LIDL STORE, GREAT NORTH ROAD MILFORD HAVEN

PLANTING METHODOLOGY AND AFTERCARE LANDSCAPE MANAGEMENT PLAN

8 February 2021

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1.0 INTRODUCTION

The site is the proposed Lidl Store is to be located on the site of the existing Lidl Store, Enterprise Rent a Car, a vacant commercial building and two residential properties and their gardens. The existing store is in the south of the site and there is a stone wall on the south boundary with an access from a back alley. To the south by Great North Road is a filling station. To the east is the main road into Milford Haven – the Great North Road with residential and commercial properties. To the north and west are residential properties.

1.1 SCOPE OF LANDSCAPE WORKS

The proposals are

- Felling of selected trees.
- Removal of knotweed adjacent to Enterprise Rent a Car.
- Removal of existing planting beds.
- Proposed planting beds.
- Proposed rain gardens
- Swales
- Proposed trees.
- Management for 5 years
    - Maintenance of landscaping for one year in landscape contract
    - four years by Client agent five years total

1.2 GENERAL CONDITIONS

EXISTING STRUCTURES ON OR ADJACENT TO SITE:

- Residential Properties and a blockwork wall to the North.
- Residential Properties close boarded fences and a hedge to the West.
- Residential Properties a garage and a 2.00m high stone wall to the South.
- Great North Road and Footpath to the East
- Service boxes, lampposts, and underground services.

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1.3 SERVICE DRAWINGS: Any service information on landscape drawings is notional only. The Contractor MUST obtain confirmation of all services from the Principal Contractor and relevant authorities. There are extensive services. Services may require the adjustment of tree positions in certain areas and care with excavations and a requirement for root barriers where necessary.

NOTIFY: All service authorities including the Employer/Principal Contractor of any proposed works which could affect services not less than one week before commencing site operations and observe service authorities' recommendations for work adjacent to existing services.

ACCESS TO THE SITE: - Permission must be gained from the Site Agent for access to visit the site. . The Contractor's vehicles should not cause obstruction to the Highway and all necessary regulations relating to Highway working must be followed.

Other users who will require access through the landscape contract area are:-

- Principal contractor and other sub contractors
- Access will be required by sub contractors
- Statutory Authorities

WORKING AREA, WORKING HOURS, PARKING, ADVERTISING , HEALTH AND SAFETY Refer to the Principal Contractor’s site requirements and attend site inductions and carry out all health and safety instructions required by the Principal Contractor. Provide all Health and Safety information and Method Statements required by Principal Contractor.

1.4 RISKS TO HEALTH AND SAFETY

The nature and condition of the site cannot be fully and certainly ascertained before it is all opened up. However the following risks are or may be present:

- Work close to service covers, street lights, service boxes and markers
- hazardous materials gas and electricity.
- Work close to live services and working with live services.
- Site must be left safe at the completion of each day’s work eg open trenches made safe,
- During the day all working areas are to be kept safe and all notices and safety procedures followed including temporary fencing where necessary
- Works on access roads eg drop kerbs, footpaths and road cushions will require traffic and pedestrian management important
- Maintenance during the maintenance period will need to take into account the security required.
- Work close to service covers, street lights, service boxes and markers and overhead electricity posts,

hazardous materials, gas and electricity.
- Work close to live services
- Other site users on site
- Use of solvents, inflammable substances, and chemicals
- Use of machinery with moving parts, cranes, drilling rigs, electrical equipment and general use of machines.
- Likelihood of chemical drift
- Making noise or dust during Works
- Excavations danger of underground services
- Hazards due to cold/wet windy weather - Manual handling and lifting operations
- Other contractors working on site.

1.5 PROPRIETARY NAMES: The phrase 'or equivalent approved' is to be deemed included whenever products are specified by proprietary name. Where the specification permits the substitution of a product of a different manufacture or type to that specified such a substitution requires approval from the CA and where necessary documentary verification that the alternative product is equivalent in respect of material, safety, reliability, function and where necessary of appearance to the specified product.

BRITISH STANDARDS: All materials, workmanship and plant material must comply with the relevant British Standard unless otherwise indicated.

SIZES: Unless otherwise stated the size indicated is size required

1.6 NOTIFICATION OF RECORDS:
The Contractor shall notify the CA of the date of commencement and completion of the operations outlined below and provide the CA with all necessary documentation required within 7 days to record and verify the Works as follows:
- a daily distribution return showing the number and description of men employed on the works including those employed by Contractors
- a daily distribution return showing the number, type and capacity of all plant excluding hand tools currently employed on works.
- record of actions taken to protect biodiversity and monitor their effectiveness.
- record of weather conditions and other factors having material effect on progress of Works.
- record sheets of pesticide applications as required under Control of Pesticides Regulations 1986
- notification of dates of commencement and completion of operations, including all records of rates of application or use of materials, etc of application of fertilisers, pruning, mowing, litter picking and other maintenance visits etc.

Provide all necessary technical submissions, method statements and risk assessments at least one week in advance of relevant operation.

1.7 SUPERVISION/INSPECTION/DEFECTIVE WORK
SUPERVISION: In addition to the constant management and supervision of the Works provided by the Principal Contractor's person in charge, all significant types of work must be under the close control of competent trade supervisors to ensure maintenance of satisfactory quality and progress.

1.8 SAFETY/PROTECTION
Commonplace hazards which should be controlled by good management and site practice are not listed.
GENERAL CONDITIONS
- Site rules from Principal Contractor’s Health and Safety Plan – use of PPE etc
- Welsh Government Covid 19 Rules
- Continuing liaison :

OPERATIONS AND MATERIALS
- Hazard – Working on Highways
- Hazard - Use of Chemicals, paints, solvents, timber stain etc
- Hazard - machines or workers slipping down steep slopes
- Hazard – services
- Hazard - mechanical and manual handling
- Hazard – Tree felling and treeworks- working at height
- Hazard – protection of public and site users

MAINTENANCE
- Hazard – Working on Highways
- Hazard - Use of Chemicals
- Hazard - machines or workers slipping down steep slopes.
- Hazard - mechanical and manual handling
- Hazard – Protection of public .
- Welsh Government Covid 19 Rules if in force

HSE APPROVED CODES OF PRACTICE: Comply with the following:

- Management of Health and Safety at Work
- Managing Construction for Health and Safety

1.9 PROTECT AGAINST THE FOLLOWING

1.10 POLLUTION:
The contractor / landscape operatives must be conversant with the requirements of the Environmental Protection Act 1990, Pollution, Prevention and Control Regulations 2000, Hazardous Waste Regulations 2005 and the Control of Pollution (Amendment) Act 1989 for the Carriage of Controlled or Special Wastes. landscape contractors must be registered with a relevant Regulation Authority (Environment Agency) and be in possession of a valid Certificate of Registration or Certificate of Registration as a Broker of Controlled Waste under the Act.

1.11 USE OF CHEMICALS
The contractor/ landscape operatives must comply with 'The Control of Pesticides Regulations 1986', 'The Control of Substances Hazardous to Health Regulations 1988' and any other current legislation and subsequent revisions.

All chemicals must be products on the current list of Agricultural Chemicals Approval Scheme and used strictly in accordance with the conditions of approval. The landscape contractor must comply with all relevant Codes of Practice issued by MAFF.

All pesticides/herbicides transported or stored in the landscape contractor's vehicles or on site (regardless of quantity) shall be locked in a separate storage compartment or within lockable containers which is secured to the floor of the vehicle. All storage lockers must be sealed and clearly marked as containing pesticides and bear a standard black and yellow hazard sign.

Apply pesticides/herbicides strictly in accordance with the manufacturer's instructions in calm, dry weather conditions. Chemicals should not be applied in wet, frosty or windy conditions.

The contractor/ landscape operatives must hold a BASIS Certificate of Competence, or work DIRECTLY under the supervision of a certified holder.

Notify the site operator at least 24 hours in advance of the location, type of pesticide/herbicide, active ingredient and timing of application prior to commencing work. The contractor/ landscape operatives shall erect warning signs at all entrances to the areas to be treated. When restricted to planting beds, warning signs shall be placed within close proximity in clearly visible locations. Details of application and contact person to be shown.

In accordance with COSHH Regulations the contractor shall protect employees and other persons, including the general public and adjacent land owners who may be exposed to substances hazardous to health.

Dispose of waste chemicals and containers in accordance with the 'Control of Pesticides Regulations 1986', 'Control of Pollution Act 1974' and the 'Water Act 2014' and any subsequent revisions.

The contractor / landscape operatives shall be responsible for making good and or compensation for any damage how so ever caused resulting from negligence in application, handling and/or storage of pesticides and herbicides. He shall also be responsible for keeping up to date with all legislation and regulations governing there use and inform the site operator of any changes that may affect the contract in any way.

The contractor / landscape operatives shall ensure that all property and utilities are protected against accidental or negligent damage that may occur. Any damage incurred by the contractor in carrying out their duties is to be made safe immediately and repaired to the satisfaction of the client or Utilities Company at the earliest convenient time, or as agreed, at the cost of the contractor.
It shall be the contractor / landscape operatives responsibility and liability for any damage to person or property, however caused. All operatives shall be trained according to the task to be undertaken.

1.12 EXISTING MAINS/SERVICES: GENERAL: The Contractor shall:

- Ascertain the exact location of all existing services and the like in, under or over the site or adjacent thereto. The Contractor will be held responsible for any damage or disruption to such services crossing the site or those used during the performance of the Contract. Any such damage as may occur must be made good to the satisfaction of the CA, Employer, Service Authorities and adjoining owners or occupiers, at the Principal Contractor's own expense.
- Check the positions of all services before starting work.
- Adequately protect and prevent damage to all existing services. Do not interfere with their operation without the consent of the Service Authorities or private owners.

- If any damage to services result from the execution of the Works, notify the CA and the appropriate Service Authority without delay. Make arrangements for the work to be made good without delay to the satisfaction of the Service Authority or private owner as appropriate.
- Replace any marker tapes or protective covers disturbed during the site operations to the Service Authorities' Recommendations.
- In the event of a service marker being disturbed for any reason it shall not be replaced other than in the exact position and to its former depth unless the repositioning is carried out at the direction and under the supervision of the Service Authority.
- Check all emergency and contact details for the varied service contacts and emergency numbers are up to date.

1.13 NOISE: Ensure that all measures to control noise produced by the Principal Contractor's operations required under or by virtue of the provisions of any enactment or regulations, or the working rules of any industry are strictly complied with.
- Fit all compressors, percussion tools and vehicles with effective silencers of a type recommended by the manufacturer's of the compressor, tools or vehicles.
- Do not use or permit the use of radios or other audio equipment which may cause nuisance

1.14 NUISANCE: Take all necessary precautions to prevent nuisance from dust, rubbish and other causes. Remove daily, and if it should occur on the highway carriageway immediately to avoid any hazard to road users from site rubbish and debris generated from the Works for disposal. Comply with all instructions from the CA in this respect.

1.15 FIRE: Take all precautions necessary to prevent personal injury, death and damage to the Works or other property by fire. Comply with Joint Code of Practice 'Fire Prevention on Construction Sites' published by Building Employer's Confederation and the Loss Prevention Council and National Contractors Group.
Advise the CA immediately if drought, arisings or other circumstances evident give rise to a fire risk.

1.16 BURNING: Burning is not permitted on site

1.17 WATER: Prevent damage from storm and surface water. Keep site and excavations free of water

1.18 WASTE/ARISINGS:
- Remove debris, rubbish, surplus material and spoil regularly, daily where arisings are from a specific process or work item and keep the site and Works clean and tidy.
- Remove all rubbish, dirt and residues from excavations before infilling.
- Ensure that non-hazardous material is disposed off at a tip approved by a Waste Regulation Agency.
- Remove all surplus hazardous materials and their containers for disposal off site in a safe and competent manner as approved by a Waste Regulation Agency and in accordance with relevant regulations.
- Retain waste transfer documentation on site.

1.19 EXISTING FEATURES: Prevent damage to existing structures, fences, walls, roads and paved areas and other site features which are to remain in position during the execution of the Works. If damage occurs make good at the Contractor's own expense and to the satisfaction of the CA.

1.20 TIMING OF WORKS AND ECOLOGICAL CONSIDERATIONS
European Protected Species
No European Protected Species should be disturbed by the development.
Nesting Birds
It is an offence to disturb nesting wild birds under the Wildlife and Countryside Act 1981. Management should be programmed to take place outside the bird nesting season to avoid any potential for the destruction or damage to birds' nests.
During the breeding season advice will need to be sought from a suitably qualified ecologist and where there is a legal obligation, checks should be made by an ecologist in advance of the works to confirm that there are no birds nesting in the area of operation.
Vegetation clearance, pruning and trimming operations shall generally take place outside the bird nesting season (generally March to August inclusive).

2.0. DOCUMENTS

The design information provided by the Landscape Architect has overlaps with architectural work, civil and structural engineering work and mechanical and electrical engineering. The subcontractor should be aware that information required to undertake the landscape works will require reference to the documents prepared by other consultants.

The Planting Methodology and Aftercare was produced using information from the following resources.
- 2020 MIL-01 Rev A Existing Features
- 2020 MIL-02 Rev A Existing Features Overlay
- 2020 MIL-03 Rev A Landscape Proposals
- 2020 MIL-04 Rev B Rain Garden Sections
- 2020 MIL-05 Rain Garden 1 & 2 Structural Units and Tree in Planting Bed.

- Planting Schedule 8th February 2021
- TDA/2590/TCP/RhC/01.21 Tree Constraint Plan
- TDA/2590/TS&A/RhC/01.21 Pre Development Tree Survey

2.1 INITIAL WORKS

CLEARANCE AND INTIAL ENABLING WORKS

- Demolition of existing Buildings and tarmacadam is by others
- Felling of selected trees.
- Removal of knotweed adjacent to Enterprise Rent a Car..
- Removal of existing planting beds
- Removal of existing hedges.
- Topsoil and subsoil is to be imported for new planting beds to make up any shortages in onsite materials
- All sandy loam topsoil and subsoil for rain gardens is to be imported

2.2 TREE REMOVALS

All tree felling and work to be to BS3998-2010
All arisings are to be removed from site
Fell trees, grub up roots and remove all arisings from site
T1 Field Maple 8 m high, 200mm diameter
T4 Field Maple 8m high, 175mm diameter
T5 field maple 8.5m high, 200mm diameter
T6 Cupressus Leylandii 9m high, 300mm diameter
T7 Sycamore 17m high, Multistem x 4,200, 250, 300, and 350mm diameter
Apple and 8No cordylines adjacent to house 61A
T8 Ash 17m high, 500mm diameter
T9 cherry 6m high, 150mm diameter
T10 Holly 5m high, 200mm diameter
T11 Hawthorn 6.5m high, Multistem x 4, all150mm diameter
T12 Hawthorn 6.5m high, Multistem x 5, all 150mm diameter
T13 Sycamore 7.5m high, 175mm diameter
Leylandii Hedgerow

TREE WORKS

All tree work is to be to BS3998-2010
Cut back plants overhanging fence.

2.3 JAPANESE KNOTWEED

A knotweed specialist is to be used to track roots to determine the extent of contaminated ground. Fencing or other marking method to mark the 7.00m zone of influence until the extent can be determined. The knotweed specialist to advise on the method necessary to remove all of the knotweed together with the root system.

2.4 IMPORTED TOPSOIL AND SUBSOIL

2.5 IMPORTED TOPSOIL

- Quantity: All topsoil that is to be imported is to conform to this specification
- Standard: To BS3882 2015. Plus the following:
- Source: Submit proposals.
- Classification: Multipurpose.
- Texture to BS3882: Medium loam.
- Reaction, to BS1377-3: pH 6 - 7.5.
- Crumb structure: Made up of discernible crumbs.
- Stones:
- Size in any dimension (maximum): 20mm.
- Stone content by dry weight (maximum): 15%.

In addition to conforming to the above BS standard the soil should also conform to the following.

Visual Examination:-

Provide the CA a 1kg sealed sample bag of representative soil, for approval of the physical structure of the soil, before chemical analysis is progressed. Obtain approval of a sample load on site of not less than 2m3. Retain for comparison with subsequent loads. Provide a full analysis from an approved testing station in accordance with 'Analysis for Topsoil'.

Physical Parameters:-

Clay (less than 0.05mm) 5-27%
Silt (0.002 – 0.05mm) 5-45%
Sand (0.05 –2.00mm) 45-85%

(At least 50% of the total soil fraction should fall within the medium to coarse sand range)
Permeability 10-5 – 10-6 m/sec

Chemical Parameters:-
PH value (1:2.5 soil/water) 6-7.5 pH
Electrical Connectivity (1:2.5 soil/water) <1500 µS/cm
Electrical Connectivity (1:2.5 CaSO4) <2800 µS/cm
Organic Matter (Walkey Black) 4.0 – 10.0%
Total Nitrogen (Dumas) >0.2%
Extractable Phosphorus (RB427) >26 mg/l
Extractable Potassium (RB427) >220 mg/l
Extractable Magnesium (RB427) >50 mg/l

- TOPSOIL ANALYSIS• All imported topsoil is to be analyzed
- Soil analyst: Submit proposals.
- Samples: Collect in accordance with BS3882.
- Submit:
- Declaration of analysis:
- Chemical analysis and contaminants;
- Maximum stone content, stone size and pH value;
- Nutrient content, pH value and textural classification;
- PH value and textural classification;
- Phytotoxic and CLEA elements; and
- Textural classification and maximum stone content.
- Report detailing soil analyst's recommendations.

The Landscape Contractor shall obtain a sample for analysis, to determine all of the requirements listed above.

The results and a brief analysis and interpretive report making comment on suitability of material in comparison to BS3882 and the specification included within this document, including recommendations for additives and/or amendments to bring sub-grade soil up to the required specification standard. Topsoil requirements and to support broadleaf native trees with particular reference to the requirement identified above and levels of metals and the likely effects of these on nutrient availability and protection of plant growth.

A certificate of Analysis should also be provided shall be submitted to the LA who may adjust the composition of any specified fertiliser of soil ameliorant and the rate of application, after examination of the Landscape Contractors cost. Where suitable amelioration is not possible the CA may reject the topsoil.

SANDY LOAM TOPSOIL
All sandy loam topsoil is to be imported to be used in Rain Gardens
All imported sandy loam topsoil to comply with BS3882 2015 with the following textural class
SANDY LOAM TOPSOIL Textural Class
55% Sand
30% Silt
15% Clay

2.6 IMPORTED SUB-SOIL

- Quantity: All subsoil that is imported is to confirm to this specification.
- Standard BS 8601 – 2013 Subsoil.
- Source: Submit proposals.
- Crumb structure: Made up of discernible crumbs.

Visual examination:-
The subsoil shall have a defined granular, crumb or blocky structure and shall be reasonably free from non-soil material, brick and other building materials and wastes, hydrocarbons, plant matter, roots of perennial weeds and any other foreign matter or material or substance that would render the sand unsuitable for use.
Provide the Landscape Architect (CA) a 1kg sealed sample bag of representative soil, for approval of the physical structure of the soil, before chemical analysis is progressed.

Physical Parameters:-
Clay (less than 0.05mm) 5-27%
Silt (0.002 – 0.05mm) 5-50%
Sand (0.05 –2.00mm) 40-85%
Max. Stone Content (2 –50 mm) 50% by weight
Max. Stone size in any dimension 75mm

Chemical Parameters:-
PH value (1:2.5 soil/water) 5.0-8.2
Electrical Connectivity (1:2.5 soil/water) <2000 µS/cm
Electrical Connectivity (1:2.5 CaSO4) <2800 µS/cm
Organic Matter (Walkey Black) % <2.0

Potential Contaminants:-
Refer and comply with Integral Geotechnique's Specific Target Level for the imported Capping Layer Soils
List attached at the end of this specification.

Subsoil is to be naturally occurring material, excavated from a level immediately below the vegetable topsoil down to a maximum depth of 2.0m from the original ground level with no stone or rubble material larger specified. The material shall be a friable consistency, free draining, free from extraneous material and pernicious weeds. The subsoil must contain no chemical or domestic refuse or pollutants that would be harmful to short term or permanent plant or animal life. The material will not be extreme in either alkalinity or acidity. It is not acceptable to use topsoil within subsoil layers.

All sources of material shall be stated and a 2m³ minimum sample shall be provided for analysis, inspection and approval prior to deliveries to site. All supplies thereafter shall conform to approved samples. The CA may reject any subsoil with high stone or rubble content.

SANDY LOAM SUBSOIL
All sandy loam subsoil is to be imported to be used in Rain Gardens
All imported sandy loam subsoil is to comply with BS8601-2013 with the following textural class
SANDY LOAM SUBSOIL Textural Class
55% Sand
30% Silt
15% Clay

2.7 RIP SUBGRADE BEFORE LAYING SUBSOIL
Scarify subgrade to promote free drainage. The surface on which subsoil is to be placed will be thoroughly ripped to a depth of 200mm before subsoil placement. A cross-ripping effect will be achieved by two passes at an angle of 45 degrees to the edge of the strip at 90 degrees to one another. Remove all stones with largest dimension exceeding 50mm. ***If standing water is present on ripped surface inform the CA before placing subsoil***

3.0 LANDSCAPE WORKS
The proposed landscape works are
- Tree Planting
- Rain Gardens
- Ornamental Planting Beds
- Hedgerows
- Maintenance for 5 Years – 1 Year contract – 4 Years Client Agent

3.1 PRODUCTS AND MATERIALS

3.2 TOPSOIL AND SUBSOIL
Existing topsoil and subsoil to retained where possible

Topsoil and sub-soil for use on site is to be existing, with imported topsoil and subsoil for new planting beds to make up any shortages on existing . All sandy loam topsoil and subsoil is to be imported for rain gardens.

Topsoil and subsoil depths required for the soft landscaping
- 300mm topsoil 300mm subsoil in planting beds.
- 300mm topsoil 600mm subsoil in tree pits
- 250mm sandy loam topsoil and 250mm sandy loam subsoil to rain garden 4
- 300mm sandy topsoil and 300mm sandy loam subsoil to planting beds in rain gardens 1, 2, 3 and 5
- 300mm sandy loam topsoil and 600mm sandy loam subsoil in tree pit in rain garden area 3

3.3 LANDSCAPE TO RAIN GARDEN AREAS 1 and 2
All dependent on Engineer's requirements

Planting Beds
Permeable Root Barrier, 300mm Sandy Loam Topsoil, 300mm Sandy Loam Subsoil,

Trees to be planted and underground guyed with RootSpace structure units 400mm deep with RootSoilSUBA.

LANDSCAPE TO RAIN GARDEN AREAS 3 AND 5
Planting Beds
Permeable Root Barrier, 300mm Sandy Loam Topsoil, 300mm Sandy Loam Subsoil,

Tree in Rain Garden Area 3
300mm Sandy Loam Topsoil, 600mm Sandy Loam Subsoil.

Tree to be planted and underground guyed.

LANDSCAPE TO RAIN GARDEN AREA 4
Planting Beds
Permeable Root Barrier, 250mm Sandy Loam Topsoil, 250mm Sandy Loam Subsoil,

3.4 AMELIORANTS

ROOTDIP: Root-balled trees are used a solution of one part Seanure Root Dip to ten parts water be applied around the roots as part of the puddling-in planting system. Barerooted trees to be dipped in root dip solution.

ANTIDESSICANTS: All trees and evergreen plant material on arrival at site shall be sprayed with an appropriate antidessicant approved by the CA unless the temperature is below 10degC.

GREEN COMPOST: Green recycled compost shall be used which will have an organic and fibre content and some trace elements It shall improve soil structure and help retain moisture. Green Compost to be made under strictly controlled conditions from green, organic recycled material. PAS 100 standard. Sample to be approved before full orders made. The supplier is to provide a sample and details of the compost components and approved by the Client before use on site.

Spread 50mm depth of compost on surface of all planting beds work into full topsoil depth.
Green Compost to be 10% tree pit and work into full topsoil depth.

To be obtained from a local supplier and sample approved before full load brought to site.

MULCH:
To be 40mm Blue Slate chipping 50mm thick laid over Geotextile weed membrane

GEOTEXTILE WEED MEMBRANE
Terram Weedguard

Terram
Tel:-01621 874200
Email:-info@terram.com

GEOTEXTILE PERMEABLE MEMBRANE
Terram 1000
Terram
Tel:-01621 874200
Email:-info@terram.com

3.5 ACESSORIES

TREE TIES: Tree ties are to be Hessian webbing 50mm wide, wrapped around tree stem and nailed to the stakes with 40mm galvanized nails according to tree type.

TREE STAKES: Tree stakes shall be larch or sweet chestnut poles celcure treated, 75mm in diameter, straight with butt end Extra Heavy Standard Trees will have 2No stakes. The stakes are to be set 1200mm above ground.

Extra Heavy Standard Tree in Rain Garden 3 to be secured with Deadmen blocks and Platyipus Anchors and collar .

UNDERGROUND SUPPORTED TREES
Extra Heavy Standard Trees located in Rain Gardens 1 and 2 are within structural cells and will be secured with underground using SASAPA Arborguy Strapped Anchor System c/w dead man guying system with 3 x 0.7m slip knot guys and anchor plates.

STRUCTURAL UNITS
RootSpace Units

Urban Green Blue
Compass Park, Junction Rd, Bodiam, Robertsbridge TN32 5BS
01580 830800

enquiries@greenblue.com
estimating@greenblue.com

3.6 PLANT MATERIAL SUPPLY

PLANTS GENERALLY

Trees and plants are to conform to the relevant section of BS 3936 (publication series) and the National Plant Specification. No substitutes are to be accepted without the consent of the landscape architect and the local planning authority. All plants shall be true to size specified on the planting plan and schedule. All plants shall be healthy, bushy, pest and disease free and not pot-bound, dry, water logged, leggy or weak. A minimum of five breaks per shrub is required. Trees shall be vigorous, of good shape and with a well-branched head.

Plants that are container grown (CG):

- Supplied in a growing medium with adequate nutrients for the plant to thrive until permanently planted.
- Centred in the container, firmed and well-watered.
- With root growth substantially filling the container, but not root bound, and in a condition conducive to successful transplanting.
- Grown in the open for at least two months before being supplied.
- Grown in containers with holes adequate for drainage when placed on any substrate commonly used under irrigation systems.

HANDLING AND DELIVERY: The Contractor shall comply with the recommendations of the booklet 'Plant Handling' published by the Committee for Plant Supply and Establishment in July 1985.

The Contractor shall include for packing, loading and transporting plant material, trees, etc from the source of supply to the site. All plant material shall be carefully packed and protected to survive transport to site without damage in lifting from the nursery, loading, transit or unloading. Any plant material which sustains major damage shall be rejected and replaced at the Contractor's expense, but slight mechanical damage may be corrected by careful pruning and wounds exceeding 25mm diameter shall be treated with fungicidal sealant.

If plants are not planted within 24 hours of delivery they shall be heeled in by placing the roots in a prepared trench covering them with fine soil and well firming and watering to prevent air pockets.

PLANT INSPECTION: The CA reserves the right to inspect all plant material prior, during and after planting and reject any plants that fail to meet a satisfactory standard.

TREES: They shall have either a well balanced head or well defined central leader with branches growing from the stem with reasonable symmetry and shall comply with the following definitions:

- Extra Heavy Standard Trees shall be rootballed. They shall be of a minimum height of 4.00-4.50mm with a sturdy taper and reasonably straight stem minimum 1.75- 2.00m in height from ground level to the lowest branch with a minimum girth of 14-16 cms when measured 1.00m from ground level

CONTAINER STOCK TREES

Container stock trees are **not** to be used. Tree planting is to be undertaken in season.

BAREROOT PLANTS

These are to be strong well-rooted nursery stock evenly developed with a single well defined, straight and upright central leader. The main stem shall be furnished with lateral shoots. The plant shall be self supporting with a stem circumference at the root collar of 30-50mm. Overall heights as specified in the Plant Schedule.

POT GROWN SHRUBS: A shrub which is pot-grown or container-grown may, according to species, be cut back or trimmed to encourage bushiness. The size of pot shall be as stated in the Plant Schedule. The height of shrubs shall be measured from the ground level, excluding rootball or any container.

4.0 WORKMANSHIP - LANDSCAPE

4.1 SITE CONDITION

The Contractor shall be held responsible for the keeping of the Works in a neat, tidy and litter free condition through the duration of the Contract.

Litter means arisings or residues from the Works, cans, bottles, paper and other extraneous objects.

4.2 WATERING**:** Water is to be provided by the Principal Contractor and access without cost to the private water system. The Landscape Contractor is to supply hoses and sprinklers and ware as necessary up to Practical Completion and as necessary during the defects/maintenance period.

Quantity: Wet full depth of topsoil.
Application: Even and without displacing plants, mulch or soil.
Frequency: As necessary to ensure the establishment and continued thriving of all seeding/turfing and planting.

Watering for planting of trees, shrubs and whips after planting and if dry conditions occur

DROUGHT CONDITIONS**:** If water supply is or is likely to be restricted by emergency legislation:- inform the CA without delay of the additional cost of second class water supply from a sewerage works or other approved source.

- if planting has not been carried out, do not do so until instructed.
- if planting has been carried out, obtain instructions on supply of water.

PERMANENT DRAINAGE SYSTEM: This is not to be used for disposal of water from excavations without approval.

4.3 FORMATION OF GENERAL GROUND LEVELS

The levels of the site of the site will be as the Architect's or engineer's details
New ground levels need to be as required by the Engineer for paving edges and other hard surface edges and left ready for soil profiling if required to the required depth for the finish of shrub or shrub and tree planting so that the finished topsoil levels can be 50mm below finished hard edging adjacent to the building and within the carpark areas.

The areas shall be excavated or filled to the correct depth for the soil profile.

The subbase material in the excavated bed areas, grass areas and planting pits are to be broken up to a depth of 200mm as required,

4.4 SOIL PROFILE FORMATION

LOOSE TIP FILLING FOR LANDSCAPE AREAS
SUBSOIL FILL
Do not firm, consolidate or compact when laying.
Tip and grade to approximate levels in one operation with minimum of trafficking by plant.

PLACING FILL GENERALLY

- Ensure that areas to be filled are free from loose soil, rubbish and standing water.
- Do not use frozen material or materials containing ice. Do not place fill on frozen ground.
- Take all necessary precautions to secure the stability of adjacent structures.
- Place fill against structures, or buried services in a sequence and manner that will ensure stability and avoid damage.
- Plant employed for transporting, laying and compacting must suit the type of material. ie light earth moving plant to be used for all subsoil areas.
- Earthmoving equipment: Vary route to avoid rutting.
- Filling: Layers not more than 300 mm thick.
- Lightly compact each layer to produce a stable soil structure when grading them to an even level..

4.5 HANDLING TOPSOIL

Standard: To BS 3882 : 2015.

- Ensure topsoil is free of aggressive weeds weed species: Included in the Weeds Act, section 2 or the Wildlife and Countryside Act Schedule 9, part II.
- Give notice: Obtain instructions before moving topsoil.
- Multiple handling: Keep to a minimum. Use topsoil immediately after stripping.
- Areas to be topsoiled are to be laid over the finished subsoil levels.
- Topsoil areas to be graded to be 50mm below finished edging levels.
- Do not use topsoil contaminated with subsoil, rubbish, oil based products or other materials toxic to plant life.
- Dispose of contaminated topsoil to the Contractor's tip
- Apply herbicide to perennial weeds and allow period of time recommended by manufacturer to elapse before cultivating

SPREADING TOPSOIL DEPTH to the depths specified
Once spread the topsoil shall be kept free of weeds by physical means or by spraying with an approved weedkiller until such a time as planting is carried out.

GREEN COMPOST
PLANTING BEDS

- Spread 50mm layer of Green Compost and cultivate into full depth of topsoil.
- Reduce top 100mm of all topsoil to a fine tilth suitable for final grading
- Remove all undesirable material brought to the surface, including stones larger than 50mm in any dimension, roots, turf or grass and foreign matter.

- Cultivation and planting shall not be carried out when the soil is very wet or waterlogged, or during periods of frost.
- At all times during ground preparation care shall be taken not to re-compact the soil.

5.0 PLANTING GENERAL

5.1 CLIMATIC CONDITIONS**:** Carry out the work while soil and weather conditions are suitable for the relevant operations. Do not plant during periods of frost or strong winds. Plant only during the following periods:

- Deciduous trees and shrubs: Late October to late March
- Container grown plants: At any time if ground and weather conditions are favourable.
- Ensure that adequate watering and weed control is provided.

NOTICE
Give notice before:

- Setting out.
- Delivery of plants/ trees.
- Planting shrubs.
- Planting trees

5.2 TREE, SHRUB PLANTING

Planting shall be carried out in accordance with the Plant Schedules and the Contract Drawings.

SETTING OUT: All areas shall be set out in accordance with the Contract Drawings.

PLANT SPACING: Plant spacing shall be carried out in accordance with the Contract Drawing. The CA reserves right to adjust the exact position of all plant material after it has been set out.

The aim will be to space the plants evenly so that when established they will completely fill the areas indicated as fully as possible.

NEW PLANTING AREA
Prior to the placing of topsoil and subsoill ensure existing ground under is thoroughly broken up to a depth of 200mm to allow free drainage.
Remove all rubble, concrete washings, and other builder's debris to provide sufficient depths for topsoil placement. Cut back excessive haunching where it restricts topsoil depths. Excavate tree pits into subgrade prior to top soiling to ensure sufficient depths of soil. Mark tree pit locations with timber stakes.

PLANTING AND CULTIVATION: All planting shall comply in all respects with BS 4428: 1968 General Landscape Operations and for Tree Planting BS 8545: 2014. All plants shall be planted in accordance with good horticultural practice, upright with the roots well spread out at same depth at which they had been previously grown in the nursery. Care being taken to avoid damage to root systems and stems. The plants shall be placed in position in accordance with the Contract Drawings showing their best side to the front. Suspended planting and cultivation when weather or soil conditions are unsuitable.

Cultivations are as previously specified. Soil to be free of weeds prior to commencing planting works, where necessary the topsoil will have weeds removed by physical means or will be treated with weedkiller where necessary to destroy weed growth prior to commencing planting.

Evergreens to be dipped in or thoroughly sprayed with antidessicant after planting. Do not apply in rainy or frosty weather. Ensure full coverage of underside of foliage.

ROOT BARRIERS
Root barriers are to be used where trees are within 2.00m of service runs. The root barriers are to be either installed vertically or laid to line service trenches where appropriate. The root barrier is to be Terram Rootguard which is a permeable root barrier.
Terram
Fiberweb Geosynthetics Ltd
Blackwater Trading Estate
The Causeway, Maldon
Essex CM9 4GG
Tel: +44 (0) 1621 874200
email:info@terram.com
www.terram.com

5.3 EXTRA HEAVY STANDARD TREES IN PLANTING BEDS

These are to be planted in Planting Beds around the site

Break up the base in planting beds to a depth of 200mm to ensure drainage.

At planting the localized tree pit dug shall be not less than minimum dimensions or 1500 x1500mm x 900mm depth. Allow the tree at planting to have the root flare at finished topsoil level. (this may be the soil mark on the nursery stock. Check this is the root flare point before planting. Correct planting depth is important.)

Water rootball of rootballed trees with seaweed extract root dip.
All wires hessian and other rootball wrapping to be removed at planting.

Trees need to be orientated for the best crown development. It might be found that due to the nature of growing trees on nursery lines crowns develop asymmetrically.

Tree pit is backfilled with existing or imported subsoil 600mm thick and existing or imported topsoil 300mm thick. 10% Green Compost is to be mixed in thoroughly into top 150mm of the topsoil backfill. The returned soil shall be lightly consolidated by treading as filling proceeds layer by layer with subsoil replaced first and then topsoil in layers above the subsoil

The tree shall be set upright in the centre of the tree pit so that the soil level after settlement will be at the original soil mark on the tree stem. The two stakes shall be driven into the pit 300mm from the edges and fixed before backfilling

The returned soil shall be finely broken down and placed around the roots gently shaking the tree to allow particles to work around the rootball and ensure close contact with all rootball and prevent air pockets. The returned soil shall be lightly consolidated by treading as filling proceeds layer by layer, care being taken to avoid damaging the rootball. Soil around the root flare of the tree shall be consolidated firmly with the heel.

Secure the tree to the stakes with Hessian webbing 50mm wide wrapped around tree stem and nail the webbing to the stakes with galvanised nails. The stakes are to be 75mm diameter set 1200mm above ground level.

Water tree thoroughly after planting.

EXTRA HEAVY STANDARD TREE IN RAIN GARDEN 3
At planting the localized tree pit dug shall be not less than minimum dimensions or 1500 x1500mm x 900mm depth. Allow the tree at planting to have the root flare at finished topsoil level. (this may be the soil mark on the nursery stock. Check this is the root flare point before planting. Correct planting depth is important.)

Water rootball of rootballed trees with seaweed extract root dip.
All wires hessian and other rootball wrapping to be removed at planting.

Trees need to be orientated for the best crown development. It might be found that due to the nature of growing trees on nursery lines crowns develop asymmetrically.

Tree pit is backfilled with Sandy Loam Subsoil 600mm thick and Sandy Loam Topsoil 300mm thick. The returned soil shall be lightly consolidated by treading as filling proceeds layer by layer with subsoil replaced first and then topsoil in layers above the subsoil

The tree in the Rain Garden 3 is to be secured with underground guying, deadman blocks and Platyipus Anchors

Water trees thoroughly after planting.

EXTRA HEAVY STANDARD TREES IN RAIN GARDENS 1 AND 2
STRUCTURAL TREE PITS
Check that the proposed tree pit squares 4000 x 4000mm can be constructed in the proposed location without conflict with underground services. Note that root barriers are required to the pit sides where they are close to building or services as indicated and to be confirmed onsite..

The RootSpace units from Urban Green and Blue are to be used or other approved equivalent.

- Excavate the tree pits in the locations indicated on the Contract Drawings to a depth of 1000mm from the proposed finish level for a pit size of 3000 x 3000mm to 2000mm in rain garden 1 and 3000mm x 3000 to 2500mm in rain garden 2 with a working area allowed for to install GRN20 open reinforcing mesh 20mm aperture to the sides of the RootSpace Units.
- Compact the subbase. Note a twinwall GeoNet (GLTWGNA) to be installed where subbase is installed below 3% CBR- Minimum 2%
- Supply and lay a 200mm deep clean stone layer over the subbase, refer to the Engineer to confirm the drainage details for drainage around the structural tree pit..
- Supply and fix GRN20 plastic open reinforcing mesh20mm aperture laid below and around the sides of the RootSpace structural Units.

- Supply and install the layer of 500 x 500 x 400mm RootSpace Units/Modules across the excavation area, 26 units in rain garden 1 and 35 units in rain garden 2 complete Airflow Deck.
- Ensure Arborguy earth anchors are fixed in place.
- Infill the units with RootSoilSUBA – fine selected subsoil.
- Fix 500 x500 x 75mm Aeration caps to the top of units..
- Lay GLTWGNA twinwall geonet over the aeration caps
- Water rootball of tree with seaweed extract root dip.
- Remove all non perishable wrappings prior to planting. Perishable wrappings – hessian and non galvanized chicken wire basket retained until the tree is in position. Then peel back and remove the perishable parts from the top third of the rootball.
- Fix the SASAPOBA Arborguy strapped anchor system collar to the tree and secure the tree in an upright position
- Water tree thoroughly after planting.

Any drainage required to link the drainage layer to the existing surface water drainage system is to be specified and detailed by the Engineer

5.4 HEDGE PLANTING

Hedges 1 and 2 are comprised of container grown plants and are to be planted on the Great North Road Boundary as shown on Drawing No 2020 MIL-03 Rev A

Excavate hedge trench 900mm wide to a depth of 600mm.

Break up base of hedge trench to a depth of 200mm

Spread 300mm depth of existing or imported subsoil and 300mm depth of existing or imported topsoil over the area.

Cultivate trench and work in Green Compost, 50mm layer spread over area to full topsoil depth. Remove any debris arising from cultivations.

Water the hedge plants thoroughly after planting.

All container grown plants shall be well-soaked in water with alginure root dip in the water prior to planting and planted into the trench area.

Supply and spread a layer of Slate Mulch 50mm deep over area of hedge trenches

5.5 ORNAMENTAL PLANTING BEDS

Supply and plant shrubs at spacing indicated on the Contract Drawings and of species and sizes indicated on the Plant Schedule.

Excavate planting beds to a depth of 600mm, break up ground under to a depth of 200mm and spread 300mm depth of existing or imported subsoil and 300mm depth of existing or imported topsoil over area.
Cultivate planting beds and work in Green Compost, 50mm layer spread over area to full topsoil depth. Remove any debris arising from cultivations.
Supply and lay a geotextile weed membrane with a minimum overlap of 200mm and holes cut for planting. Sufficient pins to be installed to prevent membrane lifting.

All pot grown shrubs shall be well-soaked in water with alginure root dip in the water prior to planting and planted into the bed area.

Supply and spread a layer of Slate Mulch 50mm deep over the area.

Water plants thoroughly after planting.

5.6 PROTECTIVE FENCING

If necessary protective fencing will be erected to protect completed works where necessary where other adjacent works are in progress and there is a risk of damage by others of completed landscape works

5.7 DEFECTS LIABILITY

All tree, hedge and shrub planting is to be maintained for 5 Years after Practical Completion (1 Year as part of contract and 4 years with managing agent).

All planting completed prior to Practical Completion of the whole soft Landscape works is to be maintained as per maintenance requirements until Practical Completion.

After planting remove all soil from hard surfaces and leave all areas in a clean and tidy condition at Practical Completion.

FAILURES OF PLANTING: Post Practical Completion maintenance of the planting is to be carried out by the Contractor as specified. Any tree/shrubs/plants which are dead, dying or otherwise defective at the end of each growing season within the Defects Liability Period will be regarded as defects due to materials or workmanship not in accordance with the Contract. They must be replaced by approved equivalent tree/hedge/shrub/plant material at the next suitable planting season unless otherwise instructed.

This will not apply if defects are caused by malicious damage after Practical Completion.

6.0 LANDSCAPE MAINTENANCE

MAINTENANCE PERIOD FIVE YEARS: CONSTRUCTION MAINTENANCE PERIOD IS YEAR 1.

6.1 Definitions

CA: Contract Administrator shall mean the agent appointed by the Client

6.2 Programming and site attendance

PROGRAMME OF WORKS: The Contractor shall provide a programme of maintenance works at the commencement of the Contract The Contractor shall maintain an operation plan that demonstrates the monthly progress and the month in advance. The operational plan is to include management objectives to achieve this plan.

SITE ATTENDANCE: The aim of this item is to ensure that small matters are corrected.
The Contractor shall attend to incidental matters which are defined as follows:

- inspect the site and undertake as necessary litter picking, sweeping, leaf clearance and other maintenance Items which require attention in key areas such as at the site entrance, car parking areas and entrances to Buildings
- 'making-safe repairs' to such items as staked trees, fencing etc
- 'making safe' any hazardous items on site eg damaged service covers etc (full repair to be undertaken by Employer's CA.
- reporting to CA any matters requiring more than one hours attendance or requiring specialist work.

MAINTENANCE RETURNS
The Contractor shall submit a monthly maintenance return issue this to CA and copy it to the CA.

6.3 Removal of arisings:

The Contractor shall remove all leaves, litter, rubbish, dirt and other arisings shall be swept up, collected and disposed of on the same day as the various items of work are undertaken. These arisings shall be collected and unsuitable material disposed off at the Contractor's tip. The Contractor shall take sole responsibility for providing a tip and for all charges, fees, transport and any other expenses in connection with tipping unless otherwise specified in writing by the LA.

Where indicated arisings are to be dispersed.

Ornamental planting beds and trees within ornamental areas arisings are to be removed from site.

Note all green waste arisings is to be recycled via local recycling facilities as the site has not suitable locations for composting material or operations for reusing composted material.

6.4 Inspections

During maintenance operations the Contractor shall note and report without delay to the CA any of the following:

- activities by others which prevent the normal maintenance operations proceeding in the site areas egg Statutory Authorities work, new constructions, storage of materials and parking on landscape areas etc.
- damage caused to the site areas by the activity of others on site.
- missing gulley covers or damaged service covers noted during the course of the works.
- damage to boundary fences, other fences, railings and other features for which the Employer is responsible.
- persistent litter problems
- theft or malicious damage, or clearly unauthorized use of the site areas
- damage to building structures within site area

Inspect trees after high winds. Refix newly planted trees upright as necessary.

7.0 TREE MAINTENANCE: GENERAL The Contractor is to take care not to damage tree stems, any damage or tree death resulting from damage shall be made good at the Contractor's expense.

7.1 Staked trees

INSPECTING TREES

- Inspection of new trees should be monthly in the first year and bi-monthly thereafter and after high winds to assess remedial work needed due to storm damage, clearing of dead trees, prevention of trees overhanging roads and footpaths.

PEST AND DISEASE CONTROL**:** The Contractor shall report to the CA any indications that pest or disease control treatment is required. Allow for one application of a treatment approved by the CA. Report any squirrel damage noted to CA.

TREE REMOVAL**:** Remove dead or dying or trees which are poorly located after obtaining approval from the CA. Where the tree Is removed from a grass area reinstate soil levels to marry with adjacent levels and seed with an approved mix.

REFIRMING**:** Ensure that all trees remain firmly bedded in the ground after strong winds, frost and other disturbances. Refirm by treading around the base. Any 'collars' forming at the base of the trees shall be broken up and then backfilled with topsoil.

STAKED TREES

- Check tree stakes for firmness and signs of rot or damage.
- Refirm or replace as required. Tree stakes to be supplied by the Contractor at his sole cost to be suitable for the size of tree to be staked, fully tanalised, round, peeled and pointed at one end.
- Tree stakes should be removed after three growing seasons. If the tree has failed to anchor at this time the tree is to be replaced.
- Check all tree ties. Remove, adjust, refix or replace if broken. Ties to be supplied by the Contractor at his/her own expense. The make of replacement ties must be approved by the CA before use on site. Ties to be nailed
- securely to the stake
- Provide aeration where compaction is considered to be one cause for poor tree condition.
- Trees are within planting beds,

UNDERGROUND GUYED TREES

- Trees are within rain gardens.
- Check trees are vertical and adjust guys as necessary.

GENERAL

- Water as necessary during dry periods
- Any trees which die or are otherwise defective during the 5 year Defects/Maintenance Period shall be replaced at the Contractor’s cost in the next November and March planting season.

These works to staked trees are to be carried out **between September and February each year unless specified otherwise and when necessary during the remaining part of the year – work should be undertaken when trees are dormant.**

PRUNING TREES as follows:

- Remove dead or damaged branches and cut back any ragged edges of wounded bark back to healthy tissue.
- Remove side growths beneath the crowns and any suckering growth from tree base. All cuts to be pared back flush to the stem, trunk or scar tissue.
- Where tree in very poor condition tree removal may be required.
- Pruning shall be undertaken once per year during between October and February. The use of chainsaws and the like will not be permitted, unless instructed by the CA.

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8.0 MAINTENANCE OF PLANTING BEDS: GENERAL REQUIREMENTS

PEST AND DISEASE CONTROL**:** The Contractor shall report to the CA any indications that pest or disease control treatment is required. Allow for one application of a treatment approved by the CA. Pest and disease control includes for the control of slugs, snails or any other pest (not vermin) which adversely affects plant material. Repeat treatments are too be made as necessary.
Report any rabbit damage noted to CA.

REFIