Japanese Knotweed Solutions Ltd

WORKING ON BEHALF OF

CEG Ltd

To: CEG Ltd

Site: Former Oughtibridge Paper Mill, Sheffield, S35 0DN

For:

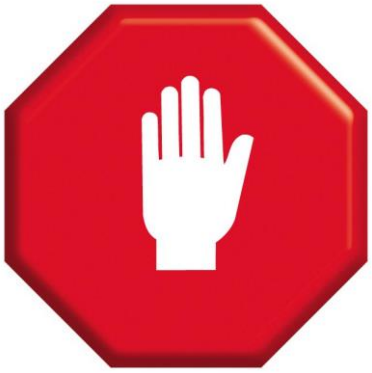
Works to Commence the Control and

Eradication of Japanese Knotweed

SURVEY &

RECOMMENDATIONS

Prepared by:



Japanese Knotweed Solutions Ltd

PROJECT SURVEYOR	Alexander Dayes
AUTHORISED BY	**MIKE CLOUGH (JKSL)**
DATE	26.07.2017

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INTRODUCTION

This proposal has been developed to qualify the methods and associated costs for works to assist CEG Ltd in the process of control and eventual eradication of Japanese Knotweed surface growth from the site known as Oughtibridge Mill.

Japanese Knotweed is a particularly virile and aggressive weed, which propagates through root and rhizome systems. It has the ability to establish growth from very small quantities of this material and therefore all processes of control and eradication must take account of this ability.

Survey work was carried out by JKSL in July to identify and document the extent of infestation on the site. The results of this survey work qualified that infestation is was well established on the site with some of the areas displaying limited re-growth.

A number of alternative approaches have been considered for the control of Japanese Knotweed on this site. Discussion with Mark Edge from Pierre Angulaire Ltd on site has resulted in the recommendation for works as detailed in this proposal.

The extent of Japanese Knotweed infestation in the UK is considerable and there are a number of Government and other agencies involved in the development of best practices for the control and eradication of the weed. The Wildlife and Countryside Act 1981 made it illegal to spread the weed and the Environmental Protection Act 1990 classed the discarded material and associated soil as 'controlled waste'.

JKSL has used its understanding of the current legislation and the recommended best practice in developing this proposal and continue to evolve our methods and recommendations to clients in line with current understanding of the problem.

SURVEY RESULTS

JKSL surveyed the site known as Oughtibridge Mill. The recent survey work was conducted by Alexander Dayes on 20.07.2017. The results are documented below and should be read in conjunction with the project drawings.

We have been involved with the site before and were appointed by the previous owners to undertake a 5 year chemical treatment programme to the infestations highlighted on drawing JK10-4622-01. To date we have undertaken the following works:

- June/July 2010 – Site survey
- 05.08.10-06.08.10. – Initial application of herbicide
- 09.08.10- 10.08.10 – Monitoring and re-application of herbicide
- 06.09.10 - Monitoring and re-application of herbicide
- 01.11.10-04.11.10 – Creating access for following treatment season (cutting and burning JK)
- 10.06.11 – Creating access for next treatment, monitoring and re-application of herbicide
- 01.06.12 - Monitoring and re-application of herbicide
- 17.06.13 - Monitoring and re-application of herbicide
- 09.06.14 - Monitoring and re-application of herbicide
- 06.08.14 - Monitoring and re-application of herbicide
- 24.06.15 - Monitoring and re-application of herbicide

On our last inspection in June 2015 re-growth was present in some isolated areas within various infestations. Please see our last inspection report for further details.

During our site survey on 20.07.2017 each infestation was assessed for re-growth. Below is a list of our findings:

- Area A – One small section of re-growth in the embankment.
- Area B – Area was not located, assumed no re-growth present.
- Area C – No re-growth recorded.
- Area D – One small section of re-growth recorded

- Area E - No re-growth recorded.
- Area F - Area was not located, assumed no re-growth present.
- Area G – No re-growth recorded but a new small infestation was recorded on the western bank on the northern side of the small inlet. Another small infestation was recorded further downstream.
- Area H – Scattered small re-growth throughout the area (this area has been difficult to access due to conditions underfoot and the fluctuating river levels).
- Area I - Scattered small re-growth on the southern bank. The area on the northern bank has large re-growth (this area has been difficult to access due to conditions underfoot and the fluctuating river levels).
- Area J - No re-growth recorded.
- Area K – Isolated scattered re-growth in western end, no re-growth in eastern end.
- Area L – No access to area during this survey.
- Area M – No access to area during this survey. A mature infestation was recorded on the opposite bank outside of the site.
- Area N – Isolated re-growth recorded.
- Area O – Area was not located, assumed no re-growth present.
- Area P – No access to area during this survey.
- Area Q – No regrowth inside fencing, no re-growth recorded on the river embankment from what could be accessed and viewed.

During the site survey it was noted that Himalayan Balsam has a large presence along the river embankments and is encroaching into the site in places.

The footprint of the proposed new footbridge positioned further downstream was also surveyed. Mature areas of Japanese Knotweed were recorded on the northern bank. If this bridge is constructed we would recommend that herbicide is applied to these areas at the same time. Before further recommendations on managing the plants spread can be created the construction drawings will be required.

RECOMMENDATIONS

We would recommend that all areas are now monitored once per year in August/September/October (the peak treatment window) and any re-growth recorded is chemically treated accordingly.

In order to do this successfully we will require access to the river embankment via the security gates.

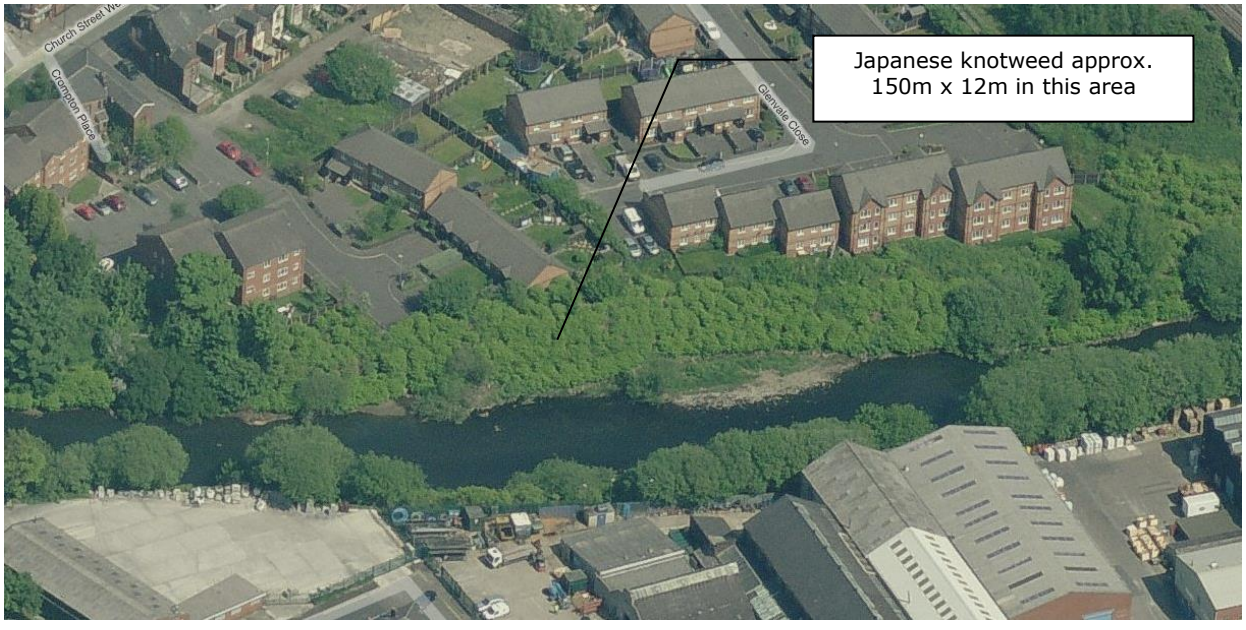
At the time of writing this document a development layout had not been provided therefore it is not clear if the Japanese knotweed infestation have the potential to affect the construction of the new development. However we would assume that only Area's B, E, F, N and O have the potential to affect it as they are further into the site. Only Area N has re-growth. It should be viable for the other areas to be re-worked back within the site without the need for further remediation works. If they are buried on site then the location should be recorded.

JAPANESE KNOTWEED

Japanese knotweed, a rhizomatous perennial was introduced from Asia to Europe in the mid-nineteenth century as an ornamental and fodder plant. It is an impressive species which grows to a height of 2-3 metres, with bamboo like stems, arching branches and clusters of creamy white flowers appearing late in the season. The orange to brown coloured, woody, dead stems persist erect throughout the winter and new shoots, produced from the extensive rhizome system, grow up amongst these the following spring to form dense thickets. The dead stems and leaf litter decompose very slowly and form a deep organic layer, which prevents native seeds from germinating. Once present at a site, Japanese knotweed increases in area very rapidly and soon forms monoculture stands.

Reproduction is primarily by vegetative regeneration of rhizomes and fresh stems. The rhizome system may extend from a parent plant up to 7 meters laterally and to a depth of 4 metres. Very small fragments of rhizome (as little as 0.7 gram) give rise to new plants. Fresh stems produce shoots and roots when buried in a soil medium or floated in water. Stems in water may produce viable plants within 6 days.

Japanese knotweed thrives on disturbance and has been spread by both natural means and by human activity. In riparian areas, high water flows disperse fragments of the plant downstream where new colonies form. In the past, fly tipping and transportation of soil containing rhizome fragments have been a major cause of spread, particularly in the urban environment.



A riparian invasion along the River Irwell - Radcliffe, Manchester

LEGAL STATUS

Any excavated soils containing Japanese knotweed which is not scheduled to be dealt with appropriately on site must be disposed of at a licensed landfill site. It cannot be reused in further construction or landscaping without the appropriate remediation works being implemented beforehand. When disposing of contaminated soil it is essential that the landfill operator is made aware of the presence of Knotweed and that the soil is not used for landscaping or restoration works at the tip site. To ensure safe disposal contaminated soils must be buried to a depth of at least 5 metres. Section 34 of the Environment Protection Act 1990 places a duty of care on all waste producers that to ensure that any wastes are disposed of safely and that a written description of the wastes, and any specific harmful properties, is provided to the site operator.

For further information regarding Waste Regulations, contact the Environment Agency.

In 1981, the Wildlife and Countryside Act made it illegal to spread Japanese Knotweed. Waste regulations that resulted from The 1990 Environmental Protection Act classed discarded Japanese Knotweed material, or soil contaminated with rhizome, as 'controlled waste' to which the Duty of Care applies. Soil containing rhizome material can be regarded as contaminated and, if taken off a site, must be disposed of at a suitably licensed landfill site, buried to a depth of at least 5 m.

For further information regarding Waste Regulations, contact the Environment Agency.

