THE HONOURABLE SOCIETY OF LINCOLN'S INN

Wisteria Planting Project

Landscape development proposal

On behalf of Lincoln's Inn Gardens Committee

June 2015

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Contents

Design Concept

Refer to: Drawing no. 1.1 & Concept sketches and images sheet.

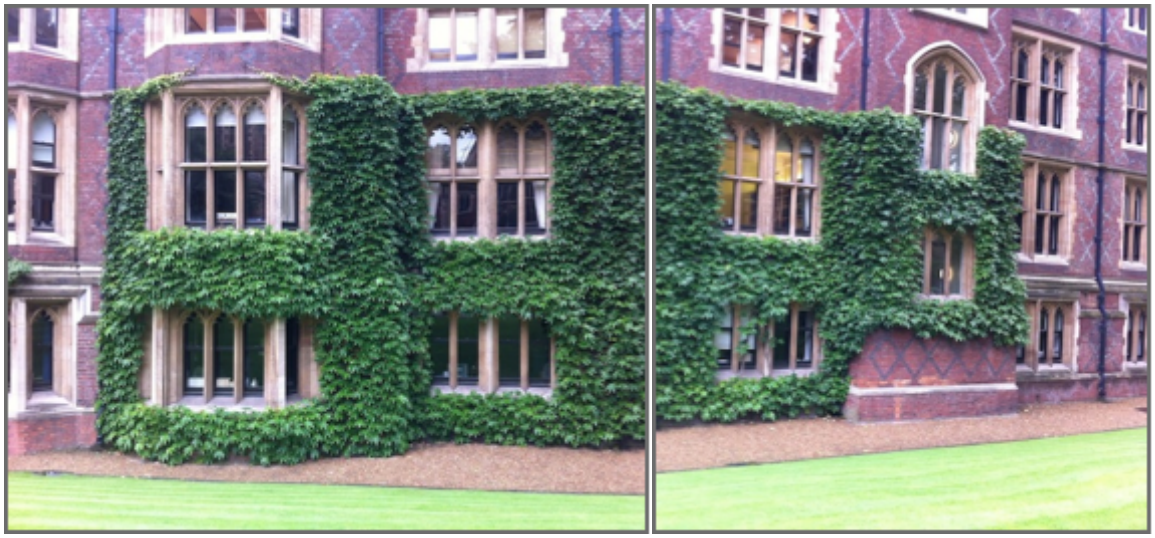
1.1 Proposal summary

Enhancing the aesthetic of the West face (East elevation) at 8-10 Old buildings, part of a key area within the gardens setting at Lincoln's Inn. The proposal to plant Wisteria climbers extending the length of the building up to the first floor level, connecting the existing plants on the North and South elevations of the building and replacing the existing Virginia creeper vine. The arrangement will provide both species continuity and support design principles, providing greater visual context to an otherwise fragmented planting arrangement, it will create a visually appealing flower display that echoes no. 12-13 Old buildings. The increased number of plants will create a stronger scent aroma during flowering.

1.2 Components detailing

A close planting arrangement supports optimum vegetation coverage in the minimum time. Using traditional double stem Espalier to be trained to the first floor level, with a single lateral from each stem trained horizontally to extend in line with the lower window frame at this level. The supporting wire framework is designed to encourage best horticultural practices, allowing optimal growing opportunities to establish a successful plant stem framework. Implementation of an

'establishment and cultivation' care programme will ensure longevity and the health of the new plants, as well as demonstrating essential plant husbandry and positive landscape stewardship. The support framework is intended to restrict plant growth, which is crucial for tidiness and discouraging stem expansion between pipework and/or across windows obscuring views. The restricted growth of the climbers will assist access for building maintenance of the historic artifacts and stonework.



