

Arboricultural Impact Assessment (AIA)

November 2021

East Manchester Leisure Centre

189 Grey Mare Lane

Manchester

M11 3ND

U R B A N
G R E E N

QUALITY MANAGEMENT

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Project:	East Manchester Leisure Centre			
Location:	East Manchester Leisure Centre, 189 Grey Mare Lane, Manchester, M11 3ND			
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1. Executive Summary

- 1.1.1. Urban Green has been instructed by Ameresco to carry out an Arboricultural Survey to British Standard 5837:2012 guidelines at East Manchester Leisure Centre, 189 Grey Mare Lane, Manchester, M11 3ND and produce our findings in a report.
- 1.1.2. It is proposed to install an air source heat pump to the south of the leisure centre building adjacent to Grey Mare Lane. Full details of the proposed site layout can be seen on the plans included in Appendix 4.
- 1.1.3. The installation of the air source heat pump requires the removal of 3 BS5837: 2012 'Moderate Quality' B category trees within the site boundary. The loss of these trees will have only a minor impact on the visual amenity of the surrounding area and it is recommended that the tree loss is mitigated for by replacement tree planting
- 1.1.4. Before any tree works are carried out trees should first be assessed for their suitability for protected species by a suitably qualified and experienced ecologist.
- 1.1.5. Tree protection fencing, and ground protection will need to be installed at the alignment shown on the Tree Protection Plan in Appendix 4 before any construction activity takes place.

2. Introduction

2.1. Instructions and references

- 2.1.1. We have been instructed by Ameresco to carry out a Arboricultural Impact Assessment (AIA) in accordance with BS 5837:2012 Trees in relation to design, demolition and construction – Recommendations at the site location and produce our findings in a report to be submitted with a detailed planning application.
- 2.1.2. All trees, regardless of their statutory status, are a material consideration in a planning application. BS 5837 recognises the potential conflict between trees and development. The standard sets out to assist those concerned with trees in relation to construction and aid with decision making. This is achieved by providing impartial and balanced information on trees and their potential impacts.
- 2.1.3. Due to the nature of the site, it was decided that the survey methodology would include broadly grouping trees that share very similar characteristics. This method is in line with point 4.4.2.3 of BS 5837:2012 that states ‘Trees forming groups...should be identified and considered as groups where the arboriculturist determines that this is appropriate... It may be appropriate to assess the quality and value of trees as a whole, rather than individuals.’
- 2.1.4. The site is located in the area shown in Figure 1.



Figure 1 – Site Location Plan

2.2. Scope

- 2.2.1. The AIA takes into account any potential impacts on existing trees including the effect of any tree loss required to implement the design and recommendation for the establishment of new trees.
- 2.2.2. The AIA will also assess any potentially damaging activities proposed in the vicinity of retained trees and the effect that the retained trees may have on the development such as potential nuisance caused by excessive leaf/fruit litter, lighting levels and potential damage to structures.

2.3. Documents provided

- 2.3.1. A scaled plan has been provided with tree positions already plotted. Any extra trees found on site that were not included on the original plan have been plotted according to measurements taken on site and/or using aerial photography.
- 2.3.2. Tree locations which have been estimated are illustrated on the Tree Protection Plan in Appendix 4. The exact locations of these trees must be verified, and any discrepancies discussed with the Arboricultural Consultant before starting works on site.
- 2.3.3. A plan outlining the development proposals has been overlaid with the Tree Constraints Plan in order to assess the potential impacts.

2.4. Limitations

- 2.4.1. The report is based upon a visual inspection. The consultant shall not be responsible for events that happen after the date of the report due to factors that were not apparent at the time, and the acceptance of this report constitutes an agreement with the guidelines and the terms listed in this report.
- 2.4.2. The consultant accepts no liability in respect of the trees unless the recommendations of this report are carried out under his supervision.
- 2.4.3. Assessing the potential influence of trees upon load bearing soils, beneath existing and proposed structures resulting from water abstraction by trees or rehydration of shrinkable soils was not included in the contract brief and is therefore not considered in the report. The consultant cannot be held responsible for damage arising from such action.
- 2.4.4. Trees are living organisms whose health, condition and structure can change over time. The contents of this report are valid for a period of one year from the date of the report.
- 2.4.5. Potentially hazardous trees are highlighted, and appropriate recommendations are made. However, this report is not a substitute for a full tree risk assessment or management plan which are specifically designed to minimise risk and liability associated with responsibility for trees.

