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1.1 Yorkstone



Whitworth Yorkstone

SUPPLIER:
Hardscape
T: 0845 260 1748
E: enq@hardscape.co.uk

DESCRIPTION:
Small, medium and large sandstone slab paving

COLOUR RANGE CONSIDERED:
Greyish Buff

LOCATION:
Dantzic street and Union Square

INITIAL MAINTENANCE

Maintenance requirements are minimal under normal service conditions. If necessary, surfaces may be washed with brush and water or using high pressure hoses. If the latter, care should be taken not to blast away sand in joints.

Note: Do NOT use high pressure jets or suction cleaners for at least 3 months to allow normal detritus build up (considerably longer for paved areas under cover). Alternatively, joint sealants may be considered.

During fixing, or just afterwards, Yorkstone and Sandstone Flooring is generally more hardy than limestone, marble or granite. Its natural constitution lends itself to easy cleaning with a proprietary solution, so any building dirt or leftover reclamation staining may be removed quite satisfactorily with a proprietary chemical solution, if necessary. If you use it before grouting, make sure the surface is well rinsed and bone dry before applying the appropriate impregnator.

Hardscape can supply on request:

- Advice on stain-removal techniques.
- Suitable products.
- Referrals to specialist cleaning companies as appropriate.

Note: Advice and recommendations are subject to the circumstances of specific problems. Removal of stains cannot therefore be guaranteed. Certain cleaning products may be subject to statutory regulations for safe handling and usage (including COSHH and CDM regulations).

CLEANING OF PAVING

Natural stone paving is very low maintenance once laid. The pointing is the weakest element and may need to be replaced after a number of years. Sweep regularly with a stiff brush to remove dust and detritus. There is a tendency for algae, lichens and mosses to colonise stone paving that is permanently shaded and/or damp. This can be safely removed by a pressure washer. Freshly sawn rough Yorkstone and Sandstone flooring will generally require a little more maintenance than reclaimed Yorkstone or Sandstone flags. The surfaces of reclaimed flags will be very smooth due to 100 years or more of wear and maintenance before reclamation. There's a number of proprietary solutions that can be used to clean, seal and maintain the appearance of Yorkstone/Sandstone paving units for which Hardscape can advise on.

WINTER MAINTENANCE

During Winter conditions, despite their effective ability to dissolve and loosen ice or snow from cold surfaces, salts and de-icing agents can have detrimental affects to the appearance of sandstone paving. Spalling, scalling or pitting is a common problem that often occurs after the application of de-icing salts over sandstone surfaces. The only products recommended for de-icing purposes is salt-free grit/sand or urea prills (see separate not in this document).

HEALTH + SAFETY

Some of the cleaning methods described above involve the use of chemicals, which may be damaging or dangerous if not used in the correct manner. It is important that safety warnings issued by the manufacturers of the chemicals should be read carefully and strictly adhered to.

In general, the following precautions should be taken:

- When using chemicals, protective clothing such as gloves, goggles, boots and overalls should be worn.
- Ensure there is adequate ventilation in confined spaces.
- When using flammable materials, ban the use of cigarettes, naked flames and other sources of ignition in the immediate vicinity.
- When diluting acids, always add acid to water and not water to acid.
- Dispose of safely any clothing which is contaminated with chemicals.
- Ensure care is taken not to damage, contaminate or stain any adjoining material.
- Protect personnel operating near the area to be cleaned from any injury or hazard created by the cleaning.
- Whenever possible care should be taken to ensure that the disposal of 'run-off' materials containing chemicals does not harm personnel, animals or any part of the environment.
- Trials should be carried out on a small, preferably inconspicuous, area of paving to determine the effect of the chemicals before treating a larger area.

Note: It is the intention for some of the sandstone paving to be adopted by Manchester City Council and will therefore be subject to their cleaning and maintenance regime.

1.2 Granite Paving



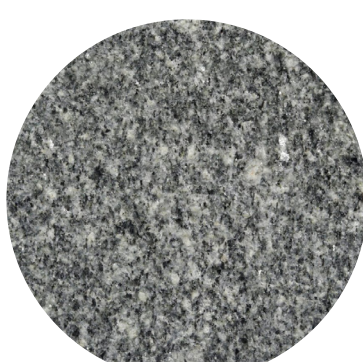
Cloudy Violet granite



Pink Pearl granite



Royal White granite



Jinan Blue granite

SUPPLIER:

Hardscape
T: 0845 260 1748
E: enq@hardscape.co.uk

DESCRIPTION:

Granite slab paving , granite setts and step units

COLOUR RANGE CONSIDERED:

Royal white', 'Cloudy violet', 'Pink pearl' 'Jinan Blue'

LOCATION:

Refer to the HW plan for exact locations of each granite colour.

