EXISTING TREES

Although there are no existing trees within the construction zone there are a number on the north and western boundaries and these should be protected to ensure no damage is caused; there are only 2no. trees to be removed at the entrance to the site.

REMOVAL

Any trees to be removed shall be removed in a safe and appropriate manner , adhering to relevant British Standards.
The contractor shall;

1) Locate the selected trees to be removed and verify by marking each tree
2) No tree shall be removed in a manner that compromises safety. When work is being performed, all safety precautions shall be in place to protect the operators and the general public.
3) The Contractor shall plan and prepare for the use and positioning of equipment so as to accomplish the safe, effective and efficient removal of trees. Whenever any tree, or large tree sections of a tree, being removed may endanger people or property, the Contractor shall ensure that an adequate area is cordoned off with tape or rope and clearly marked to prohibit the public or other unauthorised persons from entering.
4) The trees will be removed via the most safe and appropriate methods;
   - Clear and unrestricted fell - Clear Felling shall consist of removal of the complete tree to ground level in one operation leaving the tree structure intact. The Contractor shall be fully responsible for any claims which arise as a result of the wrong tree being felled or as a result of clear felling works.
   - Sectional felling/restricted fell - Where needed, the Contractor shall fell the tree indicated in sections, ensuring the limbs and trunk are removed in a controlled fashion, either by the use of ropes involving sections which are no larger than can be controlled without causing damage, or by free fall in situations which are acceptable.
5) The trees will be removed via the most safe and appropriate methods;
   - Stump removal via root grubbing- Grubbing shall consist of the complete removal of tree stumps and roots by hand, machine excavation or other means. All arising's shall be removed from site or disposed of .
   - Stump removal via root grinding- After felling, the stump shall be cut down flush with ground level. The Contractor shall grind the whole stump and root plate out to a depth of no less than 500mm below ground level. All arising's shall be removed from site or disposed of as directed by the Supervising Officer.
6) The contractor shall backfill the resultant hole to the level of the surrounding ground surface, with imported top soil which complies with the appropriate British Standards. The contractor shall remove arising's from site in a appropriate and safe manner, and all debris shall be clean up and removed.

PROTECTION

Trees greatly complement the built environment, but can be easily injured during the development process. *BS 5837: 2012 Trees in Relation to Design, Demolition and Construction* offers detailed guidance on the protection of trees during development and construction and includes minimum dimensions of zones of protection, and the avoidance of damage through storage of harmful substances or the lighting of fires near trees.

Trees are vulnerable in many ways during construction, and including:
- Impact damage (from vehicles, tools or equipment).
- Physical damage by the lowering of levels or trenching for services.
- Compaction of root systems by the passage of vehicles or equipment or storage of materials.
- Toxic effects from spillage of fuels, lubricants or other chemicals.
- Fire damage.

ESTABLISHMENT AND MAINTENANCE OF PROTECTION ZONES

TIMING
- Erect barriers to establish zones before materials or machinery are brought on site or building work begins, including erection of site huts.
- Barriers are not to be removed or altered without prior consultation with an arborist.
- Barriers should remain in place until construction works are completed in full

LIMITS
- Erect stout barriers at the limits of the zone of protection.

TREE PROTECTION BARRIER SPECIFICATION
- Barriers shall be fit for the purpose of excluding construction activity.
- In most cases, barriers shall comprise weldmesh panels affixed using wire or scaffold clamps to a well braced framework of vertical and horizontal scaffold poles.
- On some sites it may be appropriate to use temporary site office buildings as components of the tree protection barriers.
- Notices should be erected on the barriers with words such as "Construction exclusion zone – keep out".

SCAFFOLDING WITHIN PROTECTED AREAS
- If it is essential for scaffolding to be erected in protected areas, barriers as per section above will be erected to provide just enough space for the scaffolding. The ground in between the barriers and the building should be protected by boarding such as scaffold boards for pedestrian use, or more substantial boarding for heavier traffic.
- Ground beneath the boards will be left undisturbed and protected by geotextile fabric. If necessary, sharp sand will be laid on the fabric to level the ground.
- Boarding will be left in place until building works are completed.