Existing façade, Virginia creeper 8-10 Old Buildings

1.3 Environmental feasibility

Together, the plane trees and the West facing aspect ensure the site remains partially shaded during the summer months. An environmental condition and aspect commonly associated with flowering Wisteria, the native habitat occupies North American and Asian wet woodland. The plants climb to the canopy before flowering then thrive when the roots have access to an ample water supply. The lowered elevation of the planting site position serves as an advantage for the new plants, providing access to the particularly low water table at Lincoln's Inn (15m). This will benefit the plants during the summer when next springs flowering buds are developing and require constant water supply. The plane trees are slower to leaf up in spring, allowing the new planting to receive a good dose of sunlight before the shade is cast, and supplying adequate light levels for the plants to establish here. Testing the soil texture, mineral level and ph. should be carried out during the preparation stages of the project.

Project Introduction

Project administrator & design: Karen Clayton *Head Gardener (Maternity Cover)*

Building Specification: Robert Schwier Estates Surveyor

Planning consent, and tendering: John Newson Facilities Manager

Contractor: Axis Summer works

Site location: 8-10 Old buildings, Lincoln's Inn.

Definitions

- **Espalier** is a training structure framework, used for deliberate pruning and placing of woody stems to restrict growth and increase productivity.
- **Girdling** is the twisting of stems around the wire that causes damage to the plant stems leading to death and to the wire structure by stretching the wire.
- **Mulch** is an organic material usually well rotted horse manure used to suppress weeds, maintain moisture level sin the soil
- **Plant support** is a constructed wire training system
- **Vine Eyes** are fixings used to support and guide the tensioning wires
- **Wisteria** is a twining, non-clinging climbing plant, native to Asia, from wet woodland habitat, scented flowers in April-May

1.4 Summary

This working document consists of the full preliminary specification for the Wisteria project, including concept design and drawings.

1.5 Aim

This document aims to expand the proposal, setting out the standard of workmanship, quality and methods expected for works carried out in the landscape of Lincoln's Inn. It has been written for the approval of the Garden Committee and subsequently to assist the Estates department in the planning application, building specification and tendering requirements. The project represents an element in a scheme of investment for the improvement of standards of the grounds at Lincoln's Inn. Namely, to demonstrate horticultural excellence, through well planned implementation and maintenance. And as such should be considered a value adding project of the living environment, benefiting all stakeholders and visitors of the gardens.

1.6 Constraints

- Dimensioned plans to assist quantifying components for costing and budgeting purposes, are not available at this time.

- Planning consent is required for the wire framework support

1.7 Background

Project initiated on 9th February 2015 by Lincoln's Inn Gardens Committee. Following consideration to reduce the Virginia creeper vine to the first floor level for practical management purposes. The Gardens Committee put forward a proposal to removal of the vine, replacing with Wisteria climbers. See Appendix A. Minutes of a meeting of the Gardens Committee.

1.8 Scope of works

For the installation of a new supporting wire system framework to the East (West facing) elevation of 8-10 Old buildings, consisting of vertical and horizontal tensioned wires, fixed into the mortar joints of the building with a combination of fixed 'eyes' and spacers to guide the wires. The framework fixing is to be specified by the Estates department. The design affords adequate space between the wall and the tensioned wires to ensure the plant stem has room to expand with maturity without restriction. Use of an adjustable link at the base of the vertical wires allows easy detachment of the wire from the fixing to assist in the prevention of plant stem girdling.

1.9 Upgrading existing support

The performance of the existing system is inadequate to form a suitable plant structure upon. The removal and replacement of the existing wire support with the new system will be installed on the North and South elevations. This will provide uniformity and enable the renovation and re-training of the existing plants. Repair works to the pipe work of no.8 Old Buildings, to be carried out by Axis (nominated contractor) during the summer works 2015. This will assist the renovation of the plant by freeing up some sizable structural branches.

2.0 Vegetation renovation

Work includes removal of the existing Virginia creeper vine, by severing the stem at the base followed by sensitive removal of the dead plant material several weeks later from the building. Relocating the climbing Hydrangea situated on the south side of the building to a suitable location in the gardens. Reducing the height of the Wisteria 'alba' to the North elevation no. 10 Old buildings, with subsequent renovation pruning of both plants to improve their condition and appearance.