3. Legislation

3.1. Tree protection status

- 3.1.1. A Tree Preservation Order (TPO) is an order made by a Local Authority to protect specific trees, groups of trees or woodlands in the interests of amenity. A TPO prohibits the cutting down, topping, lopping, uprooting and wilful damage or destruction of trees without the Local Authority's written consent.
- 3.1.2. At the time of writing the report, we have not yet received a response from the Local Planning Authority to our request regarding the status of trees on or adjacent to the site.
- 3.1.3. It is recommended that the Local Authority is consulted before any tree works are undertaken, as new TPOs may have been created since the time of enquiry, and heavy fines exist for unauthorised works to protected trees.
- 3.1.4. All works to trees covered by a TPO require permission from the Local Authority, including any pruning. However, this does not include trees that are dead or have become dangerous. The removal of dead branches is also excluded from a TPO. Although the above exceptions exist, it is advisable to give the Local Authority five days' notice in writing of any intended removal. Permission is not needed where tree work is required to implement an approved planning application.
- 3.1.5. In a Conservation Area, all trees greater than 75mm in diameter at 1.5m above ground level are protected. Where tree work is required in a Conservation Area, a Section 211 notice of intent must be submitted the Local Planning Authority who have six weeks to decide to either make a TPO or allow the work to proceed.
- 3.1.6. The proposed work can proceed after six weeks as it is presumed that the Local Authority consents if they have not responded in that time.
- 3.1.7. It is an offence to remove more than 5m³ of timber in any one calendar quarter without having first obtained a felling licence from the Forestry Commission. It must be noted, however, that this excludes sites where planning permission has already been granted.

3.2. Wildlife

- 3.2.1. Prior to the commencement of any tree works, the trees should be assessed for the presence of species which are subject to protection under the *Wildlife and Countryside Act 1981* (as amended) and the *Conservation of Habitats and Species Regulations 2017*.
- 3.2.2. Where there is evidence that bats, birds or other protected species are present, the advice of a suitably qualified ecologist should be sought.
- 3.2.3. If tree works are carried out during the bird nesting season (March to September inclusive), trees would need to be inspected by a qualified ecologist no more than 48 hours prior to the commencement works.

4. Arboricultural Impact Assessment (AIA)

4.1. Summary of the development

- 4.1.1. It is proposed to install an air source heat pump to the south of the leisure centre building adjacent to Grey Mare Lane. Full details of the proposed site layout can be seen on the plans included in Appendix 4.

4.2. Tree constraints

- 4.2.1. BS 5837:2012 recognises that conflicting requirements of the planning system for development means that trees are only one factor which need to be taken into consideration. Although there may be certain specimens that can pose significant constraints to development due to their importance, it is essential that inappropriate tree retention is avoided.
- 4.2.2. Trees can be adversely affected on development sites if their protection is not factored into the wider project management of onsite operations. We have transposed the tree survey plan over plans detailing current proposals in order to assess the impact on surveyed trees.
- 4.2.3. It is essential that roots are protected from construction works including physical damage from excavation and changes in soil structure from compaction and changes in ground levels.

4.3. Root Protection Areas (RPAs) explained

- 4.3.1. The RPA is an area of ground around the base of a retained tree, which is calculated in relation to the stem diameter, where disturbance should be kept to a minimum and avoided if at all possible.
- 4.3.2. The majority of tree roots grow within the upper 600mm of the soil profile where most nutrients are available as the result of the decomposition of organic matter close to the surface. Rooting conditions become less favourable at depth as the soil density increases, creating anaerobic conditions.

4.4. Impacts of development

- 4.4.1. Two individual trees and six groups of trees were surveyed, all of which were within the site boundary. All the surveyed trees and groups were assessed as BS5837: 2012 'Moderate Quality' retention category 'B'.
- 4.4.2. Three trees within group G8 require removal to facilitate installation of the air source heat pump. These trees are all semi-mature ornamental planting stock, and their loss will have only a minor impact on the visual amenity of the surrounding area. The loss of these trees should be mitigated by replacement with at least four standard size native trees located within the site boundary.