STORAGE OF OILS, FUELS, MATERIALS & MACHINERY
- No storage or discharge of any materials or liquids, including mixing of cement will be permitted within 10 metres of the stem of any tree or within the protected zone (whichever is the furthest), also taking account of any slope to avoid the harmful effects of runoff.

FIRES
- No fires to be lit in a position where flames could extend to within 5m of foliage or trunk taking into account wind direction and strength.

SERVICES
- If services must be routed within the protection zone, consider the use of thrust boring techniques, or digging a small trench by hand.
- If adopting either of the above, works will be a minimum of 1 metre from the tree and at a minimum depth of 750 mm.
- Sleeving of services will help to protect them and ease essential repairs.
- The National Joint Utilities Group in publication NJUG 10 gives detailed guidance on the installation of services near to trees. Methods are to be agreed in advance of commencing any works.

TREE STUMP REMOVAL
- To prevent damage to remaining root systems stumps of trees to be removed shall not be winched or dug out but chipped to an appropriate level by stump grinder.

MACHINERY AND EQUIPMENT
- Care shall be taken at all times to avoid any equipment striking the tree trunk, branches or foliage. Particular care is needed with delivery vehicles, overhead cranes and excavators.
- Protected trees should not be used as anchorages for winches or other equipment. recommendations in BS 3998.

BRIEFING
- All staff and contractors shall be briefed prior to commencing works on the importance of observing the above requirements, and the vulnerability of trees to damage during construction

REFER TO:

BS 4428: 1989 Code of practice for general landscape operations
BS 3998: 2010 Tree Work Recommendations
BS 5837: 2012 Trees in Relation to Design, Demolition and Construction

NEW TREES

No.	Species	Type	Root	Girth cm
T1	*Acer Campestre* 'Elegant'	Standard	BR	8-10
T2	*Acer platanoides* 'Princeton Gold'	Standard	BR	8-10
T3	*Amelanchier arborea* 'Robin Hill'	Standard	BR	8-10
T4	*Betula albosinensis* 'Fascination'	Standard	BR	8-10
T5	*Betula pendula* 'Jacquemontii'	Standard	BR	8-10
T6	*Liquidamber styraciflua*	Standard	BR	8-10
T7	*Malus* 'Red Sentinal'	Standard	BR	8-10
T8	*Photinia fraseri* 'Red Robin'	Standard	BR	8-10
T9	Prunus aviuim 'Plena'	Standard	BR	8-10
T10	*Pyrus calleryana* 'Red spire'	Standard	BR	8-10

All new trees to be standard size 8-10cm girth, or 20 litre containers unless specified.

NEW HEDGE

Species	Root	Size cm	Density
HEDGE 1			
Ligustrum ovalfolium 'Aureum'	BR	40-60	300mm Centres
HEDGE 2			
Lonicera nitida 'Baggesens Gold'	5L	40-60	3 plants/m2
HEDGE 3			
Fagus sylvatica	BR	40-60	300mm Centres

PLANTING SPECIFICATION

All planting stock shall comply with the requirements of the British Standards 3936, and shall be healthy, strong with a good shape and strong root system in accordance with the National plant specification. The native plants are to be of local providence and be well labelled. Trees and shrubs are to be lifted only between mid October and mid March and to be handled and transported in accordance with relevant codes of practice, with roots kept moist and wrapped to protect them from adverse weather conditions.

Additional topsoil to be supplied where required and to comply with BS 3882: 1994 general grade topsoil. To be 150mm deep for grass areas, 300mm deep for hedges and shrubs, and 750 deep x 1500 square for tree planting.

All planting operations shall be carried out in accordance with BS 4428. Planting pits are to be dug at a size in excess of the roots to allow the roots to be spread out in the pit. All plants are to be planted at their natural depth as they existed in the nursery. Peat free planting compost or well rotted manure is to be incorporated in the backfill off all tree pits.

TREE PLANTING

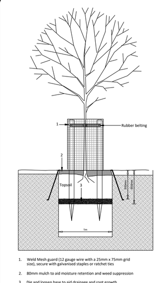
Bare rooted stock only to be planted November - to - March. If planting is to be carried out at other times then container grown stock should be used. If planted in late spring or early summer, plants should be watered during dry spells for the first growing season. Avoid planting in frosty, cold or windy, hot, sunny or drying conditions. Choose cloudy drizzly weather when possible.