FROM NEW

Hardscape advise that newly laid granite is deep cleaned using low pressure steam and impregnated using Pavesaver or Pavesaver Ultra. This will protect the surface from contamination and prevent staining, where areas are susceptible to heavy staining such as outside eateries it is advised that 2 applications of Pavesaver Ultra is specified. The process of reapplication should always be carried out within a 5 years.

Granite that is protected with Pavesaver can be maintained on a daily or weekly basis using Grimelifter, this can be applied through nebular spray bottles, scrubber driers and street washing machines using soft bristle brushes, preferably cylindrical brush head as this will maintain a good surface finish.

DIRT REMOVAL

The removal of deep seated stains can be removed using Grimelifter Ultra applied neat to the area and left for 20 minutes and then washed off using a pressure washer or a mop system continually using clean water.

Chewing gum removal should be carried out using low pressure steam using either a hot water pressure washer or steam generator for the best results.

Hardscape advises that a good housekeeping policy is in place that ensures regular / weekly cleaning rather than a singular annual clean.

1.3 Resin bound gravel



Flexistone Aspen

SUPPLIER:

KBI or other equal and approved

DESCRIPTION:

Resin bound porous surfacing

Flexistone 'HDST20' UV stable binder

COLOUR RANGE CONSIDERED:

Aspen (UV)

LOCATION:

Tower B entrance area

NORMAL USE

Resin bound gravel surfaces are intended to be used by the normal pedestrian or vehicular traffic for which they have been designed. Protection should be provided wherever possible against abnormal usage.

ABNORMAL USE

Heavy objects, such as waste skips, should not be dragged across the surface and in the event of heavy vehicle traffic please ensure that the vehicle refrains from dry steering as it may cause superficial damage. Resin bound gravel is resistant to most contaminates, such as oil and grease, however, in the event that hazardous materials come in into contact with the surface please contact your supplier for advice on removal.

In some very rare cases resin bound gravel surfaces may be marked due to the removal of individual pieces of rubber or aggregate by exceptional point loading.

ROUTINE MAINTENANCE

Avoid excessive amounts of soil or detritus being left on the surface as this can cause weed growth and effect porosity. If this occurs, sweep the surface clean with a stiff broom and hose down with clean water.

ICE OR FROST ON THE SURFACE

Resin bound gravel is freeze thaw tested and is unlikely to present any significant frost or ice. However, if for any reason this situation occurs, the removal of ice or frost from the surface can be achieved with the application of salt.

CLEANING - CHEWING GUM REMOVAL

Individual pieces of chewing gum can be removed with a freezing aerosol on the gum followed by scraping off the hardened gum with a wall/paint scraper. For more extensive removal of gum, we would recommend seeking the advice of a specialist cleaning contractor.

WASHING

Washing can be carried out using a portable pressure washer (up to 150bar rating) to remove dirt, grime etc. providing care is taken not to damage the surface with excessive pressure. Please ensure the water lance is kept at least 200mm from the surface and a fan type jet used will prevent the sub base being washed away underneath. The surface can also be vacuumed in dry weather if desired.

For more extensive washing we would recommend contacting a specialist cleaning contractor.

CEMENT OR CONCRETE MARKS

Cement or concrete marks can be removed with careful use of dilute hydrochloric acid or a proprietary cement remover immediately followed by thorough rinsing with clean water.

(Please note that if a lime based aggregate has been used, the acid will tend to dissolve this as well).

REPAIRS AND DAMAGE

Small areas of damage can be repaired using the same blend as the surrounding surface. Dependent on the age of the original material, the patch repaired may take some time to tone in.

1.4 Loose gravel



 Silver Grey Granite
On Podium

SUPPLIER:
CED Stone or other equal and approved
<https://www.cedstone.co.uk>

DESCRIPTION:
10-20mm sized aggregate/gravel
Silver Grey Granite

LOCATION:
On podium

ROUTINE MAINTENANCE

Where used adjacent to paving always leave the surface of the gravel at a slightly lower level than the paving to minimise migration of the loose gravel onto the paving, 5 to 10mm is normally sufficient. Regular weed and rake as required.