JKSL 10 year non-insurance backed warranty will include the following:

First 12 months:

Site monitoring on a quarterly basis – written report issued following each site visit

Remaining 9 years:

Annual re-visit and written report issued for an additional 9 year period

Any additional 'in situ' chemical treatment works as required to eradicate Japanese Knotweed. No cover is allowed for any costs relating to damage to hard surfaces, structures or any relocation costs.

Insurance Backed Warranties

Insurance backed warranties include the same operations as the standard warranties but will be backed by a performance bond. This can be set up for contracts of greater than £5000. The bond is designed to guarantee our performance of our contract agreement to you (ie to eradicate the weed, carry out annual site inspection visits and eradicate any re-growth of the weed. This does not cover new unassociated growth. In the event that we default upon our agreement, the beneficiary will be able to make a claim against the bond.

- The value of the bond provided will be 10% of the contract value. This cover will be an aggregate amount for the entire 5 year period of the bond to cover the site address you request the bond to apply to.
- The bonds are issued in 5 year contracts but due to the current financial climate, this had recently been amended so that it is issued in 3 stages. You will receive an initial bond for 3 years followed by a bond for 1 year then another bond for 1 year. It will automatically be renewed for you and the bond issued.
- If a 10 year bond is required this will be made up of a 3 year bond followed by an annual renewal for the remaining 7 years.
- The beneficiary of the bond will be the employer of our contract.
- If an additional beneficiary/ies are required, this must be made clear prior to application.
- Where more than one beneficiary is required on a bond, the standard 5 years aggregate bond value (ie 10% of the contract value) will be available to be claimed in full or part by any of the beneficiaries without any pre-arranged apportionment to each.
- Amendments to the bond (change or addition of beneficiary) after issue will be subject to an additional charge and are subject to authorisation.

Japanese Knotweed Solutions
0161 723 2000 jk@sltd.co.uk www.jksl.com

OUTLINE OF WORKS

Introduction

JKSL has assessed the infestations again on 20.07.2017 and we would recommend that herbicide is applied in August/September/October 2017.

All areas should then be inspected annually and any regrowth recorded chemically treated accordingly.

The site is adjacent to an open watercourse this therefore highlights the need to inform the Environment Agency for chemical permissions near a watercourse.

Planning

JKSL resource is scheduled to meet the need of the various activities detailed below. Due to the dictates of the growth pattern of the weed and it's subjectivity to weather and ground conditions we cannot be specific about the date for commencement of works or the elapse time to complete each activity. Fortunately the discrete activities can be separated out and each element prioritised and scheduled to ensure JKSL resource can be mobilised at the correct time when conditions are most suitable to optimise success.

Site Security

The site has an extensive boundary, which is securely fenced.

Phase 1

Start Date: August/September/October 2017
Duration: 1 day each visit

Inspections

The correct time to carry out the spraying operations is determined by the speed of new growth of the Knotweed on site. However as stated earlier due to the previous

treatments we would recommend that the visits are conducted at the end of the summer. Visits are also deicated by the weather and ground conditions of the site and even individual areas within the site where differing patterns of growth may occur.

JKSL HSE qualified inspection foremen will monitor the new growth across the site. The frequency of inspection will be qualified by the speed of plant growth as we are seeking to identify when the new growth of spears have shown leaves opening. This is usually when growth is approximately 0.5 to 1.0M high.

Spraying

Typically the first application of herbicide will be carried out by the JKSL team when the spears have grown and leaves have opened at the end of summer. Application rates as recommended by the suppliers will be used to spray appropriate areas where growth is at the required level across the site as defined on the drawing. Knapsack sprayers fitted with nozzles delivering medium spray quality (as defined in the BCPC system) will be used.

Due to the dictates of schedules and other factors, the option to allow new growth to appear may not be viable and therefore alternative chemical application processes may be adopted. Injection of the selected herbicide directly into the root crown allows chemical treatment to continue outside of a normal growing season.

All operatives will be working under the supervision of appropriately qualified JKSL staff.

Re-Spray Monitor Re-growth

The growth habit and persistence of the plant require an allowance for re-visiting site. It is therefore recommended to continue inspecting the site and monitoring all areas for any additional re-growth and re-spray as may be necessary.

SUSTAINABILITY POLICY

SUSTAINABILITY POLICY

Japanese Knotweed Solutions is committed to promoting sustainability. Concern for the environment and promoting a broader sustainability agenda are integral to JKSL's professional activities and the management of the organisation. We aim to follow and to promote good sustainability practice, to reduce the environmental impacts of all our activities and to help our clients and partners to do the same.

Principles

Our Sustainability Policy is based upon the following principles:

- To comply with, and exceed where practicable, all applicable legislation.
- To integrate sustainability considerations into our business decisions.
- To ensure that all staff are aware of our Sustainability Policy and are committed to implementing and improving it.
- To minimise the impact on sustainability of all office, site and transportation activities.
- To make clients and suppliers aware of our Sustainability Policy, and encourage them to adopt sound sustainable management practices.
- To review and to continually strive to improve our sustainability performance.

Practical steps

In order to put these principles into practice, the company will:

Travel and meetings

- Remain committed to investigating all options with regard to travel and transport, and to give preference to the use of more sustainable modes of transport, where these meet the required needs of the company.
- Seek to maximise the efficiency of travel arrangements to avoid unnecessary, duplicated and wasted journeys.
- Avoid physically travelling to meetings etc. where remote meeting alternatives are available and practical.
- Invest in equipment for remote meeting (webcams etc.), including supplying this to clients if this can improve efficiency.
- Reduce the need for our staff to travel by supporting alternative working arrangements, including home working etc.
- Seek to reduce emissions by requiring site-based employees to attend the office only where necessary.

(cont…)

SUSTAINABILITY POLICY

(cont…)

Purchase of equipment and consumption of resources

- Minimise our use of paper and other office consumables, for example by double-siding paper where appropriate, and identifying opportunities to reduce waste.
- Take reasonable steps to arrange for the reuse or recycling of office waste, including paper, computer supplies and redundant equipment.
- Reduce the energy consumption of office equipment by purchasing energy efficient equipment and good housekeeping.

Working practices and advice to clients

- Highlight the most sustainable options in our proposal documents to clients.
- When issuing proposal documents to clients, make sure that these documents highlight the main responsibilities under relevant legislation.

This policy will be updated as necessary to reflect best practices in sustainability.

Signed: _____ **Date**: 23.01.2017

Michael Clough, Director **Review Date:** January 2018

ENVIRONMENTAL POLICY

ENVIRONMENTAL POLICY

The Directors of Japanese Knotweed Solutions Limited understand their environmental responsibilities. The Organisation's Environmental Policy is in place to ensure that its activities do not impart harm or damage to the environment through acts or omissions related to proper management and stewardship of the processes and substances used in the course of our works.

The Organisation shall not use or dispose of waste materials in a manner that could cause harm to the environment without properly exploring and taking measures to eliminate, reduce or mitigate this harm.

To this end The Organisation's actions in observing the above policy will ensure that it is relevant to its activities, products and services and their environmental effects:

The Directors shall ensure that:

- This policy is understood, implemented and maintained at all levels in the Organisation.
- This policy confirms their commitment to continual improvement of environmental performance.
- This policy provides for the setting and publication of environmental objectives, which shall be reviewed on a regular basis.

Signed by: _____ **Date**: 23.01.2017

Michael Clough, Director **Review Date:** January 2018

Japanese Knotweed Solutions Ltd

WORKING ON BEHALF OF

CEG Ltd

TERMS OF CONTRACT

(Company Number: 4359188)
Itadori House, Melton Street, Radcliffe, Manchester M26 4BR
Tel:0161 723 2000
Fax: 0161 723 2001

Email: jk@sltd.co.uk Web: www.jksl.com

Client:	
Invoice Address:	
Company No:	
Contact Name:	
Telephone:	
Fax:	
Email:	
Site:	
Works:	As per attached Schedule of Works
Commencement Date:	
Payment:	First instalment: 50% of total order value payable upon order Balance: 50% payable within 14 days from date of invoice
Payment details:	Natwest Account Number: 13372181 Sort code: 01 02 69
Order Number and payment reference (Job number):	
Order Value:	
Warranty Option:	

☐ **Please tick this box if you would not like to receive our monthly Newsletter.**

The Client confirms that the Company's terms and conditions of sale attached shall apply to the exclusion of all other terms or conditions indorsed upon, delivered with or referred to in any purchase order, acceptance of order or other document delivered by the Client or any other counter-offer made to the Company save to the extent that any amendment to or variation of the Seller's terms and conditions of sale is expressly accepted by the Seller in writing.

If the Purchaser is a limited liability company, this Contract must be signed by a company Director and, in the event that the Purchaser fails to pay for any of the services supplied by Japanese Knotweed Solutions Limited, the signing Director personally guarantees payment in respect of all sums due from the Purchaser together with all ancillary costs incurred.

Signed by client's Director:	……	Date:	……
Accepted on behalf of the Company:	……	Date:	……

Schedule to Terms of Contract

1. Definitions and interpretation

1.1. The terms defined in the Terms of Contract shall apply to this Schedule.

1.2. Headings contained in this agreement are for reference purposes only and should not be incorporated into this agreement and shall not be deemed to be any indication of the meaning of the clauses to which they relate.

2. Appointment

The Client appoints the Company to perform the Works in return for the Payments.

3. The Company's obligations

Under the Wildlife and Countryside Act 1981 (as amended) it is an offence 'to plant or otherwise encourage' the growth of Japanese Knotweed. This could include cutting the plant roots and disturbing surrounding soil if not correctly managed.

The Company will use reasonable endeavours to perform the Works in accordance with:

3.1. The INNSA guidance document Code of Practice for Japanese Knotweed, December 2016; and

3.2. Current statutes and regulations enforceable in England and Wales in respect of Japanese Knotweed, including:

3.2.1. The Environment Act 1995

3.2.2. The Environmental Protection Act 1990

3.2.3. Waste (England and Wales) Regulations 2011

3.2.4. Environment Protection (Duty of Care) Regulations 1991 [in Scotland]

3.2.5. Hazardous Waste Regulations 2005 (as amended)

3.2.6. The Wildlife and Countryside Act 1981

3.2.7. The Construction Regulations 1996

3.2.8. The Control of Substances Hazardous to Health Regulations 1994

3.3. The company is registered with the PCCB and we will comply with the Invasives Code when providing services to control and eradicate invasive species.

4. The Client's obligations

In consideration of the services to be rendered by the Company under this agreement the Client agrees:

4.1. to make the Payments promptly without demand deduction or set-off;

4.2. to ensure the Site is prepared in accordance with the requirements of the Company;

4.3. To ensure all necessary machinery is available on site when the company are in attendance. Failure to comply may cause the job to be aborted and an additional charge of £495.00 +VAT per day to be Levied.

4.4. to provide full, clear service drawings. JKSL accepts no liability for damages caused or for service strikes where full, accurate, up-to-date information was not supplied by the Client.