Planting and supply

Soft landscaping materials to be supplied and planted according to Concept drawing 1.1

2.1 Post installation

- Establishing a programme of structural maintenance checks will be crucial to success of the project. Un-tensioned and or failing support framework affects the growth development and shape of the plant structure. To maximize the lifespan of the wire system a regular monitoring and reporting repairs schedule is required to fulfill the desires of the project.
- The health, longevity and productivity of the new plants are weighted on consistent care practice. The future maintenance of the planting as well as plant establishment is crucial in developing the project aims as well as ensuring plants are trained to avoid issues with drainpipes and visual obstructions from windows.
- Available skills and training must be considered and provided to achieve desired results by the relevant departments.

2.2 Planning consent

The application for planning consent granted by English Heritage to be submitted by Lincoln's Inn Estates department using guidance from Drawing no 1:1. The project component specification and following points contribute to the horticultural statement required.

Main points for Conservation and horticultural planning statement

- Aesthetic benefit of the new planting will represent an improvement to existing building elevation
- New growing level of the plants will support managing safe working practices -problematic with frequency of visits to contain the vigorous growth of the current vine
- Minimal impact upon historic fabric through sensitive placement and minimal use of fixers into motor joints to guide trellis wires
- Restricting plant growth to a designed structure supports effective investigation, maintenance and repair works to historic artifacts, downpipes and stonework
- Proposal wire system extents from base of elevation to main central block, avoiding architectural features
- Established mature plants will quickly conceal the support framework

Installation specification

2.3 Framework dimensions

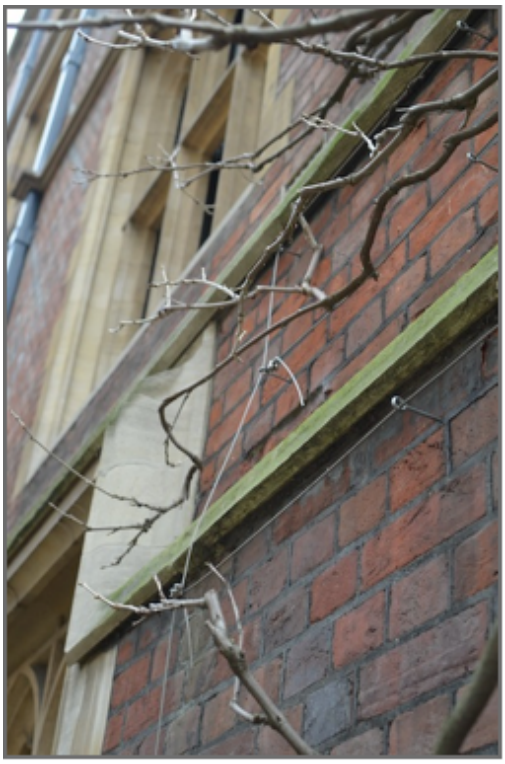
Drawing no. 1.1 shows the plan for the support system framework. Specific dimensions for the placing of the vertical and horizontal wires to be fixed to the wall will be agreed with the Estates team on production of a buildings survey drawing. The dimensions on the concept plan provides a guide and illustrates the desired design for the support

2.4 Component specification

The following components provide a guideline to assist the Estates department to undertake the construction specification and project tendering.

2.5 Conditions

For the purposes of protecting the building stonework and plant support the wires must not be obstructed or stretched over the stonework. Further investigation following the eyebolt fixing distances is necessary to avoid the current issue. As this has occurred previously as eyes bolts have been set at the same distance from the wall. N.B. The upper elevation at first floor level is set behind the lower level; a profile drawing is necessary to accurately specify these dimensions.