1.5 Clay pavers



Triton UWF tumbled



Lotis UWF tumbled

SUPPLIER:

HARDSCAPE

T: 08345 260 1748

E: enq@hardscape.co.uk

DESCRIPTION:

Neland clay paving

COLOUR RANGE CONSIDERED:

Triton UWF tumbled and Lotis UWF tumbled

LOCATION:

Bromley Square and Tower B pedestrian ramp

INITIAL MAINTENANCE

During the initial life of a flexible clay pavement, the joints between paviours will be relatively porous. The ingress of water may consolidate the joining sand and it is important that the joints are refilled at the earliest opportunity. The joints will soon become relatively impervious due to a build up of detritus. Until this has occurred, the paving should be cleaned, preferably by brushing with hand-held brooms or by low suction mechanical sweepers. Mechanical sweepers with high suction forces should not be used until flexible pavements are established. Even then there is a risk of loss of jointing sand from between the paviors.

Materials are available for sealing the surface of clay pavements. These are not necessary to protect the clay paving, but may provide some benefit in stabilising the sand in the joints in the short and longer term. Should paviors become loose or start to rock, the reason for this should be ascertained and then appropriate measures taken to avoid any ongoing problems. Paviours should be laid in accordance with the recommendations in BS 7533: Part 3:1997.

CLEANING OF PAVING

General Dirt and Detritus

To remove general dirt and detritus regular brushing is recommended. If detritus dulls the colour of the paviors, it can be re-established by pressure washing or scrubbing with soap and water. This can be carried out by hand or by using industrial cleaning equipment. Ensure all soap has been thoroughly washed from the surface on completion of the cleaning processes. If pressure washing techniques are used, care must be taken to minimise the removal of jointing sand. Steps should also be taken to ensure that any sand lost is replaced at the earliest opportunity.

Efflorescence

The majority of clay paviors have a low soluble salt content. Notwithstanding this, immediately after laying there may be a slight white deposit on the surface of the paving. This is most commonly derived from the jointing sand. Such salts should be allowed to weather away naturally and experience shows that this occurs quite rapidly. These soluble salts are not damaging to paviors. Chemical treatments are not necessary and should not be used. Certain buff coloured paviors are manufactured with a percentage of fireclay in the body and in extreme cases may suffer from vanadium staining. This takes the form of a yellow/green stain. Ideally vanadium staining should be allowed to weather away naturally.

Lime Staining

This may occur on flexibly laid clay paviors if there is contamination from an external source such as concrete street furniture, concrete structures which are discharging run-off water onto the clay paviors, or certain limestone sub-bases. Lime staining eventually becomes insoluble and appears as a permanent white stain. It may be removed from clay paviors by first wetting their surface and treating them with a 10% solution of hydrochloric acid. After cleaning, the area should be washed down to remove all traces of acid.

Moss, Lichen and Algae

Moss, lichen and algae may grow on clay paving in areas which are heavily shaded, under tress or not laid to an adequate fall, leading either to slow run-off or ponding of surface water. If such growths do occur, the areas should be treated with an appropriate proprietary weed or moss killer, used in accordance with the manufacturer's instructions. Such products are most effective when applied during a spell of dry weather.

Rust Stains

If rust stains occur on the paving, the first requirement is to eliminate the source of the staining. To remove rust stains, the surface should be wetted and the affected area treated with a 10% hydrochloric acid solution. After cleaning, the paving should be thoroughly washed down to remove all traces of the acid.

Oil Stains

Oil does not penetrate readily into the body of clay paviors, but if oil is split on the paving the spillage should be removed promptly with an absorbent material, such as paper towelling. The towelling should be used to soak, rather than wipe up the oil. The latter course of action may spread the contamination over a greater area of paving. After soaking up the majority of small spills, prompt washing with a strong detergent and hot water solution should remove the stain. Steam cleaning can be used on clay paviors to remove more extensive or stubborn stains but, if this is unsuccessful, an emulsifying degreasing agent should also be employed. Brush the cleaner onto the affected area and then wash the emulsified oil away with plenty of water. Neither hot water, steam cleaning or emulsifying agents will affect the colour of the paviors.