4.5. to afford the Company any right of access to the Site as is required to perform the Works;

4.6. to ensure that all employees, agents and / or contractors of the Client of the Site at the time of the Works must obey the Company's reasonable orders and instructions;

4.7. to ensure that Site utilities locations are made available prior to a start on site. Non-invasive spray works are deemed to not impact upon utilities however excavation works will require specific location of services. Non supply of site utility locations shall be deemed to mean that there are no services in areas to be excavated – no liability will be accepted by The Company for any damage to services not identified by client.

4.8. to ensure that information relating to the physical and chemical nature of the ground in the area(s) of site containing the area of Japanese knotweed is provided. This information will assist the Company in its Health and Safety plan for the site, and will also confirm that no preferential pathways will be created for contaminants that may be present in the ground.

4.9. to ensure that warranties are paid in advance to ensure continued site guarantee coverage.

4.10. Should a site have Health and Safety issues with particular reference to members of the public and require Herras fencing – this will be installed by Japanese knotweed solutions LTD at cost to the client (rate of £3.45 per panel per week plus labour). Please note that there is a minimum month hire on this product.

4.11. to ensure that any works undertaken on site which may compromise our works such as a change in levels or movement of material are supervised by JKSL to prevent further contamination – supervisory works are charged at standard rates.

4.12. to understand any contravention of point 4.9 above will invalidate the warranty

4.13. to ensure that all permissions licences and authorisations have been granted prior to the commencement of the Works

4.14. to ensure that JKSL have access to the site/working area at any time in order to undertake out our works

5. VAT

5.1. All sums payable under this agreement unless otherwise stated are exclusive of VAT and other duties or taxes.

5.2. Any VAT or other duties or taxes payable in respect of such sums shall be payable in addition to such sums.

6. Lump sum price

6.1 Where a price is quoted as Lump Sum agreed price this figure is not subject to re-measure.

7. Survey

7.1 The Client understands that the service the company provides to identify Japanese Knotweed is based on 'reasonable endeavours' to identify the infestation at the time of survey.

7.2 Due to rapid growth characteristics of Japanese Knotweed no liability for additional cost is accepted by the company for any areas of Japanese Knotweed not identified on the original survey.

7.3 The Client should understand that the underground rhizome system produced by Japanese Knotweed is not visible from surface inspection and that these areas can only be shown as 'guidelines' – these areas are identified for discussion purposes only and cannot be used as exact location of root systems.

7.4 Where survey fees are credited to client's accounts this fee can only be deducted from the works if the full recommend remediation works are taken out and if this exceeds £5,000.00 +VAT.

7.5 Should the client decide to cancel the survey service a charge of 26.2% of the order value will be applicable if the service is cancelled more than 48 hours in advance of the agreed appointment for delivery of the service. Should the client decide to cancel the survey service less than 48 hours in advance of the agreed delivery time then the full order value will be applicable.

8. General

8.1. The Company shall not be liable to the Client for loss or damage to the Client's property unless due to the negligence or other failure of the Company to perform its obligations under this agreement or under the general law.

8.2. The Company warrants that the Works will be performed using reasonable skill and care. Except where the Buyer is dealing as a consumer (as defined in the Unfair Contract Terms Act 1977 Section 12 and/or the Unfair Terms in Consumer Contracts Regulations 1999 Regulation 3(1)) all other warranties, conditions or terms relating to fitness for purpose, quality or condition of the Works, whether express or implied by statute or common law or otherwise are excluded to the fullest extent permitted by law.

8.3. The Company shall be under no liability whatever to the Client for any indirect loss and/or expense (including loss of profit) suffered by the Client arising out of a breach by the Company of this Agreement.

8.4. In the event of any breach of this contract by the Company the remedies of the Client shall be limited to damages. Under no circumstances shall the Company's liability exceed the greater of the Payments or the amount of any valid insurance available to meet the claim.

8.5. The Company shall not be liable for failure or delay in fulfilling any of its obligations, where fulfilment therefore is prevented, frustrated, impeded, delayed or rendered uneconomic by circumstances or events beyond the Company's reasonable control.

8.6. Variation Clause - Due to the uncertainty of the spread of Japanese Knotweed beneath the soil/ground surface - which can only be revealed once works have begun - Japanese Knotweed Solutions reserve the right to change the details of the works package to suit site conditions. No additional costs will be incurred prior to gaining agreement from client - however methodologies may vary from that stated within price breakdown.

9. Warranties – 2 Year

9.1 When the Company enters in to a 2 year warranty the following operations are covered at no additional cost to the client.

9.1.1 Site monitoring – written report issued following each site visit

9.1.2 Any additional 'in situ' chemical treatment works as required to eradicate Japanese Knotweed.

9.1.3 No cover is allowed for any costs relating to damage to hard surfaces, structures (unless specified by ourselves) or any relocation costs.

9.1.4 NB: this warranty covers any additional chemical treatment re-visits necessary, which typically consists of 3 visits year 1, 2 visits in year 2, however due to external factors

outside of our control (weather conditions/growth patterns) timing and number of visits cannot be specified.

Warranties – 5 Year and 10 Year

9.2 When the Company enters in to a five or ten year warranty the standard 2 year obligations apply

9.3 Annual re-visits and written report issued for an additional 4 year or 9 year period respectively

10. Warranties – 5 Year, 10 Year and 20 Year Insurance-Backed

10.1 The Company is not able to offer advice on insurance products, whether free of charge or for a fee. Any information provided by the company is for reference purposes only, and shall not be construed as advice. The Client must make their own decisions as to the suitability of any product available.

10.2 The Company may include (or "bundle") Insurance-Backed Warranties or other products as part of its services without additional charge(s). In such circumstances the Company makes no representations to the suitability of the product for the Client's needs. The Client should make their own independent assessment of their insurance needs.

10.3 The Company may arrange insurance products for the Client through third parties. The company accepts no liability for the performance or for the suitability of any product supplied by a third party.

10.4 Insurance backed warranties include the same operations as the standard warranties but will be backed by a performance bond. This facility can be set up for contracts greater than £5000 in value. The bond is designed to guarantee our performance of our contract agreement to you. (ie to eradicate the weed, carry out annual site inspection visits and eradicate any re-growth.) This does not cover unassociated new growth of the weed. In the event that we default upon our agreement, the beneficiary will be able to make a claim against the bond. The following points relate to the bond facility.

10.4.1 The value of the bond provided will be 10% of the contract value. This cover will be an aggregate amount for the entire 5 year period of the bond to cover the site address you request the bond to apply to.

10.4.2 The bonds are issued in 5 year contracts which will automatically be renewed for you and the bond issued. The beneficiary of the bond will be the employer of our contract.

10.4.3 If a 10 year bond is required this will be made up of two consecutive 5 year bonds; similarly, 20 year bonds will be made up of four consecutive 5 year bonds.

10.4.4 If an additional beneficiary is required, this must be made clear prior to application.

10.4.5 Where more than one beneficiary is required on a bond, the standard 5 years aggregate bond value (ie 10% of the contract value) will be available to be claimed in full or part by any of the beneficiaries without any pre-arranged apportionment to each.

10.4.6 Amendments to the bond (change or addition of beneficiary) after issue will be subject to an additional charge and are subject to authorisation.

11. Insurance backed guarantees

11.1. An insurance backed guarantee (IBG) will be included for all domestic property owners for works on their own residence, subject to terms and conditions. The Client must specify prior to the works that they are the property owner and that this is their primary residence. Where payment is made by a third party or a company or other corporate body, no IBG will be issued. Please see our supporting documents, including the insurer's documentation and the Company's Guarantee Terms and Conditions for further information.

11.2. It is the responsibility of the client to provide the necessary details to IWSL/JKSL as soon as they become available in order for the IBG to be applied for. Failure to do so before the end of the treatment plan will result in a non-application of the IBG.

12. What the Insurance Backed Guarantee Covers

12.1. In the event that re-growth of Japanese knotweed occurs in an area covered by the treatment within five years from the Completion Date, the Company will attend the Site and carry out chemical treatment on the re-growth as required

13. What the Insurance Backed Guarantee Does not cover

13.1. Japanese knotweed growth or re-growth outside the Site.

13.2. Japanese knotweed growth or re-growth which does not relate to any area covered by the Treatment.

13.3. Any Japanese knotweed growth or re-growth, or cost that is a result of anything not identified in the initial survey or in the initial information provided to the Company.

13.4. Any Japanese knotweed growth or re-growth arising from materials imported, fly-tipped or otherwise introduced in to the Site.

14. Insurance Backed Guarantee Conditions

14.1. Guarantees will be subject to the Company's Terms and Conditions in all cases. This document is available on request and may be varied from time to time without the need for the Company to give notice. Any insurance-backing will be subject to the terms and conditions of the insurer which will be governed by their own documentation.

14.2. Any Guarantee is valid only where full payment has been received by the Company as agreed. Non-payment of any amount will render the Guarantee null and void.

14.3. The Guarantee shall be deemed null and void in the event that excavation or any other activity causing disturbance of soils or the disturbance or movement of Japanese knotweed material is carried out on site without both the approval of the contractor and also the implementation of any additional measures deemed necessary by the Contractor. Approvals or additional measures may be chargeable services. The Contractor reserves the right to refuse either to grant approval or to carry out additional works, or both.

15. Termination for breach

The following obligations are conditions of this agreement and any breach of them shall be deemed a fundamental breach which shall determine this agreement immediately and the rights and liabilities of the parties shall then be determined in accordance with clause 12:

15.1. Failure on the part of the Client to make punctual payment of all sums due to the Company under the terms of this agreement;

15.2. The levying of any distress or execution against the Client or their making any composition or arrangement with creditors or being a company the Client's liquidation (other than a members' voluntary liquidation with the written consent of the Client.

16. Termination consequences

16.1. In the event of this agreement being determined whether by Notice breach or otherwise the Client shall immediately pay to the Company:

16.1.1. all arrears of Payments and any other sums due under the terms of this agreement, and

16.1.2. all further sums which would but for the determination of this agreement have fallen due by the end of the term.

16.2. Either party shall be entitled to exercise any one or more of the rights and remedies given to it under the terms of this agreement and the determination of this agreement shall not affect or prejudice such rights and remedies and each party shall be and remain liable to perform all outstanding liabilities under this agreement notwithstanding that the other may have exercised one or more of the rights and remedies against it.

16.3. Any right or remedy to which either party is or may become entitled under this agreement or in consequence of the other's conduct may be enforced from time to time separately or concurrently with any right or remedy given by this agreement or now or afterwards provided for and arising by operation of law so that such rights and remedies are not exclusive of the other or others but are cumulative.

16.4. Should the client decide to cancel the service a charge of 26.2% of the order value will be applicable if the service is cancelled more than 48 hours in advance of the agreed appointment for delivery of the service. Should the client decide to cancel the service less than 48 hours in advance of the agreed delivery time then the full order value will be applicable.

17. Miscellaneous

17.1. All sums due from the Client to the Company which are not paid on the due date (without prejudice to the rights of the Company under this agreement) shall bear interest from day to day at the monthly rate of 2%.

