia glyptostroboides*) and European Larch (*Larix decidua*). (Coniferous tree species only will be permitted within this area in order to reinforce the distinctive character and quality of the space for amenity use).
4. In managing the perceived hazard posed by trees and tree related defects, the contractor should have regard to guidance within National Tree Safety Group '***Common sense risk management of trees***' (2011) document.

4. Existing Managed Boundary Hedgerows, (Including Associated Field & Boundary Trees)

(Responsibility for management – Cherwell District Council)

4.1 Design Intent

The existing managed boundary hedgerows will be actively managed to ensure the habitat and screening value of the hedgerow resource is safeguarded and enhanced. This will include gapping up of discontinuous sections and reintroduction of a consistent regime of traditional hedgerow management techniques including hedge laying. The cultivation of new boundary field trees within hedgerows will further reinforce the habitat and screening value of hedgerow corridors.

Table 3: Existing Managed Boundary Hedgerows – Summary of Management Activities

Management Area	Management Activity	Frequency
Health & Safety	Safety inspection, (and dated record keeping) of all trees or woody vegetation within falling or failing distance of public footpaths, access tracks, roads or property. Note: risk assessments in connection with the above to be proportionate to the level of risk and target value/frequency. Clear fallen trees or branches where blocking paths, access tracks or roads. Presumption of retention of deadwood preferably standing in-situ where possible. If deemed unsafe, relocate arisings to nearest area of deciduous woodland as a deadwood habitat/resource.	Full safety inspection undertaken annually and within 72 hours of high winds (with the potential to cause tree damage/ failure). Record hazardous trees or tree defects during each scheduled maintenance visit and take immediate action to manage the risk to persons or property. Clear non-hazardous fallen trees or branches from paths and access tracks within 72 hours of reporting.
Waste collection	Collect litter and foreign materials and dispose of off-site to a suitable recycling facility (where possible).	During each scheduled maintenance visit.
Invasive and species	Report presence of invasive species (e.g. Japanese Knotweed) or pests/diseases (e.g. Chalara Dieback of Ash) and seek further specialist advice to prevent spread	Check undertaken during each scheduled maintenance visit. Report sitings of invasive pests or diseases to overseeing authority e.g. FERA or DEFRA etc.

Management Area	Management Activity	Frequency
	and allow effective management and/or eradication.	
Hedgerow management	All managed field hedgerows to be subject to phased hedgerow laying management with identifiable field trees/ standards encouraged to develop at approximately 10–20m centres within the hedge line. Provide temporary fencing adjacent to all newly laid hedges to prevent livestock damage during establishment, (where necessary). Thereafter, all laid hedges to be managed by a combination of periodic hedge laying and facing up by with mechanical cutting.	Hedge laying in the *'Midland Bullock'* style to be generally phased over the development site to ensure that all managed hedges have been laid once within the 15 year life of this management plan. Thereafter hedgerows to be generally laid every 10-15 years with biannual facing up by mechanical cutting in the intervening years. Arisings to be generally chipped and used or composted on site. Persons undertaking hedge laying to be an accredited member of the National Hedgelaying Society: http://www.hedgelaying.org.uk/ All hedge laying and facing up to be undertaken annually during November to February.
	Top and face up hedgerows to encourage dense, bushy growth at an average height of 1.5m – 3.0m Ht.	Biannual cutting in April and October during years 1-15. (Note –hedge cutting of individual hedgerows to be suspended for 2 – 3 seasons prior to laying).
Replacement planting	Identify conspicuous gaps within existing hedgerows and undertake gapping up with new hedgerow and tree planting of suitable native species.	Annually during November to February.
General management	Assess and undertake general formative pruning of young and semi-mature Field/ standard trees within hedge lines to promote good/ natural form and balanced development, (where appropriate). Pruning to include, (but not limited to); removal of competing leader shoots, alleviation of crossing branches, re-balancing canopies etc. Only branches up to 75mm diameter may be removed for this purpose.	Annually during November to February.

Management Area	Management Activity	Frequency
Vandalism	Record and report all instances of vandalism.	During each scheduled maintenance visit.

Notes:

1. Contractor to have regard to the presence of protected wildlife when scheduling and undertaking routine maintenance operations e.g. nesting birds and bats etc. (Active bird nests protected between March and September, inclusive).
2. Arisings from management works within existing hedgerows to be laid out in windrows within adjacent deciduous woodland areas a minimum 5.0m from publically accessible paths or areas.
3. In managing the perceived hazard posed by hedgerows, trees and tree related defects, the contractor should have regard to guidance within National Tree Safety Group '*Common sense risk management of trees*' (2011) document.
4. Refer to Forestry Commission guidance in relation to the management of Chalara Dieback of Ash where this is positively identified on site, (likely within the 15 year period covered by this management plan; http://www.forestry.gov.uk/ashdieback
5. Natural regeneration of trees and woody vegetation to be generally encouraged.

5. Proposed Deciduous Woodland (Including Areas of Natural Regeneration)

(Responsibility for management – Cherwell District Council)

5.1 Design Intent

Areas of new deciduous woodland will be developed in order to mitigate losses of existing woodland through development and reinforce the habitat and amenity functions provided by the existing woodland areas. This will also diversify the arboreal age and species mix within the site. Areas of new woodland will include a mix of natural regeneration 'pods' and directly planted areas to capitalise on the benefits of these contrasting approaches to woodland establishment. Woodland management within the natural 'pods' will comprise an assumed non-intervention approach with an emphasis on natural regeneration/ processes and control of selective invasive weed growth only. Directly planted deciduous woodlands will be managed using traditional management techniques that will be of long term habitat and amenity benefit. This will include phased coppice management of selected species to create diversity within the understorey areas below a higher canopy of longer lived, forest scale trees. Access into the new woodland areas will be passively discouraged in the interests of wildlife and habitat stability.

Table 4: Proposed Deciduous Woodland (Including Areas of Natural Regeneration) – Summary of Management Activities

Management Area	Management Activity	Frequency
Health & Safety	Safety inspection (and dated record keeping) of all trees or woody vegetation within falling or failing distance of public footpaths, access tracks, property or on woodland boundaries. Note: risk assessments in connection with the above to be proportionate to the level of risk and target value/frequency. Clear fallen trees or branches where blocking paths or access tracks. Presumption of retention of deadwood preferably standing or if unsafe in-situ.	Full safety inspection undertaken annually after trees have reached sufficient size that they could pose an unacceptable hazard to persons or property. Following establishment and the above requirements, record hazardous trees or tree defects during each scheduled maintenance visit and take appropriate action to manage the risk to persons or property. Clear non-hazardous fallen trees or branches from paths and access tracks within 72 hours of reporting.
Waste collection	Collect dog waste, litter and foreign materials and dispose of off-site to a suitable recycling facility (where possible).	Litter and dog bins (where provided) – weekly. General paths and access tracks – every two weeks.

Management Area	Management Activity	Frequency
		Remaining areas – within two weeks of reporting (e.g. fly-tipping away from access tracks etc.)
Invasive species	Report presence of invasive species (e.g. Japanese Knotweed) or pests/ diseases and seek further specialist advice to prevent spread and allow effective management and/ or eradication.	Checks to be undertaken during each scheduled maintenance visit. Report sitings of invasive pests or diseases to overseeing authority e.g. FERA or DEFRA etc.
Natural regeneration 'pods'	Area of minimum intervention/ access with emphasis upon natural woodland regeneration from existing seedbank.	Inspect fencing integrity during each scheduled maintenance visit and report instances of unauthorised access or damage.
	Monitor and record progress of natural regeneration. Identify and remove pernicious weed species impeding natural woodland development, by combination of hand weeding and non-residual herbicide application (and removed from site).	Biannually during spring/summer.
	Record and report instances of damage from mammalian pests and take action to alleviate.	During each scheduled maintenance visit.
General weed control	Minimum 600mm diameter area around all new woodland planting stations to be kept weed free condition during initial establishment period by means of hand weeding and use of non-residual herbicide, as necessary.	During years 1 to 5 undertake general weed control during April/ May and July.
	Remove unwanted invasive weeds from all woodland areas where restricting natural growth and development of new planting by means of hand weeding and non-residual herbicide application, as necessary.	During years 1 to 5 undertake invasive weed control April/ May.
Control of grass and herbage during establishment	Undertake annual seasonal cutting of grass and herbage between new woodland planting stations to a height of 100mm. Arisings to remain in-situ. Select suitable equipment to ensure no damage occurs to new woodland planting stations during annual cutting of grass and herbage.	Annually in years 1 to 5 during August/ September

Management Area	Management Activity	Frequency
Artificial irrigation	Provide artificial irrigation if/ as needed to maintain healthy growth of all new woodland plants, irrespective of weather conditions. Give notice of watering restrictions and submit alternative recommendations for water supply.	During years 1 to 3 (minimum) and additionally as needed.
Bark mulching	Provide 600mm diameter x 50mm depth bark mulch top up around all new woodland planting stations to discourage weed growth and conserve water.	During years 1 to 3 undertake bark mulch top up in March.
Plant stakes & shelters	Adjust and replace all stakes and planting shelters to allow healthy establishment of all new planting.	During years 1 to 5 during each scheduled maintenance visit.
	Where plants have become sufficiently established remove stakes, ties and planting shelters and dispose of off-site at a suitable recycling facility.	Annually during years 3 to 5 during September/ October. (All remaining plant stakes and shelters to be removed at year 5).
Replacement planting.	Identify new woodland plants which have failed to establish and investigate cause of failure. Submit proposals to alleviate future planting failures.	Annually during September/ October.
	Undertake replacement woodland planting in accordance with original specifications (unless otherwise agreed). Note: Maintenance tasks for all new planting to be re-set to year 1, (inc. weed control, watering, staking etc.)	Annually during November to February.
	Allow natural regeneration of suitable native tree species where not impeding development of planted, longer lived climax tree species.	
General management	Assess and undertake general formative pruning of young and semi-mature 'standard' trees to promote good/natural form and balanced development (where appropriate). Pruning to include, (but not limited to); removal of competing leader shoots, alleviation of crossing branches, re-balancing canopies etc. Only branches up to 75mm diameter may be removed for this purpose.	Annually during November to February.