Wire stretching across stonework

Adjustable hook/eye

Tensioning wire support system components

Stainless steel Eye bolt distance from wall (min-max) 120- 150mm

Stainless steel wire rope 4 mm

Stainless steel turnbuckles Hook/eye

Stainless steel wire rope grips

Vertical rope spacing (min –max) 300-450 mm

Horizontal rope spacing (min-max) 300– 400mm

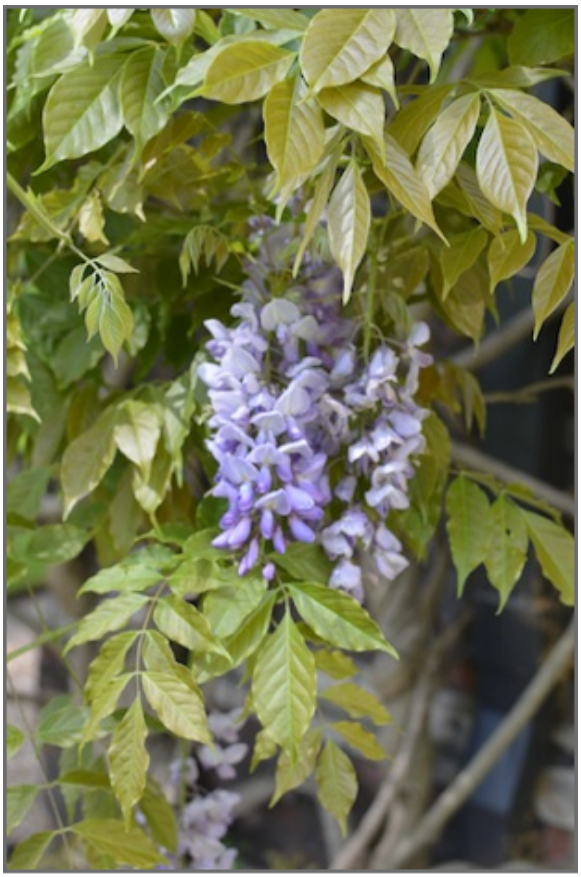
Distance of wire from the wall 120-150mm

2.6 Plant schedule

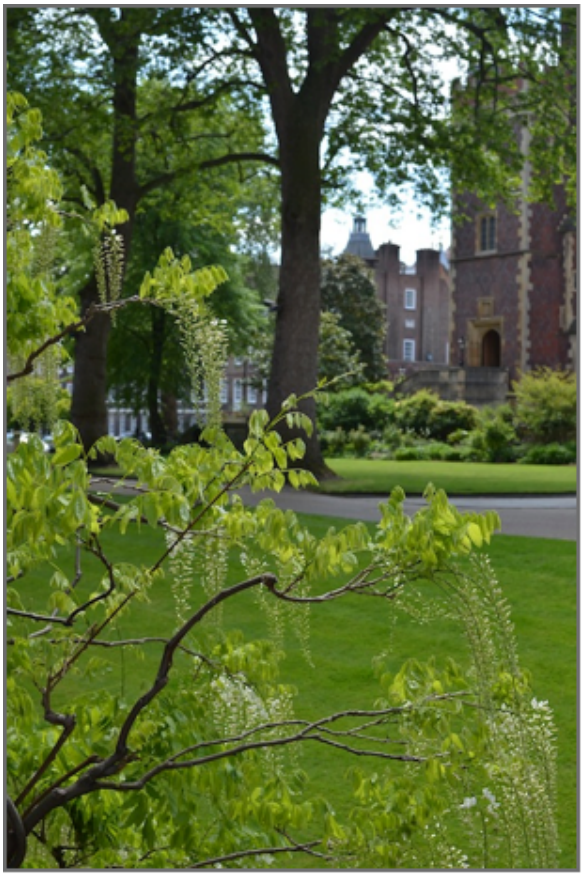
The planting positions are marked on the Concept drawing 1.1. The new planting proposes eight new plants to be trained against the support. The existing planting includes a white Wisteria sinensis 'alba' (Chinese Wisteria) on the North elevation and a Wisteria x formosa, a garden origin species grown for exceptional fragrance. Being a cross between the Chinese and Japanese species. Grown on the south facing elevation. It is recommended that either of these species is suitable for the new planting, agreement of plant selection to be made by the Gardens Committee. Further plant recommendations can be presented, for the purpose of the design a closely matched species to the existing plants is recommended.