Paint and Graffiti

Both paint and graffiti are difficult to remove. Wet paint should be soaked up with an absorbent material. The area should not be wiped, as this will spread the paint. The spillage should then be treated with a suitable solvent, such as white spirit and the area washed with a strong detergent and hot water solution. Steam cleaning can also be employed. When paint has dried, it should be scraped off as far as possible and an appropriate paint stripper applied. This should be used in accordance with the manufacturer's instructions. Once the paint has been removed by the chemical, the area should be washed with strong detergent and hot water solution. Paint manufacturers may often be able to give more detailed advice on the removal of their own products. There are companies specialising in the removal of graffiti and it may be necessary to consult them if there are large areas affected by accident or as a result of vandalism..

Beverage Stains

These can normally be removed by scrubbing with a strong detergent and hot water solution. If the stain is persistant, apply a bleach solution and then rinse the area well with clean water. Pressure jetting can be used, taking care to minimise the loss of sand in the joints between the paviors.

Chewing Gum

Chewing gum is difficult to remove from all paving surfaces. Newly discarded gum can be scraped off using a scraper, but hardened gum can only be removed by either freezing the gum and chiselling it from the surface of the pavior or by using a high pressure water jet.

Scuff Marks

These can normally be removed by steam cleaning, or by scrubbing the area with a strong detergent and hot water solution.

Winter Maintenance

Clay paved areas may be treated with de-icing materials. Normal de-icing salts can be applied without any risk of damage to the pavement. Once the pavement has dried out after a thaw, however, the paving may be temporarily discoloured by the de-icing salts, as is the case for any other surfacing material. Normal weathering should soon remove such discolouration. If there is a concern about the temporary discolouration of paved areas, then other de-icing materials, such as urea, should be used.

1.6 Bituminous Surface



Bituminous surface

SUPPLIER:

To Contractor’s specification

DESCRIPTION:

Surface wearing course only - to include thermoplastic markings - to highway's specification and design.

COLOUR RANGE CONSIDERED:

Black

LOCATION:

Dantzic Street

ROUTINE MAINTENANCE

Brushing and jet washing the surface of the macadam surface to remove contaminants and debris as required.

More thorough maintenance would include repairs , repainting and reline marking.

Proprietary coatings can be applied to refresh the appearance of macadam.

NOTE: IT IS THE INTENTION FOR THE TARMAC SURFACING TO BE ADOPTED BY MANCHESTER CITY COUNCIL AND WILL THEREFORE BE SUBJECT TO THEIR CLEANING AND MAINTENANCE REGIME.

1.7 Gritting/de-icing

De-icing materials on hard surfaces to be urea prills, ‘Ice Melt Original’ or equivalent, without stone grit or other corrosive components.

This is important to prevent damage to all plants where gritting material can be expected to run off surfaces into vegetation.
No rock-salt based products are to be used.

Ice Melt Original prills (as well as equivalent no-name urea prills) are known to be completely non-corrosive to metals and reinforced concrete, non-toxic to humans, animals and vegetation.

The supplier of Ice Melt confirmed the prills are not a trip hazard as they start to dissolve immediately on ice.

USAGE

To manufacturer’s recommendation, about 1/6 as much as rocksalt required.

The price per kg for urea prills is higher than that for rock salt, but it’s about 6 times more efficient when used correctly.



NO ROCK SALT TO BE USED



HEDGE DAMAGED BY ROCK SALT



UREA PRILLS TO BE USED INSTEAD



2.1 Softworks- Off Podium

GENERAL

Planit have prepared this report in relation to the proposed development at Victoria Riverside, Manchester.

Consideration during the design stage has been given to the future maintenance requirements of the softworks elements within the public realm associated with Victoria Riverside, Manchester. This relates to areas accessible to the general public and on plot podium landscapes that have managed access.

The Maintenance Manual will be adopted, controlled and enforced by a management team committed to excellence in maintaining the scheme. The following maintenance schedules should be read in conjunction with the landscape design proposals and wider masterplan objectives.

The Manual must be a living document and be constantly reviewed and updated. The maintenance manual addresses specific maintenance of softworks to assure that the public realm maintains a high quality appearance and setting for the Victoria Riverside, Manchester site. Once the construction defects and maintenance period is complete all of the general activities, highlighted below will need to be addressed by the Victoria Riverside, Manchester maintenance team as part of the standard maintenance procedures.