Management Area	Management Activity	Frequency
General maintenance	Re-firm plants affected by wind-rock, frost heave or snow	During each scheduled maintenance visit.
	Record and report instances of damage by mammals (e.g. rabbits/ deer) and submit proposals to alleviate.	During each scheduled maintenance visit.
Thinning and coppice management	Selective thinning out of vigorous/ pioneer species where impeding the development of longer lived, climax tree species. Note: Rootstock of thinned woodland plants to remain undamaged, in-situ and allowed to naturally regenerate.	Annually during years 1 to 5 during November to February.
	Selective coppice management of suitable smaller trees and understorey vegetation to allow greater diversity of ground fora and encourage age diversity within the canopy and develop a 'coppice with standards' management. Phased management with maximum 10% of existing woodland area to be coppiced in any one season.	Annually during years 5 to 15 during November to February
Access maintenance	Check footpath and access tracks for defects including damage/ rutting/ erosion/ waterlogging etc. and ensure routes are easily passable by members of the public. Make good using materials to match existing (e.g. approved gravel etc.) Cut back herbage/ brambles and other growth or falls where blocking or narrowing paths and access points Report persistence issues/ failures.	Checking undertaken during each scheduled maintenance visit. Make good within two weeks of reporting as necessary.
General maintenance	Check seating, boundary fencing/ gates, bins, signage and interpretation boards etc. for defects, signs of wear or damage.	Checking undertaken during each scheduled maintenance visit. Make good within two weeks of reporting as necessary.
	Record and report instances of stunted growth or ill-health within all new woodland planting and identify cause where possible.	During each scheduled maintenance visit.

Management Area	Management Activity	Frequency
Vandalism	Record and report all instances of vandalism.	During each scheduled maintenance visit.

Notes:

1. Contractor to have regard to the presence of protected wildlife when scheduling and undertaking routine maintenance operations e.g. nesting birds and bats etc. (Active bird nests protected between March and September, inclusive).
2. 5No. 'pods' of natural regeneration to be established adjacent to Graven Hill Wood and allowed to regenerate naturally from the existing seedbank and from that of the adjacent woodland.
3. Any herbicides used for weed control within planted areas to be non-residual type approved for use by the Environment Agency (i.e. including proximity to water)
4. Arisings from woodland maintenance to be laid out in windrows within understorey areas a minimum 5.0m from publically accessible paths or areas.
5. In managing the perceived hazard posed by trees and tree related defects, the contractor should have regard to guidance within National Tree Safety Group '***Common sense risk management of trees***' (2011) document.

6. Proposed Native/ Deciduous Hedgerows

(Responsibility for Management – Cherwell District Council)

6.1 Design Intent

New native/ deciduous hedgerows will be provided to reinforce new boundaries, screen contrasting land uses and become valuable habitat corridors in their own right. Planted hedgerow boundaries are complementary to the boundary vernacular found within the local agricultural landscape and will comprise a species rich structure in the interests of habitat value and visual interest. Hedgerow management will include traditional hedgerow management techniques including hedge laying. The cultivation of new boundary field trees within hedgerows will further reinforce the habitat and screening value of the hedgerow resource.

Table 5 : Proposed Native/Deciduous Hedgerows – Summary of Management Activities

Management Area	Management Activity	Frequency
Health & Safety	Safety inspection (and dated record keeping) of all woody vegetation within falling or failing distance of public footpaths, access tracks, property or on woodland boundaries. Note: risk assessments in connection with the above to be proportionate to the level of risk and target value/frequency. Clear fallen branches where blocking paths or access tracks.	Full safety inspection undertaken annually after hedgerow has reached sufficient size that they could pose an unacceptable hazard to persons or property. Following establishment and the above requirements, record hazardous defects during each scheduled maintenance visit and take appropriate action to manage the risk to persons or property. Clear non-hazardous fallen branches from paths and access tracks within 72 hours of reporting.
Waste collection	Collect litter and foreign materials and dispose of off-site to a suitable recycling facility (where possible).	Collect at each scheduled maintenance visit and in any case within two weeks of reporting (e.g. fly-tipping away from access tracks etc.)
Invasive species	Report presence of invasive species (e.g. Japanese Knotweed) or pests/diseases (e.g. Chalara Dieback of Ash) and seek further specialist advice to prevent spread and allow effective management and/or eradication.	Check undertaken during each scheduled maintenance visit. Report sitings of invasive pests or diseases to overseeing authority e.g. FERA or DEFRA etc. as necessary.
General weed control	Minimum 300mm diameter area around all new hedgerow planting stations to be kept weed free condition	During years 1 to 3 undertake biannual control of general weed growth during April/ May and July.

Management Area	Management Activity	Frequency
	during initial establishment period by means of hand weeding and use of non-residual herbicide, as necessary.	
	Remove unwanted invasive weeds from all new hedgerow areas where restricting natural growth and development of new planting by means of hand weeding and non-residual herbicide application, as necessary.	During years 3 to 10 undertake control of invasive weed growth during May.
Artificial irrigation	Provide artificial irrigation if/ as needed to maintain healthy growth of all new hedgerow plants, irrespective of weather conditions. Give notice of watering restrictions and submit alternative recommendations for water supply.	During years 1 to 3 (minimum) and additionally as needed.
Bark mulching	Provide 50mm depth bark mulch top up around all new hedgerow planting stations to discourage weed growth and conserve water.	During years 1 to 3 undertake bark mulch top up in March.
Plant canes & shelters	Adjust and replace all planting canes and guards to allow healthy establishment of all new planting.	During years 1 to 5 during each scheduled maintenance visit.
	Where plants have become sufficiently established remove planting canes and guards and dispose of off-site at a suitable recycling facility.	Annually during years 3 to 5 during September/ October. (All remaining canes and planting shelters to be removed in year 5).
Replacement planting.	Identify new hedgerow plants which have failed to establish and investigate cause of failure. Submit proposals to alleviate future planting failures.	Annually during years 1 to 5 during September/ October.
	Undertake replacement hedgerow planting in accordance with original specifications (unless otherwise agreed). Note: Maintenance tasks for all new planting to be re-set to year 1, (inc. weed control, watering, staking etc.)	Annually during years 1 to 5 November to February.
General management	Coppice young hedgerow plants, (except standard trees) down to	Once individual hedgerows have become well established and after canes and guards

Management Area	Management Activity	Frequency
	300mm Ht. to encourage bushy regrowth.	have been removed. Undertake coppicing of complete hedgerows once only during November to February. (Note – establishment rates of individual hedgerows is expected to vary across the site and coppicing works will therefore be phased during years 3 to 5).
	Following coppicing, (above) top and face up hedgerows by mechanical cutting to encourage dense, bushy growth at an average height of 1.2m – 1.5m Ht.	Biannual cutting in April and October during years 3 to 15. (Note – establishment rates of individual hedgerows is expected to vary across the site. Commencement of hedgerow cutting works will therefore be phased during years 3 to 5).
	All managed field hedgerows to be subject to phased hedgerow laying management with identifiable field trees/standards encouraged to develop at approximately 10–20m centres within the hedge line. Provide temporary fencing adjacent to all newly laid hedges to prevent livestock damage during establishment, (where necessary). Thereafter, all laid hedges to be managed by a combination of periodic hedge laying and facing up by with mechanical cutting.	Hedge laying in the *'Midland Bullock'* style to be generally phased over the development site to ensure that all planted deciduous hedgerows have been laid once within the 15 year life of this management plan. Thereafter hedgerows to be generally laid every 10-15 years with biannual facing up by mechanical cutting in the intervening years. Arisings to be generally chipped and used or composted on site. Persons undertaking hedge laying to be an accredited member of the National Hedgelaying Society: http://www.hedgelaying.org.uk/
General maintenance	Re-firm plants affected by wind-rock, frost heave or snow	During each scheduled maintenance visit.
	Record and report instances of damage by mammals (e.g. rabbits/deer) and submit proposals to alleviate.	During each scheduled maintenance visit.
General maintenance	Check associated boundary fencing/ gates for defects, signs of wear or damage.	Checking undertaken during each scheduled maintenance visit. Make good within two weeks of reporting as necessary.

Management Area	Management Activity	Frequency
Vandalism	Record and report all instances of vandalism	During each scheduled maintenance visit.

Notes:

1. Contractor to have regard to the presence of protected wildlife when scheduling and undertaking routine maintenance operations e.g. nesting birds and bats etc. (Active bird nests protected between March and September, inclusive).
2. Any herbicides used for weed control within planted areas to be non-residual type approved for use by the Environment Agency (i.e. including proximity to water)
3. Small gauge arisings (<75mm diameter) from management of new hedgerows to be chipped and evenly spread within the hedgeline to a depth not exceeding 50mm.
4. Larger gauge arisings and timber (>75mm) to be laid out in windrows within adjacent woodland areas a minimum 5.0m from publically accessible paths or areas.
5. In managing the perceived hazard posed by trees and tree related defects, the contractor should have regard to guidance within National Tree Safety Group '***Common sense risk management of trees***' (2011) document.
6. Natural regeneration of suitable trees and woody vegetation to be generally encouraged.

7. Proposed Meadow and Wildflower Seeded Areas

(Responsibility for Management – Cherwell District Council / Tennant Farmer)

7.1 Design Intent

The proposed meadow and wildflower seeded areas comprise areas of former pasture and amenity grassland which will be improved and managed in the interests of wildlife and amenity. This will also include the understorey areas within the proposed Community Orchard. The creation of meadow and wildflower seeded areas will include the introduction of wildflower seed mixes to areas of disturbed ground followed by over-seeding of remaining areas to assist with species diversification and introduction of more flowering plants. This will be further reinforced by a sensitive, seasonal cutting regime to allow wildflower seed germination and discourage the proliferation of weed species or woody plants. Linear bands of close mown grass will be created as informal paths through meadow areas and flanking gravel path edges. These will assist with movement, improve the perceived amenity value and improve the wider ecotone/ habitat value of the meadow spaces.

By contrast the meadow areas adjacent to Graven Hill wood would be created and managed by low-intensity seasonal grazing of cattle. This will provide a contrasting wildflower sward to the remaining mown meadow areas and permits continuity of agricultural use, albeit at a more environmentally sensitive level then the present intensive management/ grazing.

Table 6: Proposed meadow and wildflower areas – summary of management activities

Management Area	Management Activity	Frequency
Grazed meadows	Allow seasonal grazing of cattle at a rate of 1.0 livestock unit/ ha within selected meadow areas. Ensure even grazing of meadow areas to prevent localised areas of over-grazing and damaged sward. Note: Lone bulls may not be grazed within meadows subject to public access.	Grazing of cattle permitted between September to Early November and March to mid-May. (No grazing permitted mid-May to September in the interests of grass and wild flower diversity).
	Report, record and repair incidents of heavy rutting or waterlogging caused by livestock.	During each scheduled maintenance visit.
	Ensure field boundaries remain stock-proofed at all times and gates locked unless in use.	During each scheduled maintenance visit.
	Remove Ragwort (*Jacobaea vulgaris*) by hand weeding/ pulling immediately upon sighting and remove from site. Do not allow to set seed.	During each scheduled maintenance visit.