4.5. Tree surgery works

- 4.5.1. Tree works that are recommended within the Tree Works Schedule (Appendix 4) are works required to facilitate development and also include details or remedial works. Tree works stated in the Tree Data Schedule (Appendix 1) are of a general maintenance nature and can be carried out at any time as per recommendations.

- 4.5.2. Tree works required to facilitate the development will be carried out prior to the commencement of any onsite operations. This should allow sufficient space for approved construction to be carried out.
- 4.5.3. Any unforeseen tree works that become apparent during the construction process will require written consent from the Local Authority Tree Officer.

4.6. Protective fencing

- 4.6.1. Temporary protective fencing will need to be installed at the alignment indicated on the Tree Protection Plan in Appendix 4, prior to the commencement of any construction activities on site including the delivery of materials and site facilities.
- 4.6.2. Any fencing that is damaged so that it is no longer able to protect retained trees must be replaced/repared immediately with appropriate fencing.
- 4.6.3. The required specification for protective fencing is illustrated in the Tree Protection Plan (Insert 1).
- 4.6.4. The 'in-ground' system involves driving vertical scaffold poles approximately 0.6m into the ground onto which are affixed horizontal scaffold poles and bracing struts. 2m high anti-climb weldmesh panels are then wired to the scaffold framework. The vertical scaffold poles should be at a maximum of 3m apart.
- 4.6.5. No fixing shall be made to any tree and all possible precautions shall be taken to prevent damage to the tree roots when locating uprights.
- 4.6.6. A 600mm x 300mm warning sign reading "TREE PROTECTION AREA KEEP OUT" shall be fixed to every 10m of protective fencing, as illustrated on the Tree Protection Plan (Insert 2).

4.7. Temporary tree guard

- 4.7.1. Where space is limited, it is sometimes necessary to construct a temporary tree guard to physically protect the main stem of the tree.
- 4.7.2. This should be made by joining together 4 X 25mm Exterior Grade pieces of plywood to 47mm X 47mm treated timber posts to create a box shaped frame which is attached to the ground or adjacent structures. No fixings are to be made to the tree and suitable ground protection should be employed within the RPA of the tree.

4.8. Temporary site cabins

- 4.8.1. All storage facilities and deliveries will make use of existing hard surfaces to avoid unnecessary compaction within RPAs. The locations will be agreed in writing with the LPA prior to delivery and will remain in the agreed locations unless approved by the LPA.
- 4.8.2. If storage facilities require siting within RPAs, every effort will be made to ensure that any damage to aerial parts of retained trees is avoided and that appropriate footings are used to avoid root damage or compaction of the soil.

4.9. Recommendations

- 4.9.1. All operations that could affect trees on and adjacent to the site must be considered as part of the project management of the Proposed Development. It is therefore recommended that an Arboricultural Consultant is appointed as part of the design and management team to advise on pre-development issues and supervise on-site operations.
- 4.9.2. The Arboricultural Consultant may also have an advisory role in the preparation of site including tree surgery works and the protection of trees during demolition processes.
- 4.9.3. The Arboricultural Consultant shall be responsible for inspecting all protective fencing prior to the commencement of all onsite activity.

Appendix 1 – Tree Data Schedule

The following pages contain information gathered during the site survey. The reader should refer to Appendices 2 and 3 in order to correctly interpret the tree data.