The landscape design proposals can be separated into a number of character types illustrated on the softworks drawings referred to below and include;

- Rain Garden planting
- Ornamental shrub/herbaceous
- Proposed Trees
- Ivy Green Screen

The drawings to which the maintenance plan relate to are:

- 1768.1-PLA-XX-01-DR-L-2001-Softworks GA on podium
- 1768.1-PLA-XX-01-DR-L-2006-Tree planting on-podium
- 1768.1-PLA-XX-XX-DR-L-2000-Softworks GA off podium
- 1768.1-PLA-XX-XX-DR-L-2005-Tree planting off-podium

2.2 Softworks- On Podium

GENERAL

Planit-IE LTD have prepared this report in relation to the proposed development at Victoria Riverside, Manchester.

Consideration during the design stage has been given to the future maintenance requirements of the softworks elements within the public realm associated with Victoria Riverside, Manchester. This relates to areas accessible to the general public and on plot podium landscapes that have managed access.

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The landscape design proposals can be separated into a number of character types illustrated on the softworks drawings referred to below and include;

Rain Garden planting

Ornamental shrub/herbaceous

Proposed Trees

Ivy Green Screen

Turf

The drawings to which the maintenance plan relate to are:

- 1768.1-PLA-XX-01-DR-L-2001-Softworks GA on podium
- 1768.1-PLA-XX-01-DR-L-2006-Tree planting on-podium
- 1768.1-PLA-XX-XX-DR-L-2000-Softworks GA off podium
- 1768.1-PLA-XX-XX-DR-L-2005-Tree planting off-podium

2.3 Management

MANAGEMENT OBJECTIVES

To prescribe all necessary management and maintenance principles and management tasks to enable successful establishment and ensure the continued maturing of all landscape elements.

- To ensure that the management and maintenance regime is appropriate to the site
- To provide a mechanism for the ongoing monitoring and reviewing of the management plan and the specific maintenance operations contained therein.

A number of separate, yet inter related, vegetation types are proposed for the site:

- i. Proposed ornamental shrub planting
- ii. Proposed tree planting

OBJECTIVES

Highlighted below are the key objectives that have been incorporated into the landscape design:

- Create a sense of place and local distinctiveness in an area where these characteristics have been absent for many years
- Create a series of legible routes and spaces within the site that link Victoria Riverside, Manchester to the wider urban area to encourage people to visit and move through the site
- Ensure that the planting is an integral focal feature of the public realm design
- To create a new public greenspace within Manchester

LANDSCAPE MANAGEMENT PLAN

BRIEF

The brief below describes the framework:

- The management plan will cover a time period of 15 years. After this time a full review of the site should be undertaken and a new management and maintenance plan produced.
- The Management Plan must give consideration to environmentally sensitive design and management
- The Management Plan will seek to provide a net increase in the nature conservation value of the site

MONITORING

The Management Plan's life span has been divided into key stages of 5 yearly intervals. These will be used as the basis for developing the plan and setting reviewing targets.

Monitoring is of fundamental importance, since this is the means by which the success of the plan will be measured. It is therefore important to establish standardised survey and monitoring methods, which enable valid year on year comparisons to be made. There will be a need for flexibility during its implementation. The Management Plan must be an evolving one, able to adapt to the specific needs of the site.

At the outset of the plan Victoria Riverside, Manchester maintenance team will need to work alongside the initial landscape and maintenance sub-contractor to monitor and provide guidance on ongoing wider management and maintenance issues. This maintenance provider should undertake an annual review of the site, providing written documentation as to the ongoing establishment of the planting. This report should include a condition review of all new and existing plant material, success rates of newly planted material, and recommendations for future management regimes and immediate management requirements.

LANDSCAPE DESIGNATIONS

The development site is not protected by any local or national landscape designations.

PLANNING CONDITIONS

The Strategy shall include maintenance and management operations including timetabled detailed management prescriptions for all structural landscaping throughout the site, this is to be monitored and reviewed every 5 years.

MANAGEMENT PRINCIPLES

PROPOSED INDIVIDUAL TREES:

- To ensure satisfactory establishment and continuing health.
- To maintain the plants in a healthy condition and develop the site tree structure.
- To ensure the successful establishment and continuity of the overall design concept.
- To establish a valued and appropriate amenity.