17.2. The Company carries out credit searches in order to establish a credit limit for each of its customers. Should the company deem the credit score high risk for the amount of credit requested, then the Company reserves the right to;

17.2.1. Withdraw from the Contract in its entirety,

17.2.2. Request the client pay for the order value in full upfront,

17.2.3. Request the client pay a deposit, the amount will depend on the total order value and the level of risk evaluated from the credit check.

17.3. Where the first instalment is paid by the Client to the Company using a credit card the Company may retain the credit card details and subsequently debit the balance from the same credit card in accordance with the payment terms outlined above. The Company may do this without informing the client unless this is otherwise explicitly agreed in writing by both parties.

17.4. The receipt of money by either of the parties shall not prevent either of them from questioning the correctness of any statement in respect of such money.

17.5. Both parties shall be released from their respective obligations in the event of national emergency war prohibitive governmental regulation or if any other cause beyond the reasonable control of the parties or either of them renders the performance of this agreement impossible whereupon all money due under this agreement shall be paid immediately.

17.6. If any provision of this agreement is declared by any judicial or other competent authority to be void voidable illegal or otherwise unenforceable the remaining provisions of this agreement shall remain in full force and effect unless the Company in the Company's discretion decides that the effect of such declaration is to defeat the original intention of the parties in which event the Company shall be entitled to terminate this agreement by 30 days' notice to the Client and the provisions of clause 8 shall apply accordingly.

17.7. Each party acknowledges that this agreement contains the whole agreement between the parties and that it has not relied upon any oral or written representation made to it by the other or its employees or agents and has made its own independent investigations into all matters relevant to it.

17.8. This agreement supersedes any prior agreement between the parties whether written or oral and any such prior agreements are cancelled as at the date of this Agreement but without prejudice to any rights which have already accrued to either of the parties.

17.9. Any decision exercise of discretion judgment or opinion or approval of any matter mentioned in this agreement or arising from it shall be binding on a party only if in writing and shall be at its sole discretion unless otherwise expressly provided in this agreement.

17.10. Each of the parties shall give notice to the other of the change or acquisition of any address or telephone or similar number at the earliest possible opportunity but in any event within 48 hours of such change or acquisition.

17.11. All notices to be given under this agreement shall be in writing and shall either be delivered personally or sent by first class or airmail prepaid post or by telex, cable or facsimile transmission and shall be deemed duly served:

17.11.1. in the case of a notice delivered personally, at the time of delivery;

17.11.2. in the case of a notice sent inland by first class prepaid post, 2 clear business days after the date of dispatch; and

17.11.3. in the case of a facsimile transmission, if sent during normal business hours then at the time of transmission and if sent outside normal business hours then on the next following business day provided that a confirmatory copy is sent by first class prepaid post or by hand by the end of the next business day.

17.12. Each notice shall be addressed to the address of the party concerned set out in this agreement or to such other address as that party shall have previously notified to the sender.

17.13. This agreement and all rights under it may be assigned or transferred by the Company.

17.14. This agreement shall be governed by English law in every particular including formation and interpretation and shall be deemed to have been made in England.

17.15. Any proceedings arising out of or in connection with this agreement may be brought in any court of competent jurisdiction in England and Wales.

17.16. All rights granted to either of the parties shall be cumulative and no exercise by either of the parties of any right under this agreement shall restrict or prejudice the exercise of any other right granted by this agreement or otherwise available to it.

17.17. No term shall survive expiry or termination of this agreement unless expressly provided.

17.18. The failure by either party to enforce at any time or for any period any one or more of the terms or conditions of this agreement shall not be a waiver of them or of the right at any time subsequently to enforce all terms and conditions of this agreement.

17.19. During the term of this Agreement the Company shall be an independent Company and not the servant of the Client and the Company shall not be subject to directions from the Client as to the manner in which he performs his work.

17.20. Each of the parties shall pay any costs and expenses incurred by it in connection with this agreement.

17.21. A person who is not a party to this agreement has no rights under the Contracts (Rights of Third Parties) Act 1999 to enforce any terms of this agreement.

17.22. We operate a company complaints procedure, through which all complaints should be directed. If you are not satisfied with our final response, or if we exceed the response timescales, you may refer the complaint to The Property Ombudsman Scheme: address The Property Ombudsman Scheme, Milford House, 43-55 Milford Street, Salisbury, Wiltshire SP1 2BP; website www.tpos.co.uk (t) 01722 333306 or (e) admin@tpos.co.uk. We will co-operate fully with the Ombudsman during an investigation and comply with his final decision.

Japanese Knotweed Solutions Ltd

WORKING ON BEHALF OF

CEG Ltd

PRESCRIBED CONSUMER INFORMATION WITH COMPLAINTS PROCEDURE

IMPORTANT CONSUMER PROTECTION INFORMATION
Japanese Knotweed Solutions Ltd, Itadori House, Melton Street, Radcliffe, Manchester, M26 4BR, T: 0161 723 2000, F: 0161 723 2001, E: jk@sltd.co.uk which is registered with the Property Codes Compliance Board (PCCB) as a subscriber to the Invasives Code. The PCCB independently monitors how registered organisations maintain compliance with the Code.

The Invasives Code:

- provides protection for property owners, homebuyers, sellers, estate agents, conveyancers and mortgage lenders who depend on members of the Invasive Non-Native Species Association (INNSA) to control and eradicate invasive non-native species on residential and commercial property within the United Kingdom
- refers to a set of minimum standards which members of INNSA must meet in controlling and eradicating invasive non-native species.
- promotes the best practice and quality standards within the industry for the benefit of consumers and property professionals
- enables consumers and property professionals to have confidence in organisations which subscribe to the code, their products and services.

By giving you this information, the organisation is confirming that they keep to the principles of the Code. This provides important protection for you.

The Code's core principles
Organisations which subscribe to the Invasives Code will:

- display the Code logo on their websites and any other materials available in the public domain.
- act with integrity and carry out work with due skill, care and diligence
- at all times maintain adequate and appropriate insurance to protect consumers
- conduct business in an honest, fair and professional manner
- handle complaints speedily and fairly
- ensure that products and services comply with industry Code registration rules, industry standards and relevant laws
- monitor their compliance with the Code

COMPLAINTS
If you have a query or complaint about the products and services related to non-native species you should raise it directly with the organisation, and if appropriate ask for any complaint to be considered under their formal internal complaints procedure. If you remain dissatisfied with the organisation`s final response, after your complaint has been formally considered, or if the organisation has exceeded the response timescales, you may refer your complaint for consideration under The Property Ombudsman scheme (TPOs). The Ombudsman can award compensation of up to £5,000 to you if he finds that you have suffered actual loss as a result of your non-native species provider failing to keep to the Code.

Please note that all queries or complaints should be directed to the organisation that provided the service in the first instance, not to TPOs or to the PCCB.

TPOs Contact Details:
The Property Ombudsman scheme
Milford House
43-55 Milford Street
Salisbury
Wiltshire SP1 2BP
Tel: 01722 333306
Fax: 01722 332296
Website www.tpos.co.uk Email: admin@tpos.co.uk

You can get more information about the PCCB from www.propertycodes.org.uk.

PLEASE ASK YOUR SERVICE PROVIDER IF YOU WOULD LIKE A COPY OF THE INVASIVES CODE

COMPLAINTS PROCEDURE

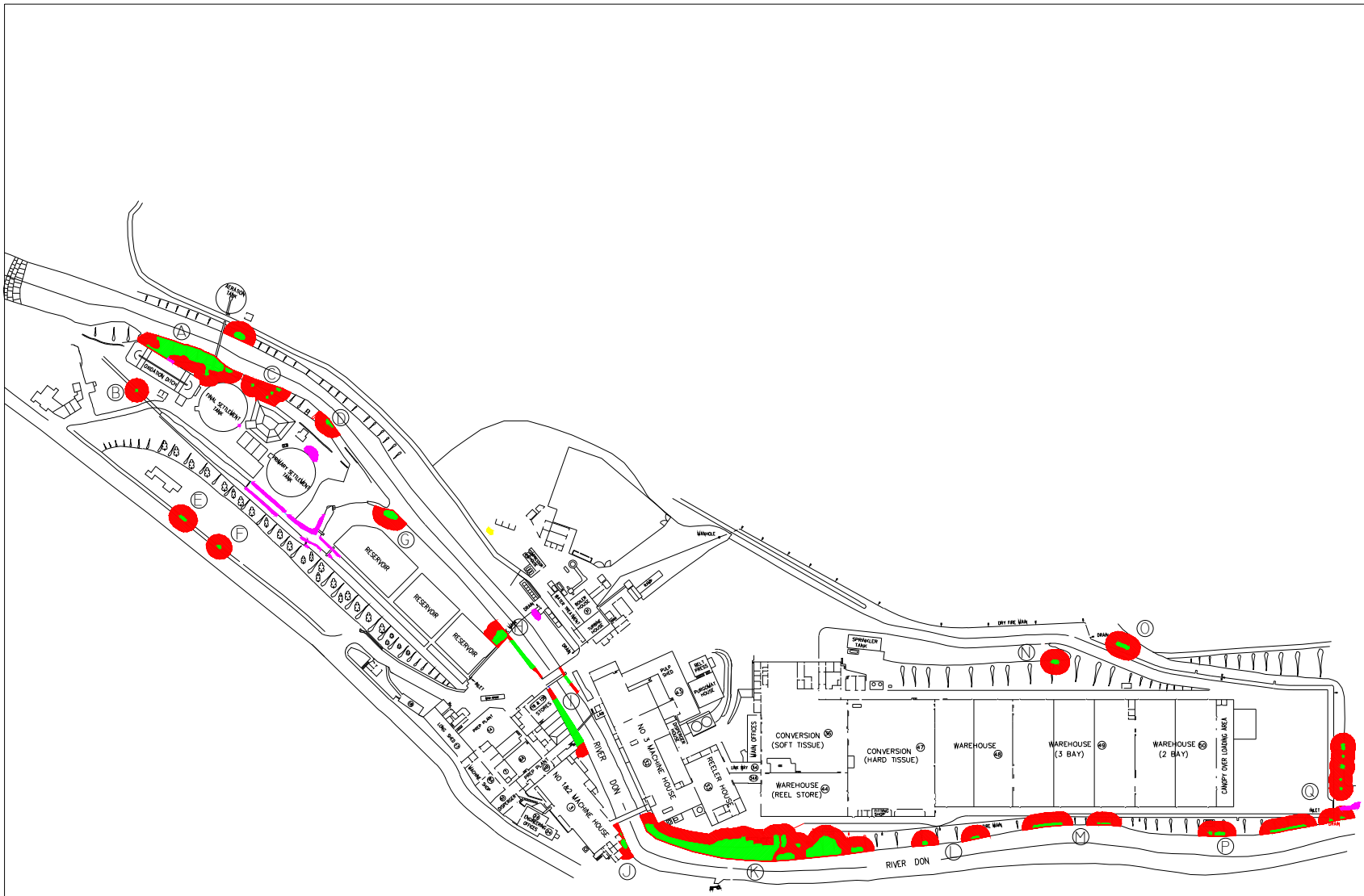
If you want to make a complaint, we will:

- Acknowledge it within 5 working days of receipt.
- Normally deal with it fully and provide a final response, in writing, within 20 working days of receipt.
- Keep you informed by letter, telephone or e-mail, as you prefer, if we need more time.
- Provide a final response, in writing, at the latest within 40 working days of receipt.
- Liaise, at your request, with anyone acting formally on your behalf.