Management Area	Management Activity	Frequency
Mown meadows	Undertake seasonal cutting of main meadow areas (including orchard areas) to a height of 75mm. Turn and dry the cut arisings over period of 3-5 days. Rake off arisings from sward and take to a suitable recycling facility.	Biannually in March/ April and August/ September
	Cutting meadow grass within 300mm of tree trunks to be undertaken by hand ensuring no mechanical damage occurs to tree trunks or guards.	Biannually in March/ April and August/ September
	Undertake regular cutting of mown grass paths and margins to gravel paths where shown to a height of 75mm. (Arisings may remain in-situ).	Every two weeks from March to October
Boundaries	Report, record and repair any damage to boundary fences or gates, (including incidents of vandalism) in particular where this will impact stock proofing performance of boundary.	During each scheduled maintenance visit.
Waste collection	Collect dog waste, litter and foreign materials and dispose off-site to a suitable recycling facility (where possible).	Litter and dog bins (where provided) – weekly General paths and access tracks – every two weeks. Remaining areas – within two weeks of reporting (e.g. fly-tipping away from access tracks etc.)
Footpaths and cycleways	Report, record and repair defects to macadam or gravel path surface (including excessive wear, deflection and ponding of water etc.), and remove/ cut back overhanging vegetation and otherwise ensure paths are safe and clear to use. All repairs to match existing materials unless otherwise agreed).	Monthly and during each scheduled maintenance visit and repair within two weeks of reporting of defects.
	Undertake top-up of all gravel paths with 25mm depth dressing to match the original material and profile, (gently	Annually in years 2 and 3 and every 3 years thereafter. Works to be undertaken between November and February.

Management Area	Management Activity	Frequency
	crowned to the centre of the path). Compact with suitable roller.	
Invasive species	Report presence of invasive or injurious species (e.g. Ragwort or Japanese Knotweed) or other pests/ diseases and seek further specialist advice to prevent spread and allow effective management and/ or eradication.	Checks to be undertaken during each scheduled maintenance visit. Report sitings of invasive pests or diseases to overseeing authority e.g. FERA or DEFRA etc. if/as required.
General maintenance	Check seating, boundary fencing/ gates, bins, signage and interpretation boards etc. for defects, signs of wear or damage.	Checking undertaken during each scheduled maintenance visit. Make good within two weeks of reporting as necessary.

Notes:

1. Contractor to have regard to the presence of protected wildlife when scheduling and undertaking routine maintenance operations e.g. Greater Crested Newts (GCN), nesting birds and bats etc. (Active bird nests protected between March and September, inclusive).
2. Any herbicides used for weed control within planted areas to be non-residual type approved for use by the Environment Agency (i.e. including proximity to water).

8. Proposed Ecology Ponds & Surrounds

(Responsibility for Management – Cherwell District Council)

8.1 Design Intent

Ecology ponds will be carefully integrated into the areas of public open space as a new habitat resource provided as mitigation for the loss of aquatic and terrestrial habitat through the redevelopment of the site. Importantly, this will include important habitats for Greater Crested Newts (GCN). GCN are a European Protected Species and require mitigation for any potential negative impacts resulting from a development.

The ecology pond design and associated marginal and woody planting species have been carefully selected to maximise the suitability of the pond for GCN habitat including the aquatic stages of their life cycle. The ecology ponds are to be managed sensitively ensuring minimal disturbance to the GCN with routine vegetation removal/ management to be undertaken during the winter period.

Direct access to the ecology ponds will be generally discouraged through passive and locally direct means. Suitable measures will be taken to manage the safety of both maintenance operatives and uninvited visitors in working to accessing the ecology ponds.

Table 7: Proposed Ecology Ponds & Surrounds – Summary of Management Activities

Management Area	Management Activity	Frequency
Health & Safety	Safety inspection (and dated record keeping) of ecology ponds and associated woody vegetation/ boundary fencing to highlight defects that could pose an unacceptable hazard to maintenance operatives or trespassers. Note: risk assessments in connection with the above to be proportionate to the level of risk and target value/ frequency.	During each scheduled maintenance visit.
	Undertake and record risk assessment for maintenance operations in proximity to ecology ponds/ water bodies.	Prior to undertaking scheduled, (or emergency) maintenance operations. Update as necessary once on site if conditions change.
Level wildflower areas	Undertake seasonal cutting of main meadow areas to a height of 75mm. Turn and dry the cut arisings over period of 3-5 days. Rake off arisings from sward and carefully place on hibernacula features adjacent to	Biannually in March/ April and August/ September

Management Area	Management Activity	Frequency
	ecology ponds. (Ensure arisings do not foul ecology ponds).	
Wet grassland (on ecology pond banks and marginal areas)	Undertake seasonal cutting of bank and marginal areas to a height of 150mm. Turn and dry the cut arisings over period of 3-5 days. Rake off arisings from sward and place on hibernacula features adjacent to ecology ponds. (Ensure arisings do not foul ecology ponds).	Annually at end of August
General weed control	Minimum 600mm diameter area around all new native shrub planting stations to be kept weed free condition during initial establishment period by means of hand weeding and use of bark mulch collar, as necessary. (Note: the use of herbicides will not be permitted in ecology pond areas).	During years 1 to 3 undertake general weed control during April/ May and July.
	Remove unwanted and/ or invasive weeds from all native shrub planting where restricting natural growth and development of new native shrub planting by means of hand weeding only. (Note: the use of herbicides will not be permitted in ecology pond areas).	During years 1 to 5 undertake invasive weed control April/ May.
Artificial irrigation	Provide artificial irrigation if/ as needed to maintain healthy growth of all new woodland plants, irrespective of weather conditions. Give notice of watering restrictions and submit alternative recommendations for water supply.	During years 1 to 3 (minimum) and additionally as needed.
Bark mulching	Provide 600mm diameter x 50mm depth bark mulch top up around all new native shrub planting stations to discourage weed growth and conserve water.	During years 1 to 3 undertake bark mulch top up in March.
Plant stakes & shelters	Adjust and replace all stakes and planting shelters to allow healthy	During years 1 to 5 during each scheduled maintenance visit.

Management Area	Management Activity	Frequency
	establishment of all new native shrub planting.	
	Where plants have become sufficiently established remove stakes, ties and planting shelters and dispose of off-site at a suitable recycling facility.	Annually during years 3 to 5 during September/ October. (All remaining plant stakes and shelters to be removed at year 5)
Replacement planting.	Identify new native shrub plants which have failed to establish and cause of failure. Submit proposals to alleviate future planting failures.	Annually during September/October.
	Undertake replacement native shrub planting in accordance with original specifications (unless otherwise agreed). Note: Maintenance tasks for all new planting to be re-set to year 1, (inc. weed control, watering, staking etc.)	Annually during November to February.
	Allow natural regeneration of suitable native shrub species where not impeding development of new native shrub planting.	
General maintenance	Re-firm plants affected by wind-rock, frost heave or snow.	During each scheduled maintenance visit.
	Record and report instances of damage by mammals (e.g. rabbits/ deer) and submit proposals to alleviate.	During each scheduled maintenance visit.
	Collect dog waste, litter and foreign materials and dispose of off-site to a suitable recycling facility (where possible).	Litter and dog bins (where provided) – weekly General paths and access tracks – every two weeks. Remaining areas – within two weeks of reporting (e.g. fly-tipping away from access tracks etc.)
Thinning and coppice management	Selective coppice management of suitable native shrub species to allow locally greater diversity of ground fora and encourage age diversity within the area.	Annually during years 5 to 15 during November to February.

Management Area	Management Activity	Frequency
	Phased management with maximum 20% of native shrubs to be coppiced in any one season.	

Notes:

1. Contractor to have regard to the presence of protected wildlife when scheduling and undertaking routine maintenance operations e.g. Greater Crested Newts (GCN), nesting birds and bats etc. (Active bird nests protected between March and September, inclusive).
2. Any herbicides used for weed control within planted areas to be non-residual type approved for use by the Environment Agency (i.e. including proximity to water).

9. Proposed Grass Verge Areas & Amenity Tree Planting (Flanking Highways)

(Responsibility for management – Oxfordshire County Council Highways)

9.1 Design Intent

Grass verge areas have been integrated along key highway links within the development as a key multi-functional resource within the streetscape. The grass verge areas and associated tree planting will reinforce the distinctive character and identity of each street, provide a valuable habitat corridor, spatial separation between vehicular and pedestrian/cycleway links, passive traffic calming and longer term pollution absorption and climate moderation.

Grass verge areas will incorporate a differential mowing regime with a formal mown edge adjacent to the carriageway contrasting with longer wildflower margin to the rear edge within which standard tree planting is integrated. This will provide amenity interest, a stronger ecotone and passive protection to the tree planting from mowing damage.

Tree planting will comprise single-species avenues to reinforce the character of each street and utilise medium to larger scale tree species with more compact canopy forms and proven tolerance of urban growing conditions. Tree management will include regular pre-emptive measures that will substantially reduce long term maintenance costs and improve tree health and longevity.

Table 8: Proposed Grass Verge Areas & Amenity Tree Planting (Flanking Highways) – Summary of Management Activities

Management Area	Management Activity	Frequency
Health & Safety	Safety inspection, (and dated record keeping) of all trees or woody vegetation within falling or failing distance of public footpaths, access tracks, property or on woodland boundaries.	Full safety inspection undertaken annually after trees have reached sufficient size that they could pose an unacceptable hazard to persons or property.
	Note: risk assessments in connection with the above to be proportionate to the level of risk and target value/ frequency.	Following establishment and the above requirements, record hazardous trees or tree defects during each scheduled maintenance visit and take appropriate action to manage the risk to persons or property.
	Clear fallen trees or branches where blocking roads or paths.	Clear non-hazardous fallen trees or branches from paths and access tracks within 48 hours of reporting.
	Undertake and record risk assessment for maintenance operations in the public realm. Seek prior approval to temporarily	Prior to undertaking scheduled, (or emergency) maintenance operations. Update as necessary once on site if conditions change.