Reference T= Tree G= Group H= Hedge W= Woodland	Age & Species	Height (m)	Crown Ht (m)	DBH (mm)	Crown Spread (m) N W E S	Notes	Recommendations		Physiological Condition	Life Expectancy (yrs) Retention Category	RPA Radius (m)
							Priority	Inspect Freq (yrs)			
G1	Semi-Mature Mixed Species	av 5	av 2	av 130	av 2 2 2 each	1: Ornamental planting within leisure centre car park. 2: Species include london plane and crab apple. 3: Planting stakes remain, all ties cut. 4: All trees doing well-except one dead specimen.	Remove and replace dead specimen.		Good	40+ B	1.56
							Moderate	1			
							No action required.		Good	40+ B	1.56
G2	Semi-Mature Mixed Species	av 7	av 1	av 130	2.5 2.5 each	1: Ornamental planting within landscaped grass verge adjacent to leisure centre. 2: Species include silver birch and black pine. 3: All staked with ties now cut. 4: All trees appear to be doing well.			Good	40+ B	1.56
							n/a	3			
							No action required.		Good	40+ B1.2	1.68
G3	Semi-Mature Mixed Species	av 5	av 2	av 140	av 2 2 each	1: Ornamental planting within landscaped grass verge. 2: Mostly staked with ties removed. 3: All trees appear to be doing well. 4: Fastigate hornbeam, silver birch, ginkgo biloba, turkish hazel, black pine.			Good	40+ B	1.56
							n/a	3			
							No action required.		Good	40+ B	1.80
T4	Semi-Mature Black Pine Pinus nigra	4.5	2	130	2 2 2	1: Ornamental planting within leisure centre car park. 2: Staked and tie cut.			Good	40+ B	1.56
							n/a	3			
							No action required.		Good	40+ B	1.80
G5	Semi-Mature Mixed Species	av 6	av 2	av 150	av 2 2 each	1: Ornamental planting adjacent to leisure centre car park. 2: Mix of silver birch, black pine and alder. 3: All remain staked with ties cut.			Good	40+ B	1.80
							n/a	3			
							No action required.		Good	40+ B	1.80
T6	Semi-Mature Black Pine Pinus nigra	5	1.5	150	2 2 2	1: Ornamental planting located within grassed verge adjacent leisure centre. 2: Staked with tie cut.			Good	40+ B	1.80
							n/a	3			
							No action required.		Good	40+ B	1.80

Reference T= Tree G = Group H = Hedge W = Woodland	Age & Species	Height (m)	Crown Ht (m)	DBH (mm)	Crown Spread (m)			Notes	Recommendations		Physiological Condition	Life Expectancy (yrs)	RPA Radius
					W	N	E		Priority	Inspect Freq (yrs)			
G7	Semi-Mature Mixed Species	av 8	av 2	av 150	2	2	3	1: Ornamental planting adjacent to leisure centre building. 2: Silver birch and black pine. 3: Staked with ties cut. 4: Three trees all appear to be doing well.	No action required.		Good	40+	1.80
									n/a	3			
									Replace dead specimens.		Good	B	
G8	Semi-Mature Mixed Species	av 8	av 1.5	av 150	2	2	each	1: Ornamental planting located on landscaped grass verge to south of leisure centre. 2: Species include wild cherry, silver birch, maidenhair, black pine and alder. 3: Approximately two dead specimens. 4: Trees mostly staked with ties cut. 5: Majority of trees appear to be doing well.	Moderate		Good	40+	1.80
									1				
									Replace dead specimens.		Good	B	

Appendix 2 – Tree Schedule Definition of Terms

Tree Referencing	Individual Trees	T (+number)
	Grouped Trees	G (+number)
	Hedgerows	H (+number)
	Woodlands	W (+number)
	Young	Usually <15 years
Age Category	Semi-mature	Significant growth expected, approximately one third of life expectancy complete
	Early-Mature	Full height achieved with further significant growth possible, up to two thirds of life expectancy complete
	Mature	Full height has been achieved with possible spreading of the canopy, usually past two thirds of overall life expectancy
	Veteran	Usually a tree of significant age with characteristics that give additional cultural, landscape and conservation benefits,
	Over-mature	A tree declining due to age as indicated by deterioration in the health and condition of its crown and trunk.
Species	Botanical Name	conforming to the International Code of Nomenclature for algae, fungi, and plants (ICN). For universal plant recognition.
	Common Name	commonly used names usually on a local and national scale.
Tree Height	The vertical distance between the base of the tree (where soil and buttress meet) and the tip of the highest branch on the tree.	
Crown Height	Measured from ground level to the height at which the main crown begins.	
Stem Diameter (DBH)	Stem diameter is measured at 1.5 m above ground level	
Crown	Measurements taken from all four cardinal points in metres.	
Notes	Notes are made to inform of any possible defects, peculiarities or points of interest that may relate to the trees position, physiology, safety and possible effects on developments.	
Recommendations	Recommendations are made in accordance to good arboricultural practice. Recommendations are made regardless to the end usage of the site.	
Priority Scale	Priority is given dependant on the perceived threat and the likelihood of failure given to a possible hazard. The priority of work is given regardless of the end usage of the site.	
	Urgent	To be carried out as soon as possible.
	Very High	To be carried out within 1 month.
	High	To be carried out within 3 months.
	Moderate	To be carried out within 1 year.
	Low	To be carried out within 3 years.
Physiological Condition:	Good	Usually healthy with no symptoms of poor health or disease.
	Fair	Exhibiting signs of poor health or minor disease infections that are not considered to be hazardous.
	Poor	Disease present in considerable quantities or with very poor physiological vigour.
	Very Poor	Tree is in a moribund state in extremely poor condition, usually with little chance of recovery.
Structural Condition:	Good	A tree with no significant structural defects.
	Fair	Minor defects may have been observed but are not considered to be immediately hazardous.
	Poor	Significant defects found. Tree requires monitoring or remedial works.
	Very Poor	Major defects that require immediate remedial work or the removal of the tree.
Life Expectancy:	The estimated number of years before the tree may require removal should no unexpected mechanical or environmental impacts occur to the tree.	
Retention Category:	Please refer to Tree retention categorisation table on the next page.	