2.7 Supply

Wisteria plants are grafted onto rootstock to increase vigour for productive flowering displays. A reputable supplier is to be used to ensure quality of stock purchased. The option to supply mature 3m specimens to advance the vegetation coverage can be considered. The plants must be hand selected from the nursery to ensure they comply with the requirements of the design, to develop the double espalier.



Wisteria x Formosa



Wisteria sinensis ‘alba’

Programme of works

2.8 Responsibilities

The project requires a building contractor to carry out the removal, supply and installation of the wire support system, and the Garden team to carry out the soft landscape aspects of the project. All works to be overseen by a nominated Landscape/project supervisor. The contractor and Garden team will ensure when the work is in progress there is a nominated person authorised to receive instruction from the Landscape/project supervisor. The designed elements of the project are to be set out and approval obtained by the Landscape/project supervisor before the start of any construction or planting work.

2.9 General conditions

All works to be carried out in a thoroughly professional manner in accordance with Lincoln's Inn Health and safety policy, health and safety act 1974, and /or according to the contractors own health and safety policy. Proof of public liability insurance, associated method statements and risk assessment to be provided to the site supervisor before works commence.

3.0 Site protection and Notices of intent

- No tools, equipment or waste to be stored on the lawn bank. Protecting the lawns with boards during times of heavy use maybe required depending on weather conditions with approval from the Landscape/project supervisor.
- Securing the site from pedestrian access particularly the paths located towards the North and South elevations during works progressing. Provide and display notices and route instructions visible to the public.
- Prior notification distributed to the residents at 8-10 Old buildings.

3.1 Programme of grounds works

Plant renovations

- Retain and re-use: Hydrangea
- Remove: Virginia creeper

Ground works

- Site preparation and retentions
- Site to be kept weed free, gravel area sprayed with pesticide
- Removal of living plant material
- Prepare plant for transplanting, keep well watered and prune if necessary
- Remove and retain pea shingle and retain
- Sever roots to form minimum 50cm diameter root ball, translocate to newly prepared planting hole on site, water in.
- Back-fill the planting pit, rake tidy to ground level and firm in

- Remove dead plant material arising's from Virginia Creeper and roots
- Secure and protect existing Wisteria from construction work

Construction

- Repositioning of lead downpipes to the South elevation of no. 9 . Axis summer works
- Removal of existing wire framework and stonework repairs
- Green wire installation
    - Wall mounting fixing and attaching tensioning wires

- Construction works to be signed off by site contractor and landscape/ project supervisor

3.2 Programme for soft landscaping

- Nursery stock select and purchased, arrange delivery, handling and storage
- Soil testing and ameliorations added to obtain required ph. Level (where necessary)

Planting preparation and Soil conditioning

- Remove all gravel and weeds, cut out a square area 3 times the size of the plant root ball
- Set aside soil on a board
- Loosen sides of the hole with a fork, avoided over digging, requires firm base
- Mix a high quality leaf mould or well-rotted manure with soil on the board and add 600g/m3 bone meal

- Prepare the new plants; remove containers, check for damage disease or pests infestation
    - Plant in position shown on drawing, before backfilling
        - Set root boll into the plant pit, set the graft union slightly below final soil level
        - Obtain approval from landscape supervisor
        - Back fill with the prepared mix and rake over to level firm in, and rake over for final finish
        - Water in well
        - Remove plant labels; make a record on the drawing.

- Implement and follow training, establishment and cultivation programme.

3.3 Implementation timeline

- Planning consent process is expected to take 12 weeks.