Management Area	Management Activity	Frequency
	close or divert roads or paths to complete maintenance operations.	
Invasive species	Report presence of invasive or injurious species (e.g. Chalara Buddleia or Shrub Willow etc.) or other pests/ diseases and seek further specialist advice to prevent spread and allow effective management and/or eradication.	Check undertaken during each scheduled maintenance visit. Report sitings of invasive pests or diseases to overseeing authority e.g. FERA or DEFRA etc. if/as required.
Amenity street trees (within grass verge areas)	Minimum 750mm diameter area around all new amenity street trees to be kept weed free condition during initial establishment period by means of bark mulch collar hand weeding and use of non-residual herbicide, as necessary.	During years 1 to 5 undertake general weed control during April, June and September.
	Provide artificial irrigation by a combination of surface watering and filling of TREEGATOR irrigation system as needed to maintain healthy growth of all amenity tree planting, irrespective of weather conditions. Give notice of watering restrictions and submit alternative recommendations for water supply.	During growing season of years 1 to 5 (minimum) and additionally as needed.
	Provide 750mm diameter x 50mm depth bark mulch top up around all new amenity trees to discourage weed growth and conserve water.	Annually during years 1 to 5 undertake bark mulch top up in March.
	Adjust and replace all stakes, ties and TREEGATOR irrigation systems to ensure healthy establishment of all new planting.	During years 1 to 5 during each scheduled maintenance visit.
	Where trees have become sufficiently established, remove tree stakes and ties and dispose of off-site at a suitable recycling facility.	Check annually during years 3 to 5 during September/ October. (All remaining plant stakes and ties to be removed at year 5)
	Remove TREEGATOR irrigation systems and replace with sturdy plastic strimmer guards.	During year 5 following planting, during September/ October.

Management Area	Management Activity	Frequency
	Undertake formative pruning to amenity street trees to; ▪ Ensure development of a single, strong leader shoot, ▪ Ensure adequate highway and footpath clearances are maintained, ▪ Alleviate duplicating/crossing branches, ▪ Ensure balanced canopy development/natural form, ▪ Remove all sucker and epicormics growth as necessary, ▪ Tidy torn branch stubs, ▪ Undertake progressive crown-lifting to achieve 1/3 clear stem to 2/3 canopy, up to a maximum clear stem of 4.0m height. (All pruning works to be undertaken by an Arboricultural Association Approved Contractor in accordance with BS3998:2010 Tree work – recommendations.	Annually during years 1 to 5 following planting and every three years thereafter, (years 8, 11 and 14).
Amenity street trees (within hard surfaced areas)	Provide artificial irrigation by a combination of surface watering and dedicated irrigation system as needed to maintain healthy growth of all amenity tree planting, irrespective of weather conditions. Give notice of watering restrictions and submit alternative recommendations for water supply.	During growing season of years 1 to 5 (minimum) and additionally as needed.
	Monitor ARBORESIN tree pit dressing and ensure natural tree growth is not fouled by resin/ aggregate. (Note: ARBORESIN is designed to fracture to allow tree growth).	During each scheduled maintenance visit.
	Carefully replace ARBORESIN tree pit surface with matching material (including plastic trunk guard)	Every 5 years between November and February.

Management Area	Management Activity	Frequency
	Adjust and/ or replace all stakes, ties, underground guying system and irrigation systems to ensure healthy establishment of all new planting.	During years 1 to 5 during each scheduled maintenance visit.
	Where trees have become sufficiently established, remove tree stakes and ties and dispose of off-site at a suitable recycling facility.	Check annually during years 3 to 5 during September/ October. (All remaining plant stakes and ties to be removed at year 5)
	Undertake formative pruning to amenity street trees to; ▪ Ensure development of a single, strong leader shoot, ▪ Ensure adequate highway and footpath clearances are maintained, ▪ Alleviate duplicating/crossing branches, ▪ Ensure balanced canopy development/ natural form, ▪ Remove all sucker and epicormics growth as necessary, ▪ Tidy torn branch stubs, ▪ Undertake progressive crown-lifting to achieve 1/3 clear stem to 2/3 canopy, up to a maximum clear stem of 4.0m height. (All pruning works to be undertaken by an Arboricultural Association Approved Contractor in accordance with BS3998:2010 Tree work – recommendations.	Annually during years 1 to 5 following planting and every three years thereafter, (years 8, 11 and 14).
General management	Record and report presence of ill-health, stress or pests/ diseases within amenity street trees and seek further specialist advice to prevent spread and allow effective management and/or eradication.	Checks to be undertaken during each scheduled maintenance visit. Report sitings of invasive pests or diseases to overseeing authority e.g. FERA or DEFRA etc. as necessary.

Management Area	Management Activity	Frequency
	Identify new street trees which have failed to establish and cause of failure. Submit proposals to alleviate future planting failures.	Annually during September/ October.
	Undertake replacement amenity street tree planting in accordance with original specifications (unless otherwise agreed). Note: Maintenance tasks for all new planting to be re-set to year 1, (inc. weed control, watering, staking etc.)	Annually during November to February.
	Record and report all incidents of vandalism.	During each scheduled maintenance visit.

Notes:

1. Contractor to have regard to the presence of protected wildlife when scheduling and undertaking routine maintenance operations e.g. nesting birds and bats etc. (Active bird nests protected between March and September, inclusive).
2. Any herbicides used for weed control within planted areas to be non-residual type approved for use by the Environment Agency (i.e. including proximity to water).
3. Arisings from pruning work and wildflower grass cutting to be taken to a suitable recycling facility.
4. In managing the perceived hazard posed by trees and tree related defects, the contractor should have regard to guidance within National Tree Safety Group '***Common sense risk management of trees***' (2011) document.

10. Proposed Tree Planting within Meadows and Hedgerows

(Responsibility for Management – Cherwell District Council)

10.1 Design Intent

New tree planting will be provided within meadow areas and flanking hedgerows to further reinforce the character, amenity and habitat value of these spaces and features. This will comprise mostly native tree species of medium to large scale with an emphasis on the natural development of such trees within generous areas of soft landscape, (contrasting with amenity tree planting in grass verge areas and woodland plantings growing in competition).

Table 9: Proposed Tree Planting within Meadows and Hedgerows – Summary of Management Activities.

Management Area	Management Activity	Frequency
Health & Safety	Safety inspection, (and dated record keeping) of all trees or woody vegetation within falling or failing distance of public footpaths, access tracks, property.	Full safety inspection undertaken annually after trees have reached sufficient size that they could pose an unacceptable hazard to persons or property.
	Note: risk assessments in connection with the above to be proportionate to the level of risk and target value/ frequency.	Following establishment and the above requirements, record hazardous trees or tree defects during each scheduled maintenance visit and take appropriate action to manage the risk to persons or property.
	Clear fallen trees or branches where blocking roads or paths.	Clear non-hazardous fallen trees or branches from paths and access tracks within one week of reporting.
	Undertake and record risk assessment for maintenance operations in the public realm. Seek prior approval to temporarily close or divert paths/ localised meadow areas to complete maintenance operations.	Prior to undertaking scheduled, (or emergency) maintenance operations. Update as necessary once on site if conditions change.
Invasive species	Report presence of invasive or injurious species (e.g. Chalara Dieback of Ash or Buddleia etc.) or other pests/ diseases and seek further specialist advice to prevent spread and allow effective management and/or eradication.	Checks to be undertaken during each scheduled maintenance visit. Report sitings of invasive pests or diseases to overseeing authority e.g. FERA or DEFRA etc. if/ as required.
Tree establishment	Minimum 750mm diameter area around all new trees to be kept weed free condition during initial establishment	During years 1 to 5 undertake general weed control during April, June and September.

Management Area	Management Activity	Frequency
	period by means of hand weeding and use of non-residual herbicide, as necessary.	
	Provide artificial irrigation as needed to maintain healthy growth of all new tree planting, irrespective of weather conditions. Give notice of watering restrictions and submit alternative recommendations for water supply.	During growing season of years 1 to 3 (minimum) and additionally as needed.
	Provide 750mm diameter x 50mm depth bark mulch top up around all new trees to discourage weed growth and conserve water.	Annually during years 1 to 5 undertake bark mulch top up in March.
	Adjust and replace all stakes, ties and tree guards to ensure healthy establishment of all new tree planting.	During years 1 to 5 during each scheduled maintenance visit.
	Where trees have become sufficiently established, remove tree stakes and ties and dispose of off-site at a suitable recycling facility.	Check annually during years 3 to 5 during September/ October. (All remaining plant stakes and ties to be removed at year 5)
	Undertake formative pruning to new tree planting to; ▪ Ensure adequate highway, access track and footpath clearances are maintained ▪ Ensure development of a single, strong leader shoot, ▪ Alleviate duplicating/crossing branches, ▪ Ensure balanced canopy development/natural form, ▪ Remove all sucker and epicormic growth as necessary, ▪ Tidy torn branch stubs, ▪ Undertake progressive crown-lifting to achieve 1/3 clear stem to 2/3 canopy, up to a maximum clear stem of 3.0m height.	Annually during years 1 to 5 following planting and every three years thereafter, (years 8, 11 and 14).

Management Area	Management Activity	Frequency
	(All pruning works to be undertaken by an Arboricultural Association Approved Contractor in accordance with BS3998:2010 Tree work – recommendations.	
General management	Record and report presence of ill-health, stress or pests/ diseases within new tree planting and seek further specialist advice to prevent spread and allow effective management and/or eradication.	Check undertaken during each scheduled maintenance visit. Report sitings of invasive pests or diseases to overseeing authority e.g. FERA or DEFRA etc. as necessary.
	Identify new trees which have failed to establish and cause of failure. Submit proposals to alleviate future planting failures.	Annually during September/ October.
	Undertake replacement tree planting in accordance with original specifications (unless otherwise agreed). Note: Maintenance tasks for all new planting to be re-set to year 1, (inc. weed control, watering, staking etc.)	Annually during November to February.
	Grass cutting around tree stems to be in accordance with meadow grass cutting and management.	N/A
	Record and report all incidents of vandalism.	During each scheduled maintenance visit.

Notes:

1. Contractor to have regard to the presence of protected wildlife when scheduling and undertaking routine maintenance operations e.g. nesting birds and bats etc. (Active bird nests protected between March and September, inclusive).
2. Any herbicides used for weed control within planted areas to be non-residual type approved for use by the Environment Agency (i.e. including proximity to water).
3. Arisings from pruning work to be taken to a suitable recycling facility.
4. In managing the perceived hazard posed by trees and tree related defects, the contractor should have regard to guidance within National Tree Safety Group '***Common sense risk management of trees***' (2011) document.

11. Proposed Community Orchard Tree Planting.

(Responsibility for management – Cherwell District Council)

11.1 Design Intent

The proposed community orchard will provide a valuable and distinctive community resource that will also be of habitat and amenity value. The orchard will include a mix of regional and commercial apple varieties with a smaller number of other fruit trees within a wildflower meadow setting. This will include mown paths to allow access through the orchard and emphasise the more structured qualities of the layout in contrast to the more naturalistic approach to the adjacent spaces.