Complaints should be sent to:
Suzanne Hardy
PA to Michael Clough
Japanese Knotweed Solution Ltd
Itadori House
Melton Street
Radcliffe
Manchester
M26 4BR

T: 0161 723 2000
F: 0161 723 2001
Email: suzanne.hardy@sltd.co.uk

If you are not satisfied with our final response, or if we exceed the response timescales, you may refer the complaint to The Property Ombudsman scheme (TPOs) - contact details shown above. We will co-operate fully with the Ombudsman during an investigation and comply with his final decision.



Disclaimer :
Survey based on visual inspection of surface growth. JKSL hold no liability for areas not identified in initial investigation works. Continued monitoring of site is recommended.

- Area of Japanese Knotweed
- Possible or Likely extent of rhizome
- Area of Ragwort
- Area of Himalayan Balsam

Survey orientated to Magnetic North

Client: Georgia Pacific

Scheme: Oughtibridge Paper Mill

Title: Japanese Knotweed Survey

Drawn	Checked	Approved	Date
AD	MEC	MEC	02.07.10

Scale	Job No.
1:1300 @ A1	JK10/4622

Dwg No.	Revision
JK10-4622-01	

Note : Survey scaled and orientated to data supplied by client unless otherwise stated. Information supplied is valid for 14 days from date of issue.

Japanese Knotweed Solutions

ARBORICULTURAL REPORT
to BS 5837:2012
at
Oughtibridge Mill
Main Road
Sheffield
South Yorkshire
S35 0DN

Client:
CEG

Client Address:
The Exchange
1st Floor
Station Parade
Harrogate
North Yorkshire
HG1 1TS

Client Telephone:
01423 875175

JCA Ref:
12563-D/AJB

JCA Limited

Arboricultural Consultants

Contents

1. Introduction

1.1 Purpose of the Report

1.1.1 This report is required at **Oughtibridge Mill**, **Main Road**, **Oughtibridge**, in order to provide detailed, independent, arboricultural advice on the trees present, in the context of potential development.

1.1.2 The purpose of this report is to summarise the findings of an arboricultural assessment of the existing vegetation at the above site; conducted in accordance with the guidelines contained within BS5837: 2012 'Trees in relation to design, demolition and construction – Recommendations'.

1.1.3 This report will outline any tree works which are required within the current context of the site. It will also grade the trees in accordance with the British Standard; which should guide the design in terms of which trees are to be retained and which trees are to be removed.

1.2 Terms of Reference

1.2.1 JCA Ltd has been instructed by **CEG** to survey the site and prepare the findings in a report.

1.2.2 For this purpose a topographical survey has been supplied (**Drawing No. 10502-117-7_2DT-B-2-10502-117-7_2DT_RevB**), which forms the basis for the Tree Constraints Plan at **Appendix 6**. The topographical survey, along with all other documents supplied to JCA, is assumed to be correct. No checking of such documents will be undertaken and JCA cannot be held responsible for incorrect data supplied by other parties.

1.3 Scope of the Report

1.3.1 This report is compiled in accordance with *BS 5837:2012 'Trees in relation to design, demolition and construction – Recommendations'* and is based on an objective assessment of the existing vegetation.

1.3.2 Preliminary recommendations are given with a view to the long-term management of sustainable tree cover and to uphold the interests of health and safety.

1.3.3 All trees within the site boundary with a stem diameter above 75mm are included.

1.3.4 Where applicable trees outside the site boundary, but close enough to be affected by the proposed development, are included.

1.3.5 The specific design of any proposed development is not generally taken into account at this stage.

1.4 Survey Details

1.4.1 The survey took place during the month of May 2017 and was conducted by Andrew Bussey.

1.4.2 During this survey, all trees were inspected from ground level. Further investigations, such as a climbed inspection or a decay detection survey, have not been undertaken but may be recommended where deemed appropriate.

1.4.3 Measurements were obtained using clinometers, specialist tapes or electronic distometers. Where this was not possible, measurements were estimated to the best ability of the surveyor. JCA endeavour to provide accurate information and will always take measurements unless inhibited by restricted access or other mitigating circumstances. Where measurements have been estimated, they are clearly highlighted at **Appendix 1**.

2. Site Description

2.1 Land Use

2.1.1 The site is currently occupied by a disused paper mill located to the north-northwest of the village of Oughtibridge.

2.2 Topography

2.2.1 The main central areas of the site are approximately level. However; there are many undulations in ground level, especially to the northern and southern boundaries where the ground level rises sharply away from the valley of the River Don which runs through the site from a western to easterly direction.

2.3 Treescape and Visual Amenity Value

2.3.1 The site is bordered to the north by mixed broadleaf and coniferous plantations/woodlands of good quality, these plantations (P38 and P39 within this report), which are clearly visible from the southern side of the valley and by passing traffic on Main Road, are considered be the most important addition to the treescape of the site.

2.3.2 The site also contains multiple groups of trees or individual trees of varying quality which are either located adjacent to the riverside or within viewing distance of Main Road and Langsett Road North. Additionally, many self-seeded trees of little merit are located throughout the site.

2.3.3 An online check on the DEFRA website has revealed that **G37, P38** and **P38** within this report form part of the 'Ancient and Semi-Natural Woodland' or 'Ancient Replanted Woodland' which are present on, or adjacent to this site.

2.3.4 Collectively, the trees on, or adjacent to this site are considered to provide a valuable addition to the local treescape and amenity value of the area.

2.4 Age Class Mix

2.4.1 The trees surveyed ranged in age from young to mature.

2.5 Species Diversity

2.5.1 Species surveyed include Common Ash, Goat Willow, Black Pine, Sycamore, Elm sp, Crack Willow, Common Alder, Leylandii, Cypress sp., Cherry sp., Silver Birch, Scots Pine, European Larch, Common Oak, Rowan, Common Lime, Spruce sp., Poplar sp., Norway Maple and Beech.

3. Status of the Trees

3.1 A check was made on the 6th of January 2016 with **Sheffield City Council**.

3.2 We are informed that there are Tree Preservation Orders (TPO numbers **21** and **36**) which protect various trees classified in areas and woodlands in and around the site. We are also informed that the Tree Preservation Orders also cover trees bordering the land.

3.3 Before any work is organised for protected trees, an application form must be submitted to the Local Authority, outlining all the proposed works along with suitable justification. A waiting period of eight weeks is then required, after which time the council will either give consent to the works, refuse the works or grant a conditional consent.

3.4 ***No work must be done to any trees until permission has been granted.***

4. Tree Descriptions and Recommendations

4.1 Full details of all individual trees surveyed are recorded in the tables at **Appendix 1**. A full explanation of the tables can be found at **Appendix 2**. Please refer also to the Tree Constraints Plan at **Appendix 6** for tree locations.

5. Discussion Relating to the Existing Treescape

5.1 Tree Condition & Recommended Works

5.1.1 The tree survey revealed a total of **49** items of vegetation (**16** individual trees, **29** groups of trees, **2** hedges and **2** plantations). Of these, the **2** plantations were identified as retention category 'A', **2** trees and **9** groups were identified as retention category 'B', **12** trees, **18** groups and **2** hedges as retention category 'C' and **2** trees and **2** groups as category 'U'. Please refer to **Appendix 2** for retention category and definition criteria.

5.1.2 Within the survey, tree works have been identified for reasons of public safety, to ensure the long-term health of the trees or for general maintenance purposes. Such recommendations have been made without regard to any projected layout and should be undertaken irrespective of development. These are summarised in the following sections. For full details on all recommendations, please refer to **Appendix 1**. For an explanation of the priority ratings, see **Appendix 2 (A2.2.5)**.

5.2 Tree Removals for Arboricultural Purposes

5.2.1 **T29, T31, G42** and **G48** were identified as retention category 'U' due to the presence of defects detailed in **Appendix 1**. Due to the low public land use at present, the removal of these trees is of a **low priority**.

5.3 Remedial Tree Works

5.3.1 **Low priority** remedial tree works, as detailed in **Appendix 1**, have been recommended for **G6, G8, G15, T18, G25** and **G49** in order to manage foreseeable risks, to prevent the development of defects or for general maintenance purposes.

5.3.2 Those trees which overhang public footpaths or public highways shall require future maintenance in order to maintain clearance heights for vehicular or pedestrian traffic. These heights should be 5.6m above a road and 2.5m above a footpath.

5.3.3 In addition to the remedial works highlighted, all trees to be retained within the site should be re-inspected on a regular basis in the interests of risk management.

5.4 Monitoring/ Further Investigation

5.4.1 **G4, G6, G8, T17, T18, T22, G25, G30** and **T32** were noted to have structural or physiological defects, as detailed at **Appendix 1**. Although these trees were considered to be in an acceptable condition at the time of the inspection, the defects observed may lead to their early demise or render them unsafe in the future. As such, if these trees are to be retained post-development, it is recommended that these trees be monitored (re-inspected and assessed) on a biennial basis to assess if their condition is still acceptable.

5.4.2 Where a full detailed inspection of trees was inhibited by restricted access or by the presence of Ivy or dense understorey vegetation, it is advised that these trees be re-inspected for any possible defects when the Ivy or dense understorey vegetation has been removed or when access has been made available.

5.5 Existing Site Constraints and General Design Advice

5.5.1 The following is an overview of general design considerations relating to a tree cover. The precise details of a proposed development are not known at present.

5.5.2 The specific implications of a proposed design should be assessed within an Arboricultural Implications Assessment (AIA).

5.5.3 The retention categories of the trees surveyed are an indication of their overall values. The category of each item is listed at **Appendix 1** and an explanation of the retention categories is included at **Appendix 2**. As a general rule, those trees listed as retention category 'A' or 'B' should be considered to be the most valuable items on site and those items listed as retention category 'C' to be of a lesser value. Items listed as retention category 'U' are recommended for removal regardless of any proposals and should not present a constraint to construction. The above information should guide the design in terms of which trees are to be removed and which are to be retained. However, it should be noted that the retention of trees is just one consideration in the design process and each development will be taken for its merits.

5.5.4 The location of each tree is plotted on the associated Tree Constraints Plan at **Appendix 6**. This plan identifies the retention category of each tree (Retention A: green canopy, Retention B: blue canopy, Retention C: grey canopy, Retention U: red canopy), the crown spread, and also the associated rooting zone (Root Protection Area or RPA shown in gold). In order to enable the survival of trees shown to be retained within any proposals, both the canopy of the tree and its RPA must be completely avoided wherever possible. This relates to not just the location of new buildings, but also to the location of new areas of hard standing, proposed utility routes and any ground level changes (both excavations and soil piling).