Timeline showing stages for the project development 2015 -2016

Task	June	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Mar.	Feb.
Project approval Gardens Committee										
Planning consent process										
Tendering, appointing contractor										
Site preparation & Groundwork's										
Construction ground work and Installation										
Plant supply										
Soft landscaping preparation										
Planting										
Establishment and training										

3.4 Establishment and cultivation programme

The follow guidance and cultivation steps aims to provide instruction on the development of the plant framework to meet the desired design. These climbers are vigorous plants growing to 18m if unchecked; they require a rigorous pruning programme. For the purposes of the design intention, the plants must be trained to form the defined framework.

3.5 Planning a pruning programme

- Following planting, the new plants will need time to settle into the planting pit, delaying the first pruning for a number of weeks will compensate any sinking that may occur causing alteration to any establishing framework arrangement.

- The basic approach before undertaking the framework development pruning must be to use the design as the guide to plan the framework. Develop a traditional double espalier concept using two leader stems to form the framework that subsequently support a single horizontal lateral from each. The vertical leaders must reach to the first floor level of the wire support, both with a single lateral to extend horizontally from each to form the 'arms' positioned under the window frames.

- The natural weave and lines of the stem are to be accentuated rather than allowing a straight vertical length. And will be achieved by tying and retying in the stem, manipulating growth and adjusting the twine during all stages of development.

- Once the framework has been established, ruthless routine thinning and spur pruning will form the basis of the maintenance routine and aid the flowering potential.

- Once the initial framework has matured to the full boundary of the support and design, further leaders can be encouraged and trained to fill gaps. To create a well-spaced framework aim for a distance of 35-45 cm between vertical branches and 40-45cm between horizontal branches this will prevent over crowding, allowing unobstructed flower racemes to hang clear.
- Refer to Sketch drawing and photographs.

Renovation of the existing plants will help develop a consistent appearance with new plants

- Implemented over a 2 years
    - Severe old worn out or dead stems as close to the main frame work in early winter

3.6 Forming the framework of the new plants

Formative pruning

- Winter to early spring
- Select the two leaders and laterals
- Summer of year 1. Train the two extension leaders to the top of the wire frame and secure any potential lower lateral horizontal leaders without reducing the lengths.

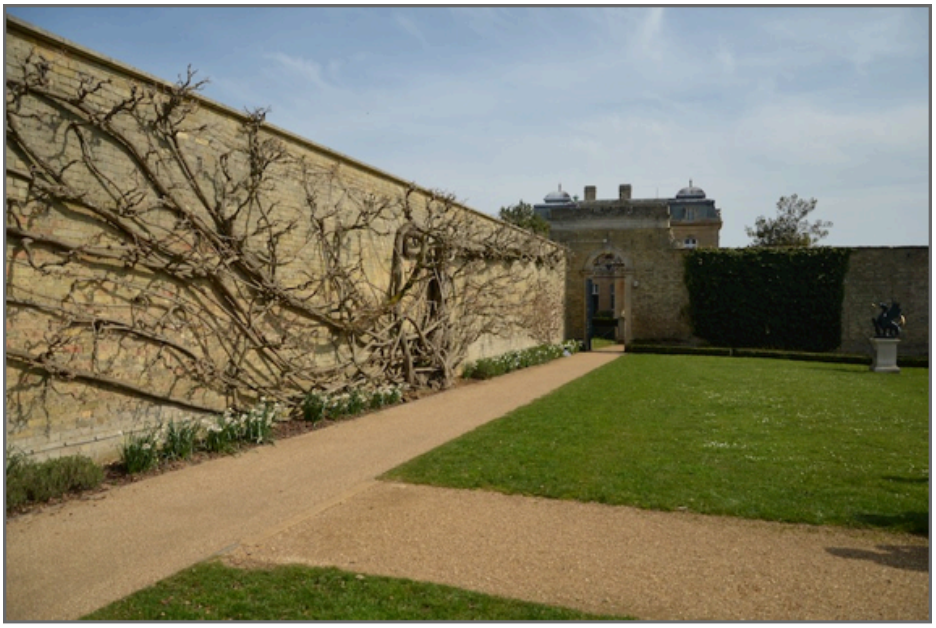
- Depending on the quality of plants supplied, formative pruning maybe repeated through year 2 and 3 to ensure development of the appropriate material for training.