Table 10: Proposed Community Orchard Planting – Summary of Management Activities

Management Area	Management Activity	Frequency
Health & Safety	Safety inspection, (and dated record keeping) of all orchard trees or woody vegetation within falling or failing distance of public footpaths, access tracks, property.	Full safety inspection undertaken annually after trees have reached sufficient size that they could pose an unacceptable hazard to persons or property.
	Note: risk assessments in connection with the above to be proportionate to the level of risk and target value/frequency.	Following establishment and the above requirements, record hazardous trees or tree defects during each scheduled maintenance visit and take appropriate action to manage the risk to persons or property.
	Clear fallen trees or branches where blocking roads or paths.	Clear non-hazardous fallen trees or branches from paths and access tracks within one week of reporting.
	Undertake and record risk assessment for maintenance operations in the public realm. Seek prior approval to temporarily close or divert paths/ localised meadow areas to complete maintenance operations.	Prior to undertaking scheduled, (or emergency) maintenance operations. Update as necessary once on site if conditions change.
Invasive species	Report presence of invasive or injurious species (e.g. Bramble or Buddleia etc.) or other pests/diseases and seek further specialist advice to prevent spread and allow effective management and/or eradication.	Checks to be undertaken during each scheduled maintenance visit.

Management Area	Management Activity	Frequency
		Report sitings of invasive pests or diseases to overseeing authority e.g. FERA or DEFRA etc. if/as required.
Tree establishment	Minimum 750mm diameter area around all new orchard trees to be kept weed free condition during initial establishment period by means of mulch collar, hand weeding and use of non-residual herbicide, (approved for use in association with crop producing plants) as necessary.	During years 1 to 5 undertake general weed control during April, June and September.
	Provide artificial irrigation as needed to maintain healthy growth of all new orchard tree planting, irrespective of weather conditions. Give notice of watering restrictions and submit alternative recommendations for water supply.	During growing season of years 1 to 3 (minimum) and additionally as needed.
	Provide 750mm diameter x 50mm depth bark mulch top up around all new trees to discourage weed growth and conserve water.	Annually during years 1 to 5 undertake bark mulch top up in March.
	Adjust and replace all stakes, ties and tree guards to ensure healthy establishment of all new orchard tree planting.	During years 1 to 5 during each scheduled maintenance visit.
	Where trees have become sufficiently established, remove tree stakes and ties and dispose of off-site at a suitable recycling facility. (Note: tree guards to remain and be maintained on orchard trees).	Check annually during years 3 to 5 during September/October. (All remaining plant stakes and ties to be removed at year 5)
	Undertake formative pruning to new tree planting in accordance with ORCHARD NETWORK (http://www.orchardnetwork.org.uk/) guidance and in the interests of crop production and wildlife. (All pruning works to be undertaken by suitably qualified and competent person and otherwise in accordance with BS3998:2010 Tree work – recommendations and best practice.	Annually during years 1 to 5 following planting and every three years thereafter, (years 8, 11 and 14).

Management Area	Management Activity	Frequency
General maintenance	Undertake seasonal cutting of main meadow areas to a height of 75mm. Turn and dry the cut arisings over period of 3-5 days. Rake off arisings from sward and take to a suitable recycling facility.	Biannually in March/ April and August/ September
	Cutting meadow grass within 300mm of tree trunks to be undertaken by hand ensuring no mechanical damage occurs to tree trunks or guards.	Biannually in March/ April and August/ September
General management	Undertake regular cutting of mown grass paths and margins to gravel paths where shown to a height of 75mm. (Arisings may remain in-situ).	Every two weeks from March to October
	Identify new orchard trees which have failed to establish and cause of failure. Submit proposals to alleviate future planting failures.	Annually during September/ October.
	Undertake replacement orchard tree planting in accordance with original specifications (unless otherwise agreed). Note: Maintenance tasks for all new planting to be re-set to year 1, (inc. weed control, watering, staking etc.)	Annually during November to February.
	Grass cutting around orchard tree stems to be in accordance with meadow grass cutting and management.	N/A
	Record and report all incidents of vandalism.	During each scheduled maintenance visit.

Notes:

1. Contractor to have regard to the presence of protected wildlife when scheduling and undertaking routine maintenance operations e.g. nesting birds and bats etc. (Active bird nests protected between March and September, inclusive).
2. Any herbicides used for weed control within planted areas to be non-residual type approved for use by the Environment Agency and for use in association with crop producing plants.
3. Arisings from pruning work to be taken to a suitable recycling facility.
4. In managing the perceived hazard posed by trees and tree related defects, the contractor should have regard to guidance within National Tree Safety Group '***Common sense risk management of trees***' (2011) document.

12. Proposed Swales & Attenuation Pond Areas

(Responsibility for management – Cherwell District Council)

12.1 Design intent

The proposed swales and attenuation pond areas have a multi-functional role within the development. In functional terms, these form an integral part of the SUDs drainage system including the management of water from the increased area of impermeable surfacing that will inevitably arise as a result of the development of the site. Secondary to this, the swales and attenuation ponds will be carefully integrated into pedestrian links and areas of public open space. The presence and movement of water within these spaces will be of ecological and amenity value and reinforce the character and identity of these spaces.

Table 11: Proposed swales & attenuation pond areas – summary of management activities

Management Area	Management Activity	Frequency
Health & Safety	Safety inspection (and dated record keeping) of all swales and attenuation ponds and associated woody vegetation/boundary fencing to highlight defects that could pose an unacceptable hazard to maintenance operatives or members of the public. Note: risk assessments in connection with the above to be proportionate to the level of risk and target value/frequency.	During each scheduled maintenance visit.
	Undertake and record risk assessment for maintenance operations in proximity to swales or attenuation features.	Prior to undertaking scheduled, (or emergency) maintenance operations. Update as necessary once on site if conditions change.
Level wild-flower areas (adjacent to swales and attenuation ponds)	Undertake seasonal cutting of wildflower areas to a height of 75mm. Turn and dry the cut arisings over period of 3-5 days. Rake off arisings from sward and take to a suitable recycling facility. (Ensure arisings do not foul swales or attenuation ponds).	Biannually in March/ April and August/ September
Wet grassland margins (on swale banks and attenuation pond marginal areas)	Undertake seasonal cutting of wet grassland on swale banks and marginal areas adjacent to attenuation ponds to a height of 150mm. Turn and dry the cut arisings over period of 3-5 days. Rake off arisings from sward and take to a suitable	Annually at end of August

Management Area	Management Activity	Frequency
	recycling facility. (Ensure arisings do not foul swales or attenuation ponds).	
Replacement seeding and plug planting	Identify seeded and plug planted plants and/ or areas which have failed to establish and cause of failure. Submit proposals to alleviate future failures.	Annually during May/ June.
	Undertake replacement seeding and plug planting in accordance with original specifications (unless otherwise agreed). Note: Maintenance tasks for all new planting to be re-set to year 1, (inc. weed control, watering, staking etc.)	Annually during first available seeding or planting season.
General weed control	Remove unwanted and/ or invasive weeds from all swales and attenuation ponds where suppressing natural growth and development of wildflower and wetland seeded areas by means of hand weeding and application of herbicide approved for use near water.	During years 1 to 5 undertake invasive weed control April/ May.
Attenuation pond weed control	Clear aquatic vegetation from attenuation ponds to ensure minimum 25% open water is maintained. When clearing aquatic plants, clear a radial sector of vegetation that incorporates a variety of species, (and not a single species concentrated at a given water depth). Arisings to be evenly distributed over bank areas.	Annually in March/ April and September/ October
Invasive species	Record and report presence of invasive or injurious species (e.g. Japanese Knotweed or Himalayan Balsam etc.) or other pests/ diseases and seek further specialist advice to prevent spread and allow effective management and/or eradication.	Checks to be undertaken during each scheduled maintenance visit. Report sitings of invasive pests or diseases to overseeing authority e.g. FERA or DEFRA etc. if/ as required.
Access maintenance	Check footpaths access tracks and timber boardwalks for defects including damage/ rutting/ erosion/ waterlogging etc. and ensure routes are easily passable by members of the public. Make good using	Checking undertaken during each scheduled maintenance visit. Make good within 48 hours of reporting if posing a hazard to members of the public or two weeks otherwise.

Management Area	Management Activity	Frequency
	materials to match existing (e.g. approved gravel etc.) Report persistence issues/ failures.	
General maintenance	Check seating, bins, fencing/ gates, signage and interpretation boards etc. for defects, signs of wear or damage.	Checking undertaken during each scheduled maintenance visit. Make good within two weeks of reporting as necessary.
	Clear litter and foreign debris from all swales and attenuation ponds and dispose of off-site.	Within 48 hours of reporting if unduly impacting drainage or attenuation functionality, (e.g. blockage etc.) and in any case monthly collection.
General management	Record and report instances of damage, vandalism pollution and submit proposals for repair/prevention, as necessary.	During each scheduled maintenance visit.
	Allow natural regeneration of suitable native shrub species where not unduly impeding swale or attenuation pond function or development of wildflower and wet grassland seeded areas.	Monitoring during each scheduled maintenance visit.

Notes:

1. Contractor to have regard to the presence of protected wildlife when scheduling and undertaking routine maintenance operations e.g. Greater Crested Newts (GCN), nesting birds and bats etc. (Active bird nests protected between March and September, inclusive).
2. Any herbicides used for weed control within planted areas to be non-residual type approved for use by the Environment Agency (i.e. including proximity to water).
3. Arisings from pruning work and management of marginal areas to be taken to a suitable recycling facility.
4. In managing the perceived hazard posed by trees and tree related defects, the contractor should have regard to guidance within National Tree Safety Group '***Common sense risk management of trees***' (2011) document.

13. Proposed Rill

(Responsibility for management – Cherwell District Council)

13.1 Design Intent

The rill feature has developed as a practical response to delivery of the engineering requirements within the site constraints of the Entrance Green area. The integration of the rill has provided the opportunity to reinforce the identity of this space. This will contrast with many of the other areas of open space that contain more naturalistic swale features). The rill will be managed primarily as a functioning drainage feature but also with regard to appearance and amenity value that running water can bring to the space.

Table 12: Proposed Rill – Summary of Management Activities

Management Area	Management Activity	Frequency
Health & Safety	Safety inspection (and dated record keeping) of rill feature(s) to highlight defects that could pose an unacceptable hazard to maintenance operatives or members of the public. Note: risk assessments in connection with the above to be proportionate to the level of risk and target value/frequency.	During each scheduled maintenance visit.
	Undertake and record risk assessment for maintenance operations in proximity to rill feature(s).	Prior to undertaking scheduled, (or emergency) maintenance operations. Update as necessary once on site if conditions change.
General weed control	Remove unwanted and/ or invasive weeds from all rill features by means of hand weeding and application of herbicide approved for use near water.	During years 1 to 5 undertake invasive weed control April/May.
Invasive species	Record and report presence of invasive or injurious species (e.g. Japanese Knotweed or Himalayan Balsam etc.) or other pests/ diseases and seek further specialist advice to prevent spread and allow effective management and/or eradication.	Checks to be undertaken during each scheduled maintenance visit. Report sitings of invasive pests or diseases to overseeing authority e.g. FERA or DEFRA etc. if/as required.
General maintenance	Clear litter and foreign debris from all rill features and dispose of off-site.	Within 24 hours of reporting if unduly impacting drainage or attenuation functionality, (e.g. blockage etc.) and in any case collection every two weeks.
General management	Record and report instances of damage, vandalism pollution and submit proposals for repair/prevention, as necessary.	During each scheduled maintenance visit.

14. Refurbished Emergency Water Supply (EWS) Ponds

(Responsibility for management – Cherwell District Council)

14.1 Design Intent

The EWS ponds have been retained and reinvented within the proposed development in order to allow retention of an external structure directly associated with the MoD occupation of the site. The EWS ponds have also become a valuable habitat for Greater Crested Newts (GCN) which are a protected species. The reinvented EWS ponds will protect and enhance GCN habitat value and also allow the features to understood and appreciated by the public in a managed and safe format. Management of the EWS ponds will include operations to maintain habitat suitability, maintaining the safety and servicing of the water supply including the associated storage and plant.

Table 13: Refurbished EWS Ponds – Summary of Management Activities

Management Area	Management Activity	Frequency
Health & Safety	Safety inspection, (and dated record keeping) of all EWS ponds and associated woody vegetation/ boundary fencing to highlight defects that could pose an unacceptable hazard to maintenance operatives or members of the public. Note: risk assessments in connection with the above to be proportionate to the level of risk and target value/ frequency.	During each scheduled maintenance visit.
	Undertake and record risk assessment for maintenance operations in proximity to all EWS pond.	Prior to undertaking scheduled, (or emergency) maintenance operations. Update as necessary once on site if conditions change.
	Undertake and record safety inspection of metal walkways and stepped/ ramped access over EWS ponds to ensure continued functionality and fitness for purpose.	Annually between November and February.
General weed control	Remove unwanted and/ or invasive aquatic weeds from all EWS ponds by hand and remove to a suitable recycling facility.	Annually between November and February.
Invasive species	Record and report presence of invasive or injurious species (e.g. Japanese Knotweed or Himalayan Balsam etc.) or other pests/diseases and seek further specialist advice to prevent spread and allow effective management and/or eradication.	Checks to be undertaken during each scheduled maintenance visit. Report sitings of invasive pests or diseases to overseeing authority e.g. FERA or DEFRA etc. if/as required.

Management Area	Management Activity	Frequency
General maintenance	Clear litter and foreign debris from all EWS ponds and dispose of off-site.	Every two weeks and otherwise within 48 hours of reporting.
	Ensure water inlet and outfall points remain un-blocked and otherwise operational/good functioning condition. Record and report the presence of degraded fittings and fixtures.	Every two weeks and otherwise within 48 hours of reporting of malfunction/defects.
	Ensure water storage and pumping system remain operational/good functioning condition. Record and report the presence of degraded fittings and fixtures.	Every two weeks and otherwise within 48 hours of reporting of malfunction/defects.
	Undertake servicing of plant fixtures and fittings.	Servicing at intervals as per manufacturers' recommendations.
General management	Where defects are identified that pose a hazard to persons or property, record and take action to prevent access to hazardous areas/elements and make arrangements to make safe and repair.	Within 24 hours of reporting of defect or hazard.
	Record and report instances of damage, vandalism pollution and submit proposals for repair/prevention, as necessary.	During each scheduled maintenance visit.

Note:

1. Legally protected GCN species are expected to colonise the EWS ponds and all therefore intrusive maintenance work within the ponds should be scheduled during the period from November to February. Works outside this period, (other than those posing a Health & Safety risk) should be coordinated with a suitably qualified and experienced ecologist.

15. Proposed Communal Parking Courtyards

(Responsibility for management – Communal Management Company)

15.1 Design intent

The communal parking courtyards will comprise a communal resource for which a holistic management approach is best suited. This will include the management and maintenance of hard and soft landscaped areas in the interests of amenity and to a lesser extent, habitat. In addition to providing an attractive frontage to individual dwellings, these areas will also make a valuable contribution to the character and quality of the adjacent streetscape. This will include boundary tree and hedge planting. The overall appearance and order of these spaces will be of overall management concern.

Table 14: Proposed Communal Parking Courtyards – Summary of Management Activities

Management Area	Management Activity	Frequency
Health & Safety	Safety inspection, (and dated record keeping) of all trees or woody vegetation within falling or failing distance of footpaths, roads, access drives, parking areas and property.	Full safety inspection undertaken annually after trees have reached sufficient size that they could pose an unacceptable hazard to persons or property.
	Note: risk assessments in connection with the above to be proportionate to the level of risk and target value/ frequency. Clear fallen trees or branches where blocking roads or paths.	Following establishment and the above requirements, record hazardous trees or tree defects during each scheduled maintenance visit and take appropriate action to manage the risk to persons or property. Clear non-hazardous fallen trees or branches from private paths and access tracks within 48 hours, (24 hours if public paths or roads) of reporting.
	Undertake and record risk assessment for maintenance operations in the public realm. Seek prior approval to temporarily close or divert paths/ localised meadow areas to complete maintenance operations.	Prior to undertaking scheduled, (or emergency) maintenance operations. Update as necessary once on site if conditions change.
Invasive species	Report presence of invasive or injurious species (e.g. Chalara Dieback of Ash or Buddleia etc.) or other pests/diseases and seek further specialist advice to prevent spread and allow effective management and/ or eradication.	Checks to be undertaken during each scheduled maintenance visit. Report sitings of invasive pests or diseases to overseeing authority e.g. FERA or DEFRA etc. if/as required.
New tree establishment	Minimum 750mm diameter area around all trees to be kept weed free condition during initial establishment period by means of mulch collar, hand weeding	During years 1 to 5 undertake general weed control during April, June and September.

Management Area	Management Activity	Frequency
	and use of non-residual herbicide, as necessary.	
	Provide artificial irrigation as needed to maintain healthy growth of all new tree planting, irrespective of weather conditions. Give notice of watering restrictions and submit alternative recommendations for water supply.	During growing season of years 1 to 3 (minimum) and additionally as needed.
	Provide 750mm diameter x 50mm depth bark mulch top up around all new amenity trees to discourage weed growth and conserve water.	Annually during years 1 to 5 undertake bark mulch top up in March.
	Adjust and replace all stakes, ties and TREEGATOR irrigation systems to ensure healthy establishment of all new planting.	During years 1 to 5 during each scheduled maintenance visit.
	Where trees have become sufficiently established, remove tree stakes and ties and dispose of off-site at a suitable recycling facility.	Check annually during years 3 to 5 during September/ October. (All remaining plant stakes and ties to be removed at year 5)
	Remove TREEGATOR irrigation systems and replace with sturdy plastic strimmer guards.	During year 5 following planting, during September/ October.
	Undertake formative pruning to amenity street trees to ensure development of a single, strong leader shoot to; ▪ Ensure adequate highway and footpath clearances are maintained' ▪ Alleviate duplicating/crossing branches, ▪ Ensure balanced canopy development/natural form, ▪ Remove all sucker and epicormics growth as necessary, ▪ Tidy torn branch stubs, ▪ Progressive crown-lifting to achieve 1/3 clear stem to 2/3 canopy, up to a maximum clear stem of 4.0m height. (All pruning works to be undertaken by an Arboricultural Association Approved Contractor in accordance with BS3998:2010 Tree work – recommendations.	Annually during years 1 to 5 following planting and every three years thereafter, (years 8, 11 and 14).
New shrub establishment	All new areas of shrub or herbaceous planting to be maintained in a weed-free condition during initial establishment	During years 1 to 3 undertake general weed control during April, June and September (minimum).

Management Area	Management Activity	Frequency
	period by means of mulching, hand weeding and use of non-residual herbicide, as necessary. (Note: use of herbicide not permitted for weed control around herbaceous plants).	
	Undertake on-going weed control to ensure no more than 5% weed cover at any time by means of mulching, hand weeding and use of non-residual herbicide, as necessary. (Note: use of herbicide not permitted for weed control around herbaceous plants).	During years 4 to 15 undertake general weed control during April and September (minimum).
	Provide artificial irrigation as needed to maintain healthy growth of all new shrub planting, irrespective of weather conditions. Give notice of watering restrictions and submit alternative recommendations for water supply.	During growing season of years 1 to 3 (minimum) and additionally as needed.
	Provide 50mm depth bark mulch top up around all new shrub planting to discourage weed growth and conserve water.	Annually during years 1 to 5 undertake bark mulch top up in March.
New shrub and herbaceous planting	Undertake formative and seasonal pruning to; ▪ Ensure adequate highway and footpath clearances/visibility are maintained' ▪ Encourage natural form and appearance, ▪ Encourage seasonal interest of foliage, stems and flowers etc, ▪ Tidy torn branch stubs, All pruning works to be undertaken in accordance with good horticultural practice with arisings removed to a suitable recycling facility.	Annually during years 1 to 5 following planting and every three years thereafter, (years 8, 11 and 14).
New hedge planting	Adjust and replace all planting canes and guards to allow healthy establishment of all new hedge planting.	During years 1 to 5 during each scheduled maintenance visit.
	Where plants have become sufficiently established remove planting canes and guards and dispose of off-site at a suitable recycling facility.	Annually during years 3 to 5 during September/ October. (All remaining canes and planting shelters to be removed in year 5).
Replacement planting	Identify new tree, shrub, herbaceous or hedgerow plants which have failed to establish and cause of failure. Submit	Annually during years 1 to 5 and then in years 8, 11 and 14 during September/ October.