ORNAMENTAL AND HERBACEOUS PLANTING:

- To ensure satisfactory establishment and continuing health
- To maintain plants in a healthy and attractive condition
- To ensure the successful establishment and continuity of the overall design concept.
- To establish a mechanism for the replacement of any failing plant or one which has reached maturity
- To ensure planting within public areas is maintained below a maximum height of 1m to meet the guidance set within Secure by Design.

MAINTENANCE OPERATION

A Health and Safety plan is an important consideration for any area of public realm. The landscape maintenance team will be expected to produce a risk assessment and method statement for the maintenance of the planting areas.

HIGHWAYS

Maintenance works associated with works adjacent to highways will need to be considered as part of the general management and maintenance procedures

CHEMICALS

Chemicals generally should be restricted in use. All chemicals, herbicides, pesticides and fertilisers, should be approved by English Nature and should be used, stored and disposed of in accordance with EN guidelines and COSHH Regulations 2002.

WATERING POINTS

A number of watering points have been incorporated within the podium designs and public realm. Where possible the spacing between the water points has been coordinated to allow a 50m hose to reach all planting areas.

MAINTENANCE OPERATIONS

Set out in the tables overleaf are the maintenance operations that should be carried out over the next 15 years in order to achieve the design objectives. They have been set out in a format that can be easily followed by all parties, ensuring that the Management Plan exists and a working document and not an archived report. The management prescriptions are flexible such that each section can be changed and updated on an annual basis, allowing targets to be set, progress monitored and accurate reporting made.

PROJECTED MAINTENANCE

The tree species have been carefully chosen for their suitability to the location. Formative pruning will be carried out on the nursery prior to lifting and this will produce suitable growth and canopy shape for the space provided.

In the event of any structural damage to the trees by unknown circumstances such as an extreme weather event the following guidelines should be observed:

Where possible, pruning should be carried out in the dormant season to avoid excessive sap loss. Some deciduous trees and shrubs will bleed if pruned in late winter. The onset of sap pressure varies with species so the following timetable should be observed ;

Trees:

Acer x freemanii 'Celzam' Celebration:	Pruning Group 1 - Late winter/early spring
Amelanchier lamarckii;	Pruning Group 1 - Early spring
Betula utilis var. jacquemontii';	Pruning Group 1 - Late summer/early winter
Cornus kousa chinensis	Pruning Group 1 - Late autumn/early winter
Liquidambar styraciflua;	Pruning Group 1 - Late winter/early spring
Malus baccata 'Street Parade'	Pruning Group 1 - Late winter/early spring
Prunus serrula tibetica	Pruning Group 1 - Late winter/early spring. Prune mid summer if silver leaf is a problem
Pinus sylvestris	No Pruning Required
Stewartia monadelpha	Pruning Group 1 - Late winter/early spring
Tetradium daniellii	Pruning Group 1 - Late winter/early spring

IRRIGATION

Irrigation of the trees and shrub areas particularly during the frost growing season will be fundamental to their long term successful establishment.

NUTRITION

The tree pits have been backfilled with a suitable growing medium containing nutrition sufficient for the initial period of establishment.

After three years it would be advisable to apply an application of fertiliser in the Spring as a top dressing. A broad spectrum fertiliser such as HortiTop Complete (available from Hortifeeds) would be suitable. A routine soil test carried out every 2 years would establish the need for any supplementary fertiliser.

Trees with hard standing should have a liquid fertiliser applied annually during spring.

2.4 Maintenance operation - ornamental shrubs

MAINTENANCE OPERATION

- Weed control:** Keep planting beds clear of weeds by a combination of hand operations and herbicide applications
- Watering:** As necessary to ensure establishment of planting
- Soil condition:** Fork over beds to keep soil loose, with gentle cambers and no hollows. Do not reduce depth or effect of mulch.