Thinning out

- N.B Remove unwanted Young new base and mainframe work shoots as they appear.

Spur pruning

- Begin mid to late summer Spur prune laterals unwanted for the main framework. During early winter select out or shorten these laterals to 3-5 buds or 7-10cm length



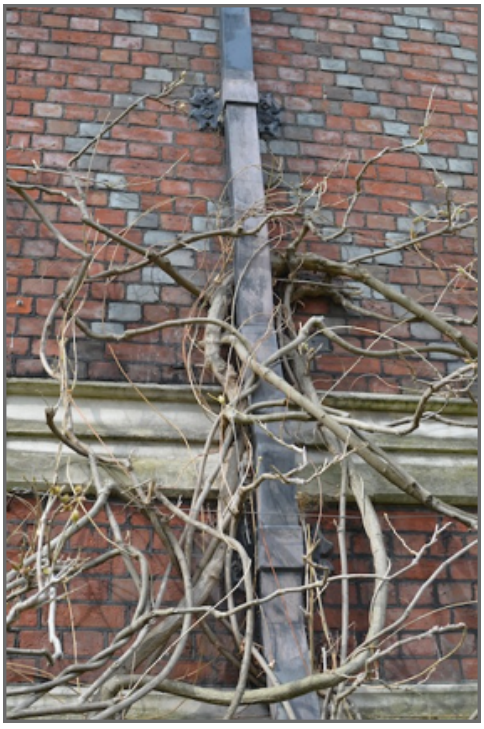
EH Wrest Park, good structure frame

3.7 Cultivation

- To help ensure the plants establish well following planting they will require a consistent watering programme in the first two years and watered well during periods of drought from year 3 onwards.

- Mulching the planting pit with well-rotted horse manure annually will support fluctuations in the water table although should not be relied upon over hand watering in the first 3 years. An annual bone meal dressing in spring during this period is beneficial. As a mature plant filling the framework, additional feeding should not be necessary unless flower and foliage colour is poor.

- A maintenance programme schedule is required and to include a Pest and disease monitoring of Wisteria scale



Twisted stems Obstructing pipe work

Stem girdling leading to branch death

3.8 Further considerations

Garden Committee

Plant selection TBC

Estates

A structure maintenance plan following the installation to maximize

- Lifespan of wires system
- Structure checks and adjustments, checks every three years
- Re tensioning wires annually

Gardens

A maintenance schedule to include the following tasks

- Weeding
- Mulching
- Feeding
- Pruning
- Training
- Deadheading
- Gravel maintenance
- Pest and disease
- Protection

Resources

http://noels-garden.blogspot.co.uk/2011/05/wisteria.html
- Image source: eye bolts

www.s3i.co.uk/ Supplier of Green wire cabling systems

Appendix A. Minutes of a meeting of the Gardens Committee held on Monday 9th February

LINCOLN'S INN

THE HONOURABLE SOCIETY OF LINCOLN'S INN

MINUTES OF A MEETING OF THE GARDENS COMMITTEE HELD ON MONDAY 9 FEBRUARY 2015 IN ROOMS 4 & 5 AT 33 CHANCERY LANE

Present: The Rt Hon Lord Justice Patten Master of the Walks and Chairman
His Honour Michael Brodrick
The Hon Mr Justice Henderson
Ms Sara Hargreaves
Mr John Jarvis QC
Mr Ian Clarke
Mr Tim Devlin
Mr Frank Feehan QC
Mr William Glossop
Mr Edward Hewitt

In attendance: Mr Murray Campbell Assistant Under Treasurer
Ms Karen Clayton Head Gardener (Maternity Leave Cover)
Ms Wiebke Morgan Member Services Manager

Apologies: Mr George Bompas QC
The Hon Mrs Justice Hogg DBE
Mr Simon Mehigan QC

1. **MINUTES OF THE LAST MEETING**

The Minutes of the meeting held on 29 October 2014 were **APPROVED**.