Trees on highway edge to be staked and guarded as shown below.

All other trees are to be staked with low stakes, 1500mm long, 750mm into the ground and the tree secured by one tree tie. All plants are to have rabbit spirals and biodegradable mulch mats as specified or mulched with a bark mulch; 1m diameter round the base of each standard tree is to be mulched 75mm deep with medium grade bark mulch - where possible. **All highways trees to incorporate root directors to prevent lateral damage to the highway.**

HEDGE PLANTING

Excavated trench to be 450mm wide and cultivated to 300mm deep. All pernicious weeds are to be eradicated. Plants are to be planted in single rows at the density stated above. Hedging is either to be planted through a weed control geo textile or mulched with 75mm of bark mulch. All hedging stock to be protected with rabbit guards.



1. Weld Mesh guard (12 gauge wire with a 25mm x 75mm grid size), secure with galvanised staples or ratchet ties
2. 80mm mulch to aid moisture retention and weed suppression
3. Dig and loosen base to aid drainage and root growth

PUBLIC OPEN SPACE (POS)

Public open space to be planted with 'Emorsgate Seeds' EN1 Flowing Lawn seed mixture. All to comply with, and carried out in accordance with requirements noted above.

Refer to Landscape Management Plan document.

MANAGEMENT PLAN & MAINTENANCE SCHEDULE (SOFT LANDSCAPING)

Task	Time of Year	Frequency
TREES		
Inspection of mature trees	March-September	Annually
Selective felling of over mature/ declining species	October to February	As required
New planting to broaden/ supplement diversity of tree stock	October to March	Annually
Other works - removal of debris trapped in branches etc.	As necessary	Annually
Removal of self set seedlings	January	Annually
Selective thinning and pruning to be undertaken to ensure there is sufficient light through the tree canopy	As necessary	As required
HEDGES		
Trimming	April to October	5 times
Reshaping	Hard prune Oct-Feb	Annually
Chemical weed control along base	In winter & summer only when other methods have failed	Annually
Fertilising	Spring	Annually
New Planting	October-March	Annually
Litter/Debris	Throughout	Daily
Watering	As necessary, depending on weather	
AMENITY GRASS		
Eroded areas: repair, rotovate to 150mm, 100mm topsoil if required, seed with BSH mix 19	May-September	As required
Grass cut, leave arisings, trim edges and collect trimmings	April-October	Every 2 weeks
Fertiliser-Spring	April	Annually
Fertiliser-Autumn	October	Annually
Scarification	March	Annually
Spiking	Autumn	Twice Annually
Reforming of edges to paths and planting	Autumn	Annually

LANDSCAPING LEGEND

- EXISTING TREES
- T13 PROPOSED TREES
- PUBLIC OPEN SPACE
- PERMEABLE BLOCK PAVING (100X200mm)
- GABION BASKET RETAINING STRUCTURE/FEATURE
- PAVING SLABS

BOUNDARIES

- 1.2m HIGH BRICK WALL
- 1.8m HIGH BRICK WALL
- 1.2m HIGH METAL RAILINGS
- 1.8m HIGH CLOSE BOARDED TIMBER FENCE
- 1.2m HIGH CLOSE BOARDED TIMBER FENCE
- 600mm HIGH KNEE/DIAMOND RAIL
- EDGING KERB

C	Adjustment for Client	09/03/2023
B	Adjustment for Client	01/03/2023
A	Updated to suit	08/12/2022

DRAWING ISSUES AND REVISIONS

Lincs Design Consultancy | 12 Vickers Lane | Louth | Lincolnshire | LN11 9PJ
T | 01507 611155 E | admin@lincsdesignconsultancy.co.uk

ldc LINCS DESIGN CONSULTANCY

PROJECT	Residential Development, Seagate Road, Long Sutton, Lincolnshire
DATE	July 2021
TITLE	Landscaping 1 of 2
SCALE	As Shown
ORIGINAL SIZE	A0 (Landscape)
DRAWING NUMBER	LDC-3699-PL-58C

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