Maintenance Operation Number	Prescription	Year (s)	Season	Frequency (per year)
	ORNAMENTAL SHRUB PLANTING Maintenance during defects liability period or 5 years after planting, whichever is the greater Maintain weed free area to the surface of all planting areas Fertiliser application Re-firm all shrubs as necessary Prune as necessary to encourage healthy growth and to maintain any clipped forms as illustrated on the drawings Control all pests and diseases as necessary Remove all dead or damaged material Watering – Regular checks using a moisture probe testing during the first year after planting on a monthly cycle during the summer months of May-September. Water as necessary to ensure healthy growth Replace dead or damaged material to original specification Top up mulching annually to a minimum depth of 50mm Post year 5 maintain as above. Maintenance for 6-15 years. Replace any dead/under performing shrubs. Where planting continually fails to establish, undertake investigations to ascertain any underlying cause Control pests and diseases as necessary and remove any non-native self seeded material In year 5 commence thinning regime of any shrub planting implemented in year 1. Extent of thinning to be determined at the time. Selectively coppice shrub species where required.			
		1 – 5	March - October	9
		1 – 5	Spring	1
		1 – 5	Spring - Autumn	9
		1 – 5	Spring - Autumn	2
		1 – 5	As required	As required
		1 – 5	March - October	9
		1	May - Sept Autumn	5
		1 -2	Spring - September	As required
		1 - 5	Autumn	1
		1-5	Spring	1
		6 - 15	As required	1
		6 - 15	Autumn	As required
		5	Autumn	1

2.5 Maintenance operation - herbaceous planting

MAINTENANCE OPERATION

- **Weed control:** Keep planting beds clear by a combination of hand operations and herbicide applications
- **Watering:** As necessary to ensure establishment of planting
- **Soil condition:** Fork over beds to keep soil loose, with gentle cambers and no hollows. Do not reduce depth or effect of mulch.

Maintenance Operation Number	Prescription	Year (s)	Season	Frequency (per year)
	HERBACEOUS PLANTING			
	Maintenance during defects liability period or 5 years after planting whichever is the greater			
	• Maintain weed free area to the surface of all planting areas	1 – 5	March / October	9
	• Application of granular fertilizer (15:15:15)	1 – 5	Spring	1
	• Ensure plants remain firmly bedded after disturbance and re-firm as necessary	1 – 5	As required	Each maintenance visit
	• Re-firm plant supports and replace as needed	1 –5	As required	Each maintenance visit
	• Prune as necessary to encourage healthy growth as illustrated on the drawings: Prune herbaceous perennials as required to maintain form and supply supports as needed during the growing season.	1 –5	Spring/Summer	1
	• Prune hardy herbaceous perennials in autumn retaining feature flower heads or seed heads to provide interest through the winter months	1 –5	Autumn	1
	• Prune tender perennials and borderline hardy perennials in spring once the risk of frost has passed (April / May). This is to protect the growing crown during winter.	1 – 5	April/May	1
	• Cut back early flowering perennials near to ground level after flowering to encourage fresh foliage and later summer flowering. Cut back again in spring.	1 – 5	Summer & spring	2
	• Control all pests and diseases as necessary	1 – 5	As required	As required
	• Replace any dead/ under performing plants. Where planting continually fails to establish, undertake investigations to ascertain any underlying cause.	1 - 5	March/October	As required
	• Watering – Regular checks using a moisture probe testing during the first year after planting on a monthly cycle during the summer months of May-September.	1	May/September	5
	• Water as necessary to ensure healthy growth. Water as necessary to ensure healthy growth. If water supply is, or is likely to be, restricted by emergency legislation, submit proposals for an alternative suitable source of water. Obtain instructions before proceeding.	1 – 5	As required	As required
	• Top up mulch planting to original specification at the start of each year after the cutting back of tender perennials.	1 – 5	Spring	1
	• Divide large groups of perennials every 3 years:	3	Spring/Autumn	1
	• Divide summer flowering plants in spring or autumn providing that the ground is dry enough to work.	3	Summer	1
	• Divide spring flowering plants in summer after flowering.			
	• NOTE: Please wear protective clothing such as gloves and long sleeved tops when maintaining the plants Euphorbia palustris in the rain gardens. The milky sap is a skin irritant.	6 - 15	As required	As required
	Post 1-5 years. Maintenance for 6-15 years	6 - 15	Autumn	As required
	• Post 5 years maintain as above	6 - 15	As required	
	• Replace any dead/under performing plants. Where planting continually fails to establish, undertake investigations to ascertain any underlying cause.			
	• Control all pests and diseases as necessary			

2.6
Maintenance operation - tree work generally

MAINTENANCE OPERATION

- Identification:** Before starting work agree which trees are to be removed or pruned
- Protection:** Avoid damage to neighbouring trees, plants and buildings
- Standards:** To BS 3998 and Health & Safety Executive (HSE) ‘Forestry and arboriculture safety leaflets’
- Removing branches:** Cut as shown in Arboricultural Association Leaflet No 8 ‘Mature tree maintenance’. Cut vertical branches similarly, with no more slope on the cut surface than is necessary to shed rainwater
- Appearance:** Leave trees with a well balanced natural appearance
- Chain saw work:** Operatives must hold a Certificate of Competence
- Tree work:** To be carried out by an approved member of the Arboricultural Association

ADDITIONAL WORK

- Defective, diseased, unsafe or weak parts of trees additional to those scheduled for attention: Give notice if detected.