Management Area	Management Activity	Frequency
	proposals to alleviate future planting failures.	
	Undertake replacement tree, shrub, herbaceous and hedgerow planting in accordance with original specifications (unless otherwise agreed). Note: Maintenance tasks for all new planting to be re-set to year 1, (inc. weed control, watering, staking etc.)	Annually in the first available planting season during years 1 to 5 and then in years 8, 11 and 14 during September/ October.
General hedgerow maintenance	Coppice young deciduous hedgerow plants, down to 300mm Ht. to encourage bushy regrowth.	Once individual deciduous hedgerows have become well established and after canes and guards have been removed. Undertake coppicing of complete hedgerows once only during November to February. (Note – establishment rates of individual hedgerows is expected to vary across the site and coppicing works will therefore be phased during years 3 to 5).
	Following coppicing, (above) top and face up deciduous hedgerows by mechanical cutting to encourage dense, bushy growth at an average height of 0.9m – 1.2m Ht.	Hedge cutting in April, July and October during years 3 to 15. (Note – establishment rates of individual hedgerows is expected to vary across the site. Commencement of hedgerow cutting works will therefore be phased during years 3 to 5). Remove all coppice and hedge cutting arisings from site and dispose of at a suitable recycling facility.
	Top and face up evergreen hedgerows by mechanical cutting to encourage dense, bushy growth and establish at an average height of 0.9m – 1.2m Ht. by year 5. Note: do not cut back into old wood of evergreen hedges during establishment period.	Hedge cutting in April, July and October during years 3 to 15. (Note – establishment rates of individual hedgerows is expected to vary across the site). Remove all coppice and hedge cutting arisings from site and dispose of at a suitable recycling facility.
	Provide 50mm depth bark mulch top up around all new deciduous and evergreen hedge planting to discourage weed growth and conserve water.	Annually during years 1 to 5 undertake bark mulch top up in March.
	Re-firm plants affected by wind-rock, frost heave or snow	During each scheduled maintenance visit.
General maintenance	Report, record and repair defects to hard surfaced footpaths, access drives or parking areas (including excessive wear,	During each scheduled maintenance visit and repair within two weeks of reporting of defects.

Management Area	Management Activity	Frequency
	deflection and ponding of water etc.) and otherwise ensure paths are safe to use. All repairs to match existing materials unless otherwise agreed).	Defects posing a Health and Safety hazard to be made safe/repaired within 24 hours of reporting
	Collect dog waste, litter and foreign materials and dispose of off-site to a suitable recycling facility (where possible).	During each scheduled maintenance visit and in any case every two weeks (minimum). Remove fly-tipped rubbish within 48 hours of reporting.
	Clear leaves, twigs, branches and other organic material from paths, access drives and hard surfaced parking areas and dispose of off-site to a suitable recycling facility.	During each scheduled maintenance visit and in any case every two weeks (minimum).
General management	Where defects are identified that pose a hazard to persons or property, record and take action to prevent access to hazardous areas/ elements and make arrangements to make safe and repair.	Within 24 hours of reporting of defect or hazard.
	Record and report instances of damage, vandalism pollution and submit proposals for repair/prevention, as necessary.	During each scheduled maintenance visit.

Notes:

1. Contractor to have regard to the presence of protected wildlife when scheduling and undertaking routine maintenance operations e.g. nesting birds and bats etc. (Active bird nests protected between March and September, inclusive).
2. Any herbicides used for weed control within planted areas to be non-residual type approved for use by the Environment Agency (i.e. including proximity to water).
3. Arisings from pruning work to be taken to a suitable recycling facility.
4. In managing the perceived hazard posed by trees and tree related defects, the contractor should have regard to guidance within National Tree Safety Group '***Common sense risk management of trees***' (2011) document.

16. Proposed Entrance Green and Village Green Areas of Public Open Space

(Responsibility for management – Cherwell District Council)

16.1 Design Intent

The entrance and village greens comprise two key areas of public open space located at an important gateway location into the Graven Hill development. Their value as areas of public amenity and recreational space is therefore combined with their strategic value and appearance as entrance features. Management of these areas will create a naturalistic appearance that will contrast with the structure and urban vernacular of the adjacent built forms. This will comprise sensitive maintenance of wildflower meadow grass, mown grass paths and edges, gravel and surfaced paths and tree, shrub and hedge planting. Management will also have regard to the use of these spaces for use as pedestrian links and community events.

Table 15: Proposed Entrance and Village Green Areas of Public Open Space – Summary of Management Activities.

Management Area	Management Activity	Frequency
Health & Safety	Safety inspection, (and dated record keeping) of all trees or woody vegetation within falling or failing distance of footpaths, roads, access drives, parking areas and property.	Full safety inspection undertaken annually after trees have reached sufficient size that they could pose an unacceptable hazard to persons or property.
	Note: risk assessments in connection with the above to be proportionate to the level of risk and target value/frequency.	Following establishment and the above requirements, record hazardous trees or tree defects during each scheduled maintenance visit and take appropriate action to manage the risk to persons or property.
	Clear fallen trees or branches where blocking roads or paths.	Clear non-hazardous fallen trees or branches from paths and access tracks within 24 hours of reporting.
	Undertake and record risk assessment for maintenance operations in the public realm. Seek prior approval to temporarily close or divert paths/ localised areas to complete maintenance operations.	Prior to undertaking scheduled, (or emergency) maintenance operations. Update as necessary once on site if conditions change.
Invasive species	Report presence of invasive or injurious species (e.g. Japanese Knotweed, Buddleia or Shrub Willow etc.) or other pests/ diseases and seek further specialist advice to prevent spread and allow effective management and/or eradication.	Checks to be undertaken during each scheduled maintenance visit. Report sitings of invasive pests or diseases to overseeing authority e.g. FERA or DEFRA etc. if/as required.

Management Area	Management Activity	Frequency
Proposed trees	Minimum 750mm diameter area around all new trees to be kept weed free condition during initial establishment period by means of bark mulch collar hand weeding and use of non-residual herbicide, as necessary.	During years 1 to 5 undertake general weed control during April, June and September.
	Provide artificial irrigation by a combination of surface watering new tree planting, irrespective of weather conditions. Give notice of watering restrictions and submit alternative recommendations for water supply.	During growing season of years 1 to 5 (minimum) and additionally as needed.
	Provide 750mm diameter x 50mm depth bark mulch top up around all new trees to discourage weed growth and conserve water.	Annually during years 1 to 5 undertake bark mulch top up in March.
	Adjust and replace all stakes, ties and strimmer guards to ensure healthy establishment of all new trees.	During years 1 to 5 during each scheduled maintenance visit.
	Where trees have become sufficiently established, remove tree stakes and ties and dispose of off-site at a suitable recycling facility.	Check annually during years 3 to 5 during September/October. (All remaining plant stakes and ties to be removed at year 5)
	Adjust/ maintain strimmer guards in place and replace failed/defective guards as necessary to match existing.	During each scheduled maintenance visit.
	Undertake formative pruning to new trees to; ▪ Ensure development of a single, strong leader shoot, ▪ Ensure adequate highway and footpath clearances are maintained, ▪ Alleviate duplicating/crossing branches, ▪ Ensure balanced canopy development/natural form, ▪ Remove all sucker and epicormic growth as necessary, ▪ Tidy torn branch stubs, ▪ Undertake progressive crown-lifting to achieve 1/3 clear stem to 2/3 canopy, up to a maximum clear stem of 4.0m height. (All pruning works to be undertaken by an Arboricultural Association Approved Contractor in accordance with	Annually during years 1 to 5 following planting and every three years thereafter, (years 8, 11 and 14).

Management Area	Management Activity	Frequency
	BS3998:2010 Tree work – recommendations.	
New shrub and herbaceous planting	Undertake formative and seasonal pruning to; ▪ Ensure adequate highway and footpath clearances/visibility are maintained' ▪ Encourage natural form and appearance, ▪ Encourage seasonal interest of foliage, stems and flowers etc, ▪ Tidy torn branch stubs, All pruning works to be undertaken in accordance with good horticultural practice with arisings removed to a suitable recycling facility.	Annually during years 1 to 5 following planting and every three years thereafter, (years 8, 11 and 14).
New hedge planting	Adjust and replace all planting canes and guards to allow healthy establishment of all new hedge planting.	During years 1 to 5 during each scheduled maintenance visit.
	Where plants have become sufficiently established remove planting canes and guards and dispose of off-site at a suitable recycling facility.	Annually during years 3 to 5 during September/ October. (All remaining canes and planting shelters to be removed in year 5).
Replacement planting	Identify new tree, shrub, herbaceous or hedgerow plants which have failed to establish and cause of failure. Submit proposals to alleviate future planting failures.	Annually during years 1 to 5 and then in years 8, 11 and 14 during September/ October.
	Undertake replacement tree, shrub, herbaceous and hedgerow planting in accordance with original specifications (unless otherwise agreed). Note: Maintenance tasks for all new planting to be re-set to year 1, (inc. weed control, watering, staking etc.)	Annually in the first available planting season during years 1 to 5 and then in years 8, 11 and 14 during September/ October.
General hedgerow maintenance	Coppice young deciduous hedgerow plants, down to 300mm Ht. to encourage bushy regrowth.	Once individual deciduous hedgerows have become well established and after canes and guards have been removed. Undertake coppicing of complete hedgerows once only during November to February. (Note – establishment rates of individual hedgerows is expected to vary across the site and coppicing works will therefore be phased during years 3 to 5).

Management Area	Management Activity	Frequency
	Following coppicing, (above) top and face up deciduous hedgerows by mechanical cutting to encourage dense, bushy growth at an average height of 0.9m – 1.2m Ht.	Hedge cutting in April, July and October during years 3 to 15. (Note – establishment rates of individual hedgerows is expected to vary across the site. Commencement of hedgerow cutting works will therefore be phased during years 3 to 5). Remove all coppice and hedge cutting arisings from site and dispose of at a suitable recycling facility.
	Top and face up evergreen hedgerows by mechanical cutting to encourage dense, bushy growth and establish at an average height of 0.9m – 1.2m Ht. by year 5. Note: do not cut back into old wood of evergreen hedges during establishment period.	Hedge cutting in April, July and October during years 3 to 15. (Note – establishment rates of individual hedgerows is expected to vary across the site). Remove all coppice and hedge cutting arisings from site and dispose of at a suitable recycling facility.
	Provide 50mm depth bark mulch top up around all new deciduous and evergreen hedge planting to discourage weed growth and conserve water.	Annually during years 1 to 5 undertake bark mulch top up in March.
	Re-firm plants affected by wind-rock, frost heave or snow.	During each scheduled maintenance visit.
Wildflower/ meadow grass areas	Undertake seasonal cutting of wildflower/meadow areas to a height of 75mm. Turn and dry the cut arisings over period of 3-5 days. Rake off arisings from sward and take to a suitable recycling facility.	Biannually in March/ April and August/ September
	Cutting meadow grass within 300mm of tree trunks to be undertaken by hand ensuring no mechanical damage occurs to tree trunks or guards.	Biannually in March/ April and August/ September
Close mown paths and areas.	Undertake regular cutting of mown grass paths and margins to gravel paths where shown to a height of 75mm. (Arisings may remain in-situ).	Every two weeks from March to October
Waste collection	Collect dog waste, litter and foreign materials and dispose of off-site to a suitable recycling facility (where possible).	Litter and dog bins (where provided) – weekly General paths and access tracks – weekly. Remove fly-tipped rubbish within 48 hours of reporting.