Appendix 3 – Tree Retention Category

The following table provides an explanation of retention categories used.		
Trees to be removed		Colour on Plan
Category U Includes trees of very low quality that offer little or no amenity value.	Trees that are in such a condition that they should be removed as a matter of good arboricultural practice regardless of given proposals.	RED
Trees to be considered for retention		
Category A Trees of a high quality, with an estimated life of expectancy of at least 40 years	Trees that are excellent examples of their species, usually mature, especially if rare or unusual including veteran trees. Category A trees are likely to enhance a development and should be retained wherever possible.	GREEN
Category B Trees of moderate quality with an estimated remaining life expectancy of at least 20 years.	Trees that are good examples of their species. B category trees are usually mature or younger trees with the potential to reach A category in the future. Although the retention of these trees is desirable, some losses may be acceptable.	BLUE
Category C Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150 mm.	Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories.	GREY
NOTE: Trees that are viewed as borderline and do not fit neatly into either of the categories are given a plus or minus rating (+/-) in the tree data schedule. Therefore, C+ would denote a tree being borderline C/B although C is deemed to be the most appropriate category. Similarly, B- would denote a tree being borderline B/C with B seen as the most appropriate category.		

Appendix 4 – Site Plans

The site plans referred to in the report follow this page which include the following:

- Tree Constraints Plan
- Tree Removal Plan
- Tree Works Schedule
- Tree Protection Plan
- Tree Protection Inserts

Although included plans are usually to scale, they are only intended to indicate positions of surveyed trees and dimensions should not be taken from these drawings.

Position estimated on site

REV.	DATE	DESCRIPTION	DRAWN	CHK'D

U R B A N
G R E E N

A: Ground Floor, The Tower,
Deva City Office Park, Trinity Way,
Manchester M3 7BF

T: +44 (0) 161 312 3131

weareurbangreen.co.uk

Client: AMERESCO

**EAST MANCHESTER
LEISURE CENTRE**

TREE CONSTRAINTS PLAN

PLANNING			
Issue:			
Drawn:	EA	Checked:	RH
Project:	UG1208	Scale @ A1:	1:250
Dwg No:	UG_1208_ARB_TCP_01		Revision:
			00
		Approved:	EA
		Date:	11/08/21

Tree Works Schedule

Tree Number	Species	Works Required	Reason
G8	Mixed species	3 tree removals see Tree Removal Plan	To facilitate the development

01	19/11/21	PROPOSAL UPDATE	EA	AB
REV.	DATE	DESCRIPTION	DRAWN	CHECKED



A: Gerard Pugh, The Triangle,
Dimes City Office Park, Trinity Way,
Manchester M3 7BF
T: +44 (0) 161 312 3131
weareurbangreen.co.uk