PREVENTION OF WOUND BLEEDING

- Standard:** To BS 3998, clause 8.

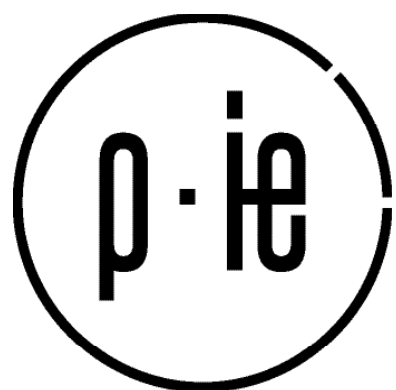
PREVENTION OF DISEASE TRANSMISSION

- Standard:** To BS 3998, clause 9 and Appendix B.

WATER RESTRICTIONS

- General:** If water supply is, or is likely to be, restricted by emergency legislation, submit proposals for an alternative suitable source of water. Obtain instructions before proceeding.

Maintenance Operation Number	Prescription	Year (s)	Season	Frequency (per year)
3.2.3	TREE PLANTING			
	Maintenance during defects liability period of 5 years after planting whichever is the greater			
	To establish new planting, maintain a 1m diameter weed free area around all trees within grass. Trees within gravel should be maintained totally free of weeds.	1 – 5	Spring - Autumn	1
	UNDERGROUND TREE GUY WIRES			
	Inspection / maintenance times: Quarterly and after strong winds Operations: Replace or re-secure loose or missing guy wires Adjust to suit stem growth and to provide correct and uniform tension	1 – 5	Throughout year	2
	Apply granular fertiliser according to manufacturer's recommendations	1 – 5	Spring - Autumn	Bi-annual
	Ensure trees remain firmly bedded after disturbance and re-firm as necessary	1 – 5	As required	1
	Control all pests and diseases as necessary	1 – 5	As required	To be determined
	Prune in accordance with good horticultural practice, thin, trim and shape as appropriate. Eg. Removing branches: Do not damage or tear the stem. Wounds: Keep as small as possible and cut cleanly back to sound wood. Cutting: Make cuts above and sloping away from an outward facing healthy, angled so that water will not collect on cut area. Larger branches: Prune neither flush nor leaving a stub, but using the branch bark ridge or branch collar as a pruning guide. Tools: Use clean sharp secateurs, handsaws or other approved tools. Disease of infection: Give notice if detected. Growth retardants, fungicide or pruning sealant: Do not use unless instructed			
	Prune all trees annually as needed to maintain a minimum 2.2m clear stem and desired form.	1 – 5	Autumn - early Winter	1 As required
	Watering – Regular checks using a moisture probe testing during the first two years after planting on a monthly cycle during the summer months of May-September	1 – 2	Monthly	24
	Water as necessary to ensure healthy growth	3	As required	As required
	Replace dead or damaged trees to original specification. Remove within 1 month or as soon as possible and replace within the next available planting season	1 - 5	Autumn	1
	Top up mulching to original specification annually	1 - 5	Spring	1
	Autumn LEAF REMOVAL			
	Collect accumulations of drifted leaves from the vicinity and from paved lawn area	1 - 5	Autumn/Winter	As required
	Arisings: Remove			
	Post 5 years maintain as above. Maintenance for 6-15 years			
	Replace any dead/ under performing trees planted. Where planting continually fails to establish, undertake investigations to ascertain any underlying cause.	6 - 15	Autumn	1
	Carry out an annual inspection of all trees and carry out remedial work as necessary	6 - 15	Autumn	1
	Control all pests and diseases as necessary	6 - 15	As required	As required
	Maintain a clear stem height of 2m to all trees within public areas and those located within close proximity of fenced boundaries	1 - 15	As required	As required



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