5.5.5 Where information is available, the water demand of each tree is provided at **Appendix 1**, in accordance with NHBC Standards 2014 chapter 4.2. 'Building near trees'. The water demand of trees can affect adjacent structures and this is therefore included to inform foundation design, depth and the proximity of proposed structures to trees.

5.5.6 Many trees on site have grown in close proximity to existing features which include buildings, walls, tanks, pipelines and areas of hard standing. In order to facilitate the demolition and extraction of these features, selected trees (whether falling into retention category A, B or C) may require removal prior to the commencement of works as it is likely that they will become structurally unstable once the features are removed.

5.5.7 Retained trees will require adequate protective measures during development. Such measures typically entail temporary protective fencing, installed to the full extent of the RPA. Where this is not entirely possible, ground protection may also comprise part of the protective measures. This includes a compaction reducing construction detail which enables a degree of construction traffic over/within the RPA.

5.5.8 As the RPAs of the trees will require fencing off as a protection measure, this should be brought into consideration when planning such things as access routes and material storage during development. It is accepted that in some cases it is not entirely possible to completely avoid the RPA or canopy lines within a new development. The consulting arboriculturalist should therefore be made aware of any such incursions to make comment and, where possible, advise on mitigation actions. Such details should be contained within an Arboricultural Implications Assessment (AIA).

5.5.9 No material storage is permitted within the RPA of retained trees unless confirmed to be acceptable by the consulting arboriculturalist. The exact details and location of protective measures should be included within an Arboricultural Method Statement (AMS).

5.5.10 The position of the site compound is a major consideration. It is recommended that this, which typically includes the site office, facilities, toilets, storage of materials and parking, is located away from trees and outside the RPA.

5.5.11 Many development sites contain areas of nature conservation interest. Trees can provide an important habitat for birds, bats, invertebrates and fungi and appropriate attention needs to be paid to preserving habitats throughout the development process.

5.5.12 Where a landscape planting scheme is proposed, consideration must be made at the planning stage as to where this is to be implemented on site. Such locations should be protected in order to prevent soil compaction and/or contamination and should therefore form part of the Construction Exclusion Zone. JCA can provide Tree Planting Schemes where required.

6. Conclusions

6.1 The trees surveyed were generally found to be in good or fair condition.

6.2 Tree Preservation Order numbers **21** and **36** are in force on this site.

6.3 **T29, T31, G42** and **G48** have been recommended for removal for arboricultural reasons, as discussed in **Section 5.2** and detailed at **Appendix 1**.

6.4 **G6, G8, G15, T18, G25** and **G49** have been recommended for remedial works, as discussed in **Section 5.3** and detailed at **Appendix 1**.

6.5 **G4, G6, G8, T17, T18, T22, G25, G30** and **T32** have been recommended for annual monitoring if they are to be retained post-development, as discussed in **Section 5.4** and detailed at **Appendix 1**.

6.6 General design advice has been provided in **Section 5.5**.

6.7 Upon provision of specific proposals, site-specific advice can be given with regards to the impact on trees. In accordance with **Section 5.4** of **BS 5837: 2012**, the next stage on this site should be the preparation of an **Arboricultural Impact Assessment (AIA)**, which will illustrate and discuss the impact of the proposals on the trees and vice versa, to help to inform good design.

6.8 The data gained during the survey provides an indication of the health of the trees. However, it does not enable a comprehensive assessment of their condition over time. Trees are living organisms which are affected by many factors including weather conditions, diseases/disorders, light levels and human activities. Because of this, this report is only valid for a period of 1 year from the date of issuing. Should an update or revision of this report be required outside of this time period, JCA may require a further site visit to ensure that the condition of the trees has not significantly changed. It is advised that the trees are inspected regularly, in the interests of risk management.

Appendices

Tree Ref.	Age Common Name *Botanical Name*	Height (m)	Crown Height (m)	Height (m) and Direction of the Lowest Branch	Diameter (cm)	Crown Spread N W E S	Observations	Recommendations Priority	Physiological Condition	Structural Condition	Amenity Value	NHBC Water Demand	Life Expectancy (yrs)	Retention Category
G 1	Semi-mature Common Ash and Goat Willow *Fraxinus excelsior and Salix caprea*	To 9	0+	0+ n/a	To 23	See plan	2 trees of poor and leaning form located on river bank. No major visible defects.	No action required. n/a	GOOD	GOOD	LOW	HIGH	≥10	C 1
G 2	Early-mature to mature Black Pine *Pinus nigra*	To 16	0+	0+ n/a	To 60	See plan	A row of approximately 10 trees, each of vertical and reasonably balanced form. No major visible defects.	No action required. n/a	GOOD	GOOD	LOW	MOD	≥40	1 B 2
G 3	Semi-mature to mature Mixed *Details in observations*	To 15	0	0 n/a	To 50#	See plan	Trees of reasonable form located on river bank. Common Ash, Elm sp., Sycamore and Goat Willow. Limited inspection due to poor terrain.	No action required. n/a	GOOD	GOOD	MOD	HIGH	≥40	1 B 2
G 4	Semi-mature to mature Mixed *Details in observations*	To 17	0	0 n/a	To 60#	See plan	Sycamore, Elm sp., Crack Willow, Common Alder and Poplar sp. of poor leaning form located on river bank. Included bark on many of the multiple stemmed trees within the group. Some of the trees located to the southwest are hanging low and heavy over the potential development area. Limited inspection due to restricted access.	Monitor biennially. Low	POOR	GOOD	MOD	HIGH	≥20	C 2
G 5	Semi-mature Mixed *Details in observations*	To 14	1	1 n/a	To 25	See plan	Two trees of a poor and leaning form.	No action required. n/a	GOOD	FAIR	LOW	MOD	10+	C 2
G 6	Early-mature to mature Mixed *Details in observations*	To 18	0	0 n/a	To 80#	See plan	Common Ash, Goat Willow, Sycamore and Common Alder of reasonably well balanced and vertical form located on river bank. Deadwood, torn branches and decay cavities throughout. Some dead stems present, as shown indicated on the attached plan. Ivy to stems, poor terrain, limited access and dense vegetation prevented a detailed inspection.	Crown clean. Monitor biennially. Low	GOOD	FAIR	MOD	MOD	≥40	1 B 2
T 7	Early-mature Poplar sp. *Populus sp.*	19	4	4 n/a	35	6 7 3 5	Single-stemmed and leaning with an unbalanced crown and a poor form	No action required. n/a	GOOD	FAIR	LOW	HIGH	10+	C 2
G 8	Mature Sycamore and Common Ash *Acer pseudoplatanus and Fraxinus excelsior*	To 18	4+	4+ n/a	To 80#	See plan	5 trees of vertical and reasonably balanced form located on what appears to be unstable ground which has had recent ground level changes. Many snapped out limbs noted as well as moderate deadwood, decay cavities, and bark wounds. Ivy prevented a detailed inspection.	Crown clean. Remove the Ivy and inspect the stems for defects. Monitor biennialy. Low	FAIR	POOR	MOD	MOD	10+	C 2
T 9	Semi-mature Sycamore *Acer pseudoplatanus*	15	1	1 n/a	20 x 3	4 4 3 4	Twin-stemmed at ground level with a balanced crown. No evidence of significant pruning. Insignificant tree.	No action required. n/a	GOOD	GOOD	LOW	MOD	20+	C 2

Tree Ref.	Age Common Name *Botanical Name*	Height (m)	Crown Height (m)	Height (m) and Direction of the Lowest Branch	Diameter (cm)	Crown Spread N W E S	Observations	Recommendations Priority	Physiological Condition	Structural Condition	Amenity Value	NHBC Water Demand	Life Expectancy (yrs)	Retention Category
G 10	Young to semi-mature Common Ash *Fraxinus excelsior*	To 14	0+	0+ n/a	To 20	See plan	A self-seeded tree group containing trees of little significance.	No action required. n/a	GOOD	GOOD	LOW	MOD	20+	C 2
T 11	Early-mature Sycamore *Acer pseudoplatanus*	16	1	3 S	45 & 40	6 6 4 7	Twin-stemmed at ground level with a slightly unbalanced crown. No evidence of significant pruning. Poor union present at the base. Ivy prevented a detailed inspection	No action required. n/a	GOOD	FAIR	LOW	MOD	20+	C 2
T 12	Early-mature Sycamore *Acer pseudoplatanus*	17	3	3 n/a	38	5 5 3 5	Single-stemmed and vertical with a slightly unbalanced crown. No evidence of significant pruning. No major visible defects.	No action required. n/a	GOOD	GOOD	LOW	MOD	20+	C 2
G 13	Semi to early-mature Mixed *Details in observations*	To 13	0	0 n/a	To 25#	See plan	A group of Common Alder and Goat Willow of poor individual form located behind a fence adjacent to the river. Limited inspection due to poor terrain, dense vegetation and limited access.	No action required. n/a	GOOD	GOOD	LOW	HIGH	≥20	C 2
G 14	Early-mature Leylandii *X Cupressocyparis leylandii*	To 17	0	0 n/a	To 35	See plan	A small row of trees of vertical form located close to the boundary, possibly an overgrown hedge.	No action required. n/a	GOOD	GOOD	LOW	HIGH	≥20	C 1
G 15	Semi-mature Elm sp. *Ulmus sp.*	To 9	0	0 n/a	To 22	See plan	Self-seeded trees of little significance. Some dead and fallen stems present.	Remove the dead and fallen trees from the group. Low	GOOD	FAIR	LOW	HIGH	≥20	C 1
T 16	Mature Leylandii *X Cupressocyparis leylandii*	14	0	0 n/a	50#	2.5 2.5 2.5 2.5	Single-stemmed and vertical with a balanced crown. No evidence of significant pruning. No major visible defects.	No action required. n/a	GOOD	GOOD	LOW	HIGH	≥20	C 1
T 17	Mature Sycamore *Acer pseudoplatanus*	16	6.5	6 SE	74	6.8 7.8 7 8.2	Single-stemmed and vertical with a balanced crown. Multiple pruning wounds due to crown lifting. Minor deadwood. Poor bud formation may indicate the onset of crown die-back.	Monitor biennially. Low	FAIR	FAIR	LOW	MOD	10+	C 1
T 18	Mature Sycamore *Acer pseudoplatanus*	16	5	5 E	76	7.8 7.5 6 5	Twin-stemmed at 2.5m with a balanced crown. Occasional pruning wounds, one with decay noted. Metal objects present in stem. Cavities noted on side limbs. Minor deadwood.	Crown clean. Monitor biennially. Low	GOOD	GOOD	MOD	MOD	≥40	1 B 2
G 19	Semi-mature Leylandii *X Cupressocyparis leylandii*	To 8	0	0 n/a	To 20	See plan	2 trees of vertical and balanced form. No major visible defects.	No action required. n/a	GOOD	GOOD	LOW	HIGH	≥20	C 2