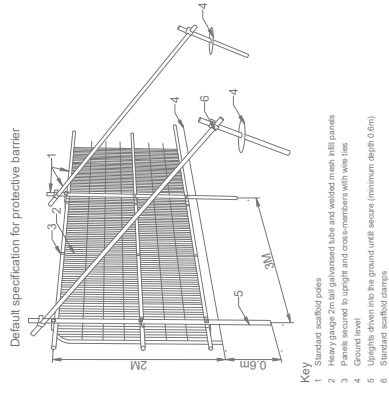
Client: AMERESCO

Project: EAST MANCHESTER
LEISURE CENTRE

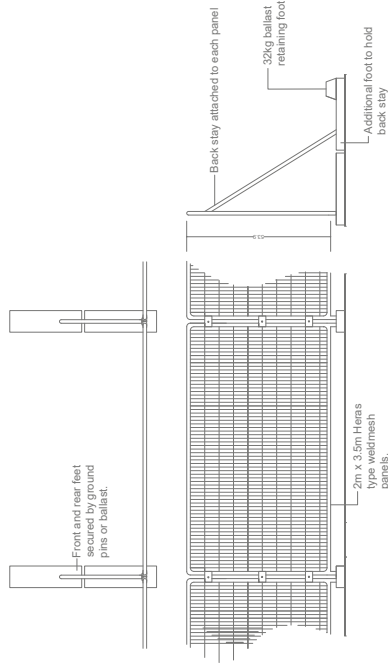
Title: TREE WORKS SCHEDULE

PLANNING			
Drawn:	EA	Checked:	RH
Project:	UG1208	Scale @ A1:	NTS
Draw No:	UG_1208_ARB_TWS_01	Date:	11/08/21
		Revision:	01

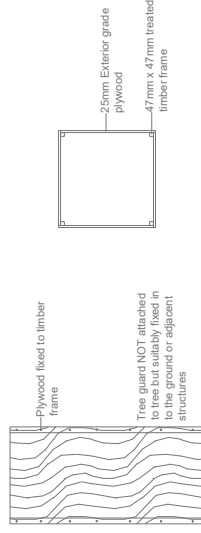
Insert 1: Tree protective fencing specification



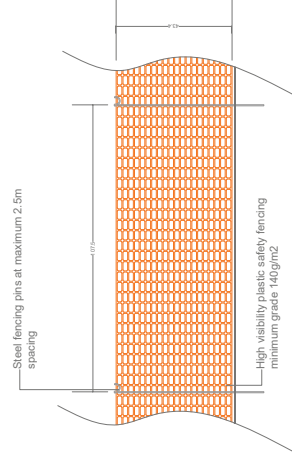
Back-stay support



Temporary tree guard specification



Barrier mesh specification



Insert 2: Tree protection notice



PROTECTIVE FENCING. THIS FENCING MUST BE MAINTAINED IN ACCORDANCE WITH THE APPROVED PLANS AND DRAWINGS FOR THIS DEVELOPMENT.



**TREE PROTECTION AREA
KEEP OUT!**

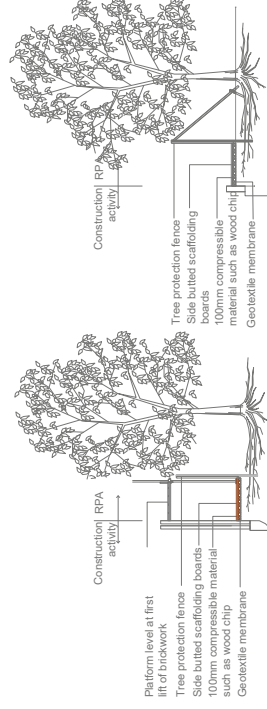
(TOWN & COUNTRY PLANNING ACT 1990)

TREES ENCLOSED BY THIS FENCE ARE PROTECTED BY
PLANNING CONDITIONS AND/OR ARE THE SUBJECTS OF A
TREE PRESERVATION ORDER.

CONTRAVENTION OF A TREE PRESERVATION ORDER MAY
LEAD TO CRIMINAL PROSECUTION

ANY INCURSION INTO THE PROTECTED AREA MUST BE
WITH THE WRITTEN PERMISSION OF THE LOCAL

Insert 3: Ground protection specification



REV.	DATE	DESCRIPTION	DRAWN	CHECKED

**U R B A N
G R E E N**

A: Ground Floor, The Tower,
Deira City Office Park, Trinity Way,
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Client: **AMERESCO**

EAST MANCHESTER
LEISURE CENTRE

TREE PROTECTION INDEX

PLANNING

Project:	UG1208	Scale @ A:	NTS	Date:	11/08/2011
Dwg No:	LIC 4508 ADD TON A4			Revision:	00