2. **PRESENTATION by HEAD GARDENER**

Karen Clayton, Head Gardener (Maternity Cover), gave an update on seasonal tasks since the last meeting and presented spring projects and plant care management proposals. In addition she proposed new planting for the Kitchen Garden and reported on the Mulberry Tree Review. She illustrated her presentation with a slide show.

Update on seasonal tasks

The main job in the months of October to January was leaf clearing. The time needed to do this amounted to 35 working days. 10 Skips at a cost of £3,072 were needed as the leaves could not be composted on site – they take a long time to degrade and are difficult to process.

Winter pruning was mostly complete and, whilst it looked dramatic in parts, it was good for the health and structure of the plants. The measures taken had created light and views.

Spring Projects

A total of 47 areas of the garden needed mulch. This presented a large area for a team of 3 to cover. The Head Gardener therefore prioritised the public areas. The mulching was progressing well.

Contractors would be on site mid-February to complete the pruning discussed previously. The main reason was to ensure health and safety both for the public and the garden team. For the latter, the aim was to bring the plants to a manageable height.

The hydrangea and ivy at the Under Treasurer's house were cut back in order to reveal the coping stone.

Kitchen Garden

Vines had been pruned back but had not been removed. There were now two options: either to keep the vines or to replace them. The Chair pointed out that the vines had been left for 7 years and they had now got into a state that was unacceptable. He thought the wall was a very attractive feature in its own right and that therefore the vines need to be removed completely. A contractor should be asked to attend to this job.

There followed a discussion about varieties of pears or other fruit that could be grown. Espalier apples seemed to be favoured. The Chair asked for the age of the wall to be determined and asked the Head Gardener to circulate a list of possible varieties to Committee members. He would welcome suggestions from other members for something particularly good to plant.

Wisteria reduction and wall climber management – Old Buildings and Old Square

The Head Gardener felt that having the use of a Cherry picker on site twice a year was a good idea and could be used for a number of other jobs. Without it, the height at which the team had to work was unsafe. In addition, the scale between the wisteria and the fig was currently unbalanced.

The Committee **AGREED** that the wisteria outside the Kitchen Garden should be reduced to the height of the fig and that the climbers in Old Square should be grown to a uniform height around the site, e.g. the first floor. The Committee also **AGREED** that the Virginia Creeper on the Old Square buildings should be removed and replaced by wisteria.

Tree inspection

The plane trees were very large, cutting off light for other species. There were no records regarding those on the North Lawn as to why they were planted in their particular spots. It was DISCUSSED whether to remove at least one of them. The Head Gardener was asked to investigate the possibility of this.

The mulberry tree near the stairs to the Library is leaning dangerously. The Head Gardener suggested a Picus test would assist in making a decision as to whether the tree should be repaired or removed. The spot might not be suitable for a tree at all and the same thing was bound to happen in the future.

The Committee **AGREED** to have a Picus test carried out on the mulberry tree. In the meantime it was to be summer pruned.

The Head Gardener ended her presentation by thanking the Committee for its time and by giving a brief summary.

The focus had been on improving the condition and appearance of the structure plants and fabric of the garden to be carried forward for future maintenance. She had implemented an operations programme and season works programme. She had reviewed and made suggestions for the documentation and record keeping systems.

She had resisted the impulse to attempt a rapid re-planting, preferring to review and assess what exists and how to improve the garden now and for the future management. She felt the garden had great potential and recommended that time be spent on developing a clear direction to include a legacy and cohesion to ensure the garden was efficiently manageable.

3. **HONEY**

Tim Devlin suggested and the Committee **AGREED** to offer 18 jars (the balance of this year's harvest) to the Education Department to use as gifts to potential tutors.

The meeting was followed by dining.