Tree Ref.	Age Common Name *Botanical Name*	Height (m)	Crown Height (m)	Height (m) and Direction of the Lowest Branch	Diameter (cm)	Crown Spread N W E S	Observations	Recommendations Priority	Physiological Condition	Structural Condition	Amenity Value	NHBC Water Demand	Life Expectancy (yrs)	Retention Category
H 20	Semi-mature Leylandii *X Cupressocyparis leylandii*	To 7	0	0 n/a	To 25	See plan	A partially maintained boundary hedge with the occasional Norway Spruce noted within. No major visible defects.	No action required. n/a	GOOD	GOOD	LOW	HIGH	≥20	C 2
G 21	Semi-mature Goat Willow *Salix caprea*	To 13	0	0 n/a	To 30	See plan	4 trees of low overall value. No major visible defects.	No action required. n/a	GOOD	GOOD	LOW	HIGH	≥20	C 2
T 22	Mature Sycamore *Acer pseudoplatanus*	15	3.5	3.5 W	61	3 3 5.5 4	Single-stemmed and vertical with a balanced crown. Previously topped with poor form to the re-growth above the past topping point. Decay cavities at 4m.	Monitor biennially. Low	POOR	FAIR	LOW	MOD	≥10	C 2
T 23	Mature Sycamore *Acer pseudoplatanus*	18	8	8 n/a	70#	8# 6# 5# 7#	Single-stemmed and vertical with a balanced crown. No evidence of significant pruning. No major visible defects. Minor deadwood and stubs present.	No action required. n/a	GOOD	GOOD	LOW	MOD	20+	1 B 2
G 24	Semi-mature to mature Mixed *Details in observations*	To 20	0+	0+ n/a	To 50	See plan	A group of Sycamore and Leylandii of good form overhanging the footpath and the road. Minor deadwood and decay cavities noted.	No action required. n/a	GOOD	GOOD	MOD	MOD to HIGH	40+	1 B 2
G 25	Semi-mature to mature Mixed *Details in observations*	To 17	0	0 n/a	To 80#	See plan	Sycamore, Common Ash and Elm sp. of poor individual form located on steep bank. Deadwood, bark wounds and decay cavities noted throughout. Limited inspection due to poor terrain.	Crown clean. Monitor biennially. Low	GOOD	GOOD	MOD	HIGH	≥40	1 B 2
G 26	Semi to early-mature Mixed *Details in observations*	To 18	0+	0+ n/a	To 70	See plan	Norway Maple, Common Ash and Sycamore of reasonably well balanced form located on a steep bank. Minor deadwood and decay cavities throughout. Lesser value trees are present within the understory.	No action required. n/a	GOOD	GOOD	MOD	MOD	40+	1 B 2
G 27	Semi to early-mature Mixed *Details in observations*	To 15	0	0 n/a	To 50#	See plan	Dense group of Sycamore, Common Ash, Elder, Elm sp. and Norway Maple of poor individual form located on bank. Limited inspection due to dense vegetation and poor terrain.	No action required. n/a	FAIR	GOOD	MOD	HIGH	≥20	C 2
G 28	Semi to early-mature Cypress *Cupressus sp.*	To 12	0	0 n/a	To 20	See plan	4 trees of balanced form with low arboricultural value.	No action required. n/a	GOOD	GOOD	LOW	HIGH	≥20	C 2
T 29	Early-mature Common Ash *Fraxinus excelsior*	17	5	6 S	50#	9.5 5 5 0	Twin-stemmed at 2m with an unbalanced crown and a very poor form. A severe bark wound is present in the upper crown.	Remove. Low	POOR	GOOD	LOW	MOD	≥0	U
G 30	Early-mature Common Alder and Sycamore *Alnus glutinosa & Acer pseudoplatanus*	To 15	2+	2+ n/a	To 50	See plan	Trees which are generally multiple-stemmed and of poor overall form located within area of re-graded earth which is covering their rooting zones.	Monitor biennially. Low	FAIR	FAIR	LOW	MOD	≥10	C 2

Tree Ref.	Age Common Name *Botanical Name*	Height (m)	Crown Height (m)	Height (m) and Direction of the Lowest Branch	Diameter (cm)	Crown Spread N W E S	Observations	Recommendations Priority	Physiological Condition	Structural Condition	Amenity Value	NHBC Water Demand	Life Expectancy (yrs)	Retention Category
T 31	Early-mature Common Alder *Alnus glutinosa*	14	2	2 n/a	50 + 45	3 2 3 2	Twin-stemmed at 6m with an unbalanced crown. Severe dieback and major deadwood to crown.	Remove. Low	POOR	POOR	LOW	MOD	≥0	U
T 32	Early-mature Rowan *Sorbus aucuparia*	7	1	1 n/a	30	2.5 1 4 3	Single-stemmed and leaning with an unbalanced crown and poor form. Occasional pruning wounds. Limited inspection due to restricted access.	Monitor biennially. Low	GOOD	POOR	MOD	MOD	≥10	C 2
H 33	Semi-mature Leylandii *X Cupressocyparis leylandii*	To 3	0	0 n/a	To 10	See plan	Maintained hedge. No major visible defects.	No action required. n/a	GOOD	GOOD	LOW	HIGH	≥20	C 2
T 34	Early-mature Common Oak *Quercus robur*	11	3	3 n/a	48#	5# 3 5# 5#	The crown overhangs the footpath, road and overhead cables. Single-stemmed and vertical with an unbalanced crown. One sided due to past pruning. Limited inspection due to restricted access.	No action required. n/a	FAIR	GOOD	MOD	HIGH	≥20	C 2
G 35	Early-mature Scots Pine *Pinus sylvestris*	To 13	8	8# n/a	To 30#	See plan	The crowns overhang the footpath, road and overhead cables. Two trees growing close together, both are single stemmed and vertical with balanced crowns. Multiple pruning wounds due to crown lifting. No major visible defects. Limited inspection due to restricted access.	No action required. n/a	GOOD	FAIR	MOD	MOD	≥10	C 2
G 36	Semi-mature Sycamore *Acer pseudoplatanus*	To 13	0+	0+ n/a	To 25#	See plan	Approximately 5 trees of reasonable form located adjacent to the riverside. Not fully inspected to to restricted access.	No action required. n/a	GOOD	GOOD	LOW	MOD	20+	C 2
G 37	Young to mature Mixed *Details in observations*	To 18#	0	0 n/a	To 45#	See plan	Group of Sycamore, Silver Birch and Common Ash located adjacent to river bank. Limited inspection due to restricted access.	No action required. n/a	GOOD	GOOD	LOW	MOD	≥40	1 B 2
P 38	Semi to early-mature Mixed *Details in observations*	To 12#	0	0 n/a	To 40#	See plan	Silver Birch, Goat Willow, Scots Pine, European Larch, Common Oak and Rowan. A mixed plantation of coniferous and broad leaf species of good quality. A pipeline is present just within the boundary.	No action required. n/a	GOOD	GOOD	MOD	HIGH	≥40	1 A 2
P 39	Semi to early-mature Mixed *Details in observations*	To 17	0	0 n/a	To 50#	See plan	A mainly coniferous plantation containing Scots Pine, European Larch, Red Oak, Sweet Chestnut, Silver Birch and Common Oak of good quality. A pipeline and other features are present within the boundary.	No action required. n/a	GOOD	GOOD	MOD	MOD to HIGH	≥40	1 A 2
G 40	Young to early-mature Mixed *Details in observations*	To 14	0+	0+ n/a	To 30#	See plan	Possibly planted Silver Birch, Goat Willow, English Oak and European Larch in a dense group. No major visible defects. Not fully inspected due to dense vegetation.	No action required. n/a	GOOD	GOOD	LOW	MOD to HIGH	40+	1 B 2

Tree Ref.	Age Common Name *Botanical Name*	Height (m)	Crown Height (m)	Height (m) and Direction of the Lowest Branch	Diameter (cm)	Crown Spread N W E S	Observations	Recommendations Priority	Physiological Condition	Structural Condition	Amenity Value	NHBC Water Demand	Life Expectancy (yrs)	Retention Category
G 41	Young to early-mature Mixed *Details in observations*	To 14	0+	0+ n/a	To 30#	See plan	A dense mass of what are presumed to be self-seeded Goat Willow and Silver Birch. No major visible defects. Not fully inspected due to dense vegetation.	No action required. n/a	GOOD	GOOD	LOW	MOD to HIGH	20+	C 2
G 42	Young to semi-mature Mixed *Details in observations*	To 13	0+	0+ n/a	To 25#	See plan	A dense mass of what are presumed to be self-seeded Goat Willow and Silver Birch. It is unlikely that these trees will survive the remediation process of removing the earth pile that is located upon the group.	Remove. Low	FAIR	FAIR	LOW	MOD	<10	U
G 43	Young to mature Mixed *Details in observations*	To 18	0	0 n/a	To 60#	See plan	A riverside group of Common Oak, Goat Willow, Cypress sp., Silver Birch, Common Alder and Sycamore. Deadwood and broken branches noted throughout. Not fully inspected due to restricted access.	No action required. n/a	GOOD	GOOD	MOD	HIGH	≥40	1 B 2
T 44	Mature Common Oak *Quercus robur*	14	0	0 n/a	50#	1# 5# 2# 6.5#	Single-stemmed and vertical with an unbalanced crown. No evidence of significant pruning. No major visible defects. Not fully inspected due to limited access.	No action required. n/a	GOOD	GOOD	LOW	HIGH	≥20	C 2
T 45	Mature Beech *Fagus sylvatica*	15	0	0 n/a	80#	6# 7# 2 3#	Single-stemmed and vertical with an unbalanced crown. No evidence of significant pruning. No major visible defects. Not fully inspected due to limited access.	No action required. n/a	GOOD	GOOD	LOW	MOD	≥20	C 2
T 46	Early-mature Sycamore *Acer pseudoplatanus*	13	0	0 n/a	50#	4# 5# 2# 2#	Single-stemmed and vertical with an unbalanced crown. No evidence of significant pruning. No major visible defects. Decay cavity at 1m. Not fully inspected due to limited access.	No action required. n/a	GOOD	GOOD	LOW	MOD	≥20	C 2
G 47	Semi-mature Mixed *Details in observations*	To 11	0	0 n/a	To 20#	See plan	Self-seeded riverside Sycamore and Common Ash of low value. Limited inspection due to restricted access.	No action required. n/a	GOOD	FAIR	LOW	MOD	≥10	C 2
G 48	Semi to early-mature Mixed *Details in observations*	To 14	0	0 n/a	To 40#	See plan	Crack Willow and Common Ash of poor form and low value. Many decayed and broken branches noted. Limited inspection due to restricted access.	Remove. Low	POOR	FAIR	LOW	MOD to HIGH	≥0	U
G 49	Semi-mature-Early-mature Mixed *Details in observations*	To 16	0	0 n/a	To 55#	See plan	Dense area of Sycamore, Elm sp., Common Ash and Common Oak of poor individual form. Deadwood and broken limbs noted throughout. Limited access prevented a detailed inspection.	Crown clean. Low	POOR	GOOD	MOD	MOD to HIGH	≥20	C 2

Appendix 2: Explanation of Tree Descriptions

A2.1 Measurements/ Reference Information

A2.1.1 *REF NUMBER.* All items surveyed are allocated a reference number preceded with a letter, identifying the type of vegetation surveyed: T = an individual tree, G = a group of trees or an area of vegetation, W = woodland, H = a hedgerow.

A2.1.2 *SPECIES: COMMON AND BOTANICAL NAME*. The common and botanical names of the species present are noted. If the species is not clear or identifiable, then a general common name and genus will be noted.

A2.1.3 *AGE CLASS* of the tree is described as young, semi-mature, early-mature, mature, over-mature, veteran or dead.

A2.1.4 *HEIGHT* of the tree is measured in metres from the stem base to the top of the crown.

A2.1.5 *CROWN HEIGHT* is an indication of the height above ground level at which the crown begins.

A2.1.6 *STEM DIAMETER* is measured at 1.5 metres above (higher) ground level. Where the tree is multi-stemmed at this point; diameter measurements are taken for each stem. If more than five stems are present, an average stem diameter is taken. If for whatever reason it is not practical to measure multiple-stemmed trees in this way, the diameter is measured close to ground level, just above the root buttress.

A2.1.7 *CROWN SPREAD* is measured from the centre of the stem base to the tips of the branches to all four cardinal points.

A2.1.8 *HEIGHT AND DIRECTION OF LOWEST BRANCH.* The height and direction of the lowest significant branch is noted because of potential issues relating to clearances and the need for tree pruning.

A2.1.9 *NHBC WATER DEMAND.* The water demand of each tree, as listed in NHBC Standards 2010 Chapter 4.2 ‘Building near trees’. This is included to aid structural engineers, architects and other members of the design team as it determines foundation depth and other considerations with regard to trees.

A2.2 Evaluations

A2.2.1 *PHYSIOLOGICAL CONDITION* is classed as good, fair, poor, or dead. This is an indication of the health and vitality of the tree and takes into account vigour, presence of disease and dieback.

A2.2.2 *STRUCTURAL CONDITION* is classed as good, fair or poor. This is an indication of the structural integrity of the tree and takes into account significant wounds, decay and quality of branch junctions.

A2.2.3 *LIFE EXPECTANCY* is classed as; 0, less than 10 years, 10+ years, 20+ years, or 40 + years. This is an indication of the minimum number of years before removal of the tree is likely to be required.

A2.2.4 *AMENITY VALUE.* A general indication is given in respect to the amenity/landscape value of the tree/group within the surrounding area.

A2.2.5 *PRIORITIES.* A priority rating is given concerning the time periods in which the recommended works should be undertaken. LOW priority works should be undertaken within 12 months of the survey, MOD (moderate) priority works should be undertaken within 6 months and HIGH priority works should be completed as soon as practically possible. If no works are recommended, N/A (not applicable) will be used.

A2.3 Retention Categories

A2.3.1 ***A (marked green on the plan) = Trees of high quality.***

These trees are of high quality and value with a good life expectancy (usually with an estimated remaining life expectancy of 40 years).

A2.3.2 ***B (marked in blue on the plan) = Trees of moderate quality.***

These trees are of moderate quality and value with a reasonable life expectancy (usually with an estimated life expectancy of at least 20 years).

A2.3.3 ***C (marked in grey on the plan) = Trees of low quality.***

These trees are of low quality and value but which are in adequate condition to remain or are young trees with a stem diameter below 15cm (usually with an estimated life expectancy of at least 10 years).

A2.3.4 Trees categorised as retention category ‘A’, ‘B’ or ‘C’ are then justified by being further divided into 3 subcategories:

1 = Mainly arboricultural qualities.

2 = Mainly landscape qualities.

3 = Mainly cultural values, including conservation value.

A2.3.5 ***U (marked in red on the plan) = Trees usually unsuitable for retention due to poor condition.***

These trees are in such a condition that they cannot be realistically retained as living trees in the context of the current land use for longer than 10 years. This may be due to any of the following:

1) Failure is likely due to serious, irredeemable, structural defects.
2) Removal of other category U trees will render them exposed and unstable.
3) They are in serious, overall decline or are dead.
4) They are of low quality and suppressing adjacent trees of better quality.
5) Diseases are present which may affect the health of adjacent trees.

These trees should be removed or treated in such a way as to make them safe where they have high ecological value, such as in a woodland setting.

Appendix 3: General Guidelines

A3.1 All tree work should be undertaken to BS 3998: 2010 '*Recommendations for tree work'* or other recognised industry practice.

A3.2 Staff carrying out the work must be qualified, experienced and ideally be Arboricultural Association approved contractors. They should be covered by adequate public liability insurance.

A3.3 This report is based upon a visual inspection. The consultant shall not be responsible for events which happen after this time due to factors which were not apparent at the time, and the acceptance of this report constitutes an agreement with the guidelines and the terms listed therein.

A3.4 Any defects seen by a contractor or the employer that were not apparent to the consultant must be brought to the consultant's attention immediately.

A3.5 No liability can be accepted by JCA in respect of the trees unless the recommendations of this report are carried out under the supervision of JCA and within JCA's timescale.

A3.6 It is advisable to have trees inspected by an arboricultural consultant on a regular basis.

Appendix 4: Glossary of Terms & Abbreviations

Arboriculture	The cultivation of trees in order to produce individual specimens of the greatest ornament, for shelter or any primary purpose other than the production of timber or fruit.
Canker	Disease damaged area of a tree, usually caused by fungus or bacteria affecting the bark.
Co-dominant stem	A stem which has grown in direct competition to the main stem and which has formed a substantial size influencing the appearance of the tree.
Crown lift	The removal of the lowest branches, usually to a given height. It allows more residual light and greater clearance underneath for vehicles etc.
Crown thin	The removal of some of the density of a tree's crown**,** usually 5-25% allowing more light through its canopy and reducing wind resistance.
Deadwood	Either dead branches, or a procedure involving the removal of dead, dying and diseased branches.
Dieback	Where branches are beginning to show signs of death usually at the tips in the crown.
Epicormic shoots	Small branches that grow in clusters around the base of the stem of a tree or within the crown. This is usually as a result of bad pruning or some other stress factor, although can be a natural growth pattern for some species of tree (eg Lime species).
Included bark	Where the bark on two adjoining branches or stems is growing tight together, forming a joint with limited physical strength.
Pollarding	A method of tree management in which the main trunk and principle branches of the tree are cut to the same height, and the resulting branches are then cropped on a regular basis.
Remedial pruning	The removal of old stubs, deadwood, epicormic growth, rubbing or crossing branches and other unwanted items from the tree's crown. Sometimes referred to as crown cleaning.
RPA	Root Protection Area – Theoretical rooting area of a tree as defined in BS 5837:2012 '*Trees in relation to design, demolition and construction – Recommendations*'.
Topping	Topping is a form of pruning that removes terminal growth leaving a 'stub' cut end. Topping can cause serious health problems to a tree.

Appendix 5: Author Qualifications

Principal Consultant and Managing Director

Jonathan Cocking *F.R.E.S., Tech. Cert. (Arbor.A), PDipArb (RFS) FArborA CBiol MSB. MICFor.* Jonathan is a Registered Consultant and Fellow of the Arboricultural Association and sits on its Professional Committee. He has 31 years experience in the Arboricultural profession and served for eight years as Senior Arboriculturist with a large local authority before establishing JCA in 1997. Jonathan has since developed JCA's portfolio of services and its extensive client base. He is a Chartered Biologist, a Chartered Arboriculturalist and an Expert Witness with much experience of litigation work.

Technical Coordinator

Toby Thwaites *BSc (Hons), HND (Arboriculture).* Toby joined JCA in 1998 after graduating in Ecology at the University of Huddersfield and has since graduated in Arboriculture at the University of Central Lancashire. A former JCA team leader and Consulting Arboriculturist, Toby is now Technical Coordinator and oversees all office and on-site activities at JCA and is on hand to offer technical support and advice.

Consulting Staff: Arboriculture

Toby Parsons *Cert. Arb. (RFS), Tech. Cert. (Arbor.A).* Toby joined JCA after spending 6 years working as a senior climber for various Arboricultural contractors in the East Midlands and the South-West. He has gained the Level 2 Certificate in Arboriculture (RFS) and an Arboricultural Technicians Certificate. Toby is LANTRA certified in Professional Tree Inspection.

Scott Reid ***ND*** *(Arboriculture and Forestry).* Scott joined JCA after working with other consultancy companies in the south of England. He specialises in trees in relation to development and holds a National Diploma, various NPTC qualifications and is currently studying for his Level 4 Diploma in Arboriculture.

Andrew Bussey. Andrew joined JCA having spent 12 years working as a tree surgeon for various private companies and a Local Authority. He has various NPTC qualifications, is QTRA qualified and is currently studying for his Arboricultural Technicians Certificate.

Phil Humeniuk *FdSc (Arboriculture).* Phil joined JCA having spent 3 years working for various tree surgery companies and as a Tree Officer for a Local Authority. He also has several years experience working as a consultant both for JCA and for another consultancy. Phil obtained his foundation degree in Arboriculture at the University of Central Lancashire and has various NPTC's and is LANTRA certified in Professional Tree Inspection.

Emily Wilde *FdSc (Arboriculture).* Emily joined JCA having previously worked for various private tree surgery and consultancy companies over the past 8 years. She initially obtained a ND in Forestry & Arboriculture, followed by a FdSc in Arboriculture at Askham Bryan College, York. Emily has various NPTC certificates and is QTRA qualified.

Mick Eltringham *ND (Forestry).* Mick joined JCA after spending 12 years working in the industry for various private companies in the north and south of England. He has also spent the last five years working as a consultant for two canopy research projects in the Amazon Rainforest, working with Oxford University and the University of Arizona. He has various NPTC Qualifications.

Charles Cocking. Charles joined JCA in January 2014 as an Apprentice having previously worked for the company on a part time basis during 2013. In between his roles at JCA, Charles will be studying at Askham Bryan College, York, undertaking a two year course in order to obtain a Foundation Degree in Arboriculture (FdSc Arboriculture).

Consulting Staff: Ecology

Josie Collier *BSc (Hons) Ecology.* Josie joined JCA's ecology department and brings with her a degree in Ecology and Environmental Biology from the University of Leeds. Josie has gained experience from working with a local authority and is seeking to become a member of the Chartered Institute of Ecology and Environmental Management (CIEEM).

David Bodenham *BSc Ind (Hons) Zoology, MSc Biodiversity and Conservation.* David joined JCA as an addition to the expanding ecology department. An advocate of evidence based conservation, he studied Zoology (Ind) at University and moved onto an MSc in Biodiversity and Conservation where he gained the myriad of skills needed as an ecologist. With over 7 years of experience, David specialises in bat and amphibian ecology.

Administrative Staff

Sue Guest Administrative Team Leader.
Simeon Haigh *BSc (Hons).* IT Officer.
Lorraine Spink Administrative Assistant.
Yasmin Shahzad Administrative Assistant.
Catherine Cocking Accounts Manager.