Management Area	Management Activity	Frequency
Footpaths and cycleways	Report, record and repair defects to macadam or gravel path surfaces and timber boardwalks (including damage or deterioration of materials, excessive wear, deflection and ponding of water etc.) and otherwise ensure paths are safe to use. All repairs to match existing materials unless otherwise agreed).	Monthly and during each scheduled maintenance visit and repair within one week of reporting of defects.
	Undertake top-up of all gravel paths with 25mm depth dressing to match the original material and profile, (gently crowned to the centre of the path). Compact with suitable roller.	Annually in years 1 to 3 and every 3 years thereafter. Works to be undertaken between November and February.
General maintenance	Check seating, bins, fencing/gates, signage and interpretation boards etc. for defects, signs of wear or damage.	Checking undertaken during each scheduled maintenance visit. Make good within two weeks of reporting as necessary.
Vandalism	Record and report all instances of vandalism	During each scheduled maintenance visit.

Notes:

1. Contractor to have regard to the presence of protected wildlife when scheduling and undertaking routine maintenance operations e.g. nesting birds and bats etc. (Active bird nests protected between March and September, inclusive).
2. Any herbicides used for weed control within planted areas to be non-residual type approved for use by the Environment Agency (i.e. including proximity to water).
3. Arisings from pruning work and wildflower grass cutting to be taken to a suitable recycling facility.
4. In managing the perceived hazard posed by trees and tree related defects, the contractor should have regard to guidance within National Tree Safety Group '***Common sense risk management of trees***' (2011) document.

17. Proposed LAP, LEAP & NEAP Play Areas

(Responsibility for Management – Cherwell District Council)

17.1 Design Intent

Play areas will be provided throughout the development and provide a valuable recreational resource to the families within Graven Hill. These will be managed in the interests of safety and amenity to ensure all features are deemed safe for use by the designated age group and are in safe working order. Within the play areas there will be a strong emphasis on natural elements and a balance will need to be established which allows children to legitimately explore these without undue hazard.

Table 16: Proposed LAP, LEAP & NEAP Play Areas - Summary of Management Activities.

Management Area	Management Activity	Frequency
Health & Safety	Full safety inspection/ audit, (and dated record keeping) of all formal/ informal play equipment, safety surfacing, seating, boundary treatments and gates etc. Provide recommendations for ongoing repair and maintenance to ensure safe use of all equipment.	Full safety inspection undertaken annually in March.
	Interim inspection, (and dated record keeping) for excessive wear, damage or other defects which could pose an unacceptable hazard to users.	Make hazardous defects safe within 24 hours of reporting and undertake repair within two weeks.
	Undertake and record risk assessment for maintenance operations within play areas. Seek prior approval to temporarily close or divert paths/ localised areas to complete maintenance operations.	Prior to undertaking scheduled, (or emergency) maintenance operations. Update as necessary once on site if conditions change.
Invasive species	Report presence of invasive or injurious species (e.g. Japanese Knotweed, Buddleia or Shrub Willow etc.) or other pests/ diseases and seek further specialist advice to prevent spread and allow effective management and/or eradication.	Checks to be undertaken during each scheduled maintenance visit. Report sitings of invasive pests or diseases to overseeing authority e.g. FERA or DEFRA etc. if/as required.
Wildflower/ meadow grass areas	Undertake seasonal cutting of wildflower/meadow areas to a height of 75mm. Turn and dry the cut arisings over period of 3-5 days. Rake off arisings from sward and take to a suitable recycling facility.	Biannually in March/ April and August/ September
	Cutting meadow grass within 300mm of tree trunks to be undertaken by hand	Biannually in March/ April and August/ September

Management Area	Management Activity	Frequency
	ensuring no mechanical damage occurs to tree trunks or guards.	
Close mown paths and areas.	Undertake regular cutting of mown grass paths and margins to gravel paths where shown to a height of 75mm. (Arisings may remain in-situ).	Every two weeks from March to October
Waste collection	Collect dog waste, litter and foreign materials and dispose of off-site to a suitable recycling facility (where possible).	Litter and dog bins (where provided) – weekly General paths and access tracks – weekly. Remove fly-tipped rubbish within 48 hours of reporting.
Footpaths and hard surfaced areas	Report, record and repair defects to macadam or gravel path surfaces and adjacent spaces (including damage or deterioration of materials, excessive wear, deflection and ponding of water etc.) and otherwise ensure paths are safe to use. All repairs to match existing materials unless otherwise agreed).	Monthly and during each scheduled maintenance visit and repair within one week of reporting of defects.
	Undertake top-up of all gravel paths with 25mm depth dressing to match the original material and profile, (gently crowned to the centre of the path). Compact with suitable roller.	Annually in years 1 to 3 and every 3 years thereafter. Works to be undertaken between November and February.
General maintenance	Check seating, bins, fencing/gates, signage and interpretation boards etc. for defects, signs of wear or damage.	Checking undertaken during each scheduled maintenance visit. Make good within two weeks of reporting as necessary.
Vandalism	Record and report all instances of vandalism	During each scheduled maintenance visit.

APPENDICES

Appendix A **Drawing 1: Strategic Landscape and Habitat Masterplan drawing No. EED13893_107_GR_LD_15.**

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Energy, Environment & Design

- Site Boundary
- LTA 1 - Phase 2 Boundary
- Existing deciduous woodland
- Existing coniferous woodland
- Existing hedgerow
- Proposed woodland/ hedges/ field trees
- Orchard
- Meadow
- Amenity
- Sports pitch
- Habitat corridor
- Allotments
- Proposed attenuation ponds
- Proposed newt ponds
- Swale/ ditch/ rill
- Urban streetscape
- Principal play areas

Project Details	EED13983-107: MOD Bicester
Figure Title	Figure 15: Strategic landscape and habitat masterplan
Figure Ref	EED13983-107_GR_LD_15_RevD
Date	June 2015
File Location	\\rt-lncs\wesd\projects\eed13983\107\graphics\d\issued figures

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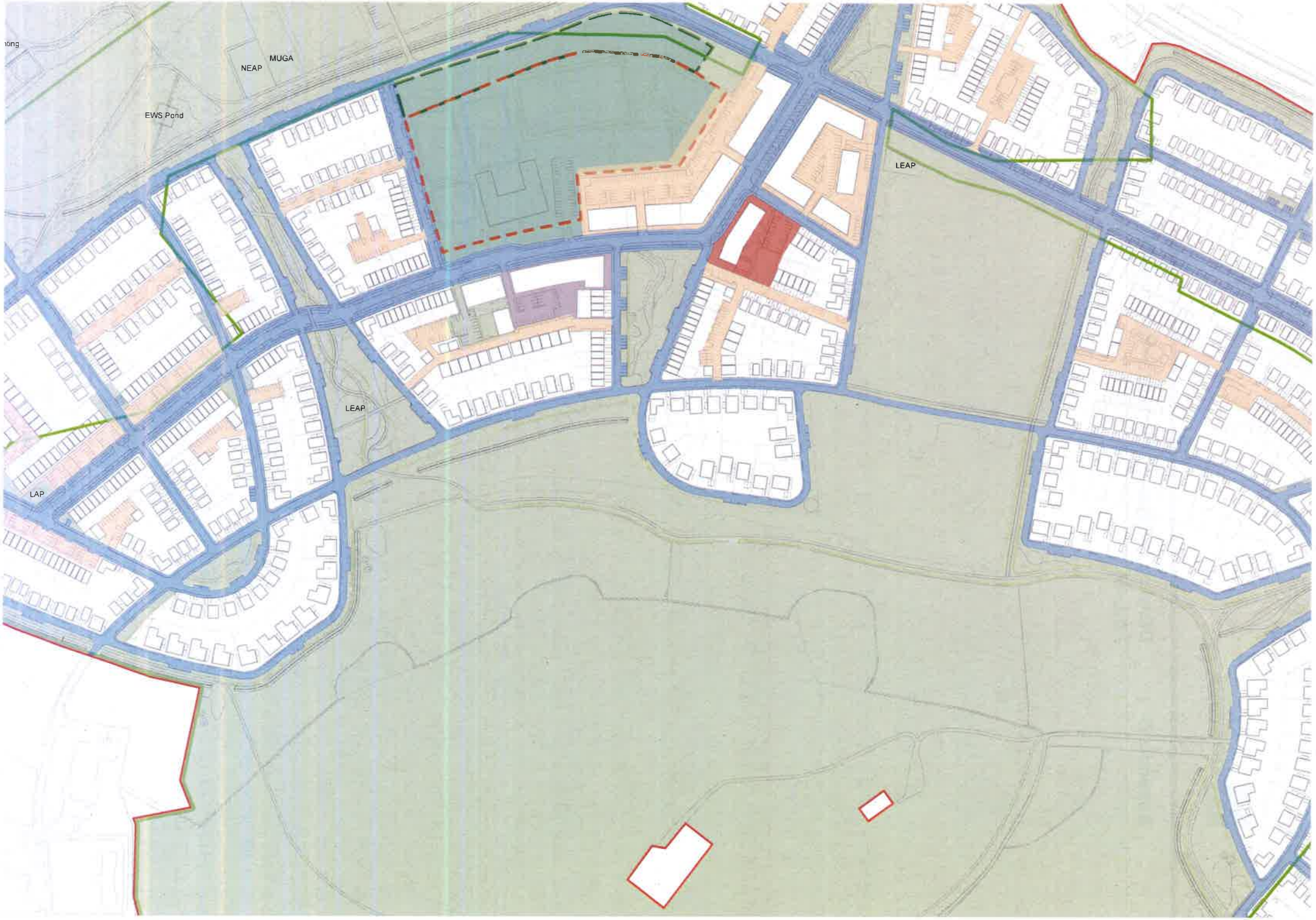
Appendix B **Drawing 2: Adoption Strategy Glenn Howells drawing No. 1982 / A-L-14**


MUGA
NEAP
EWS Pond
LEAP
LEAP
LAP

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UK and Ireland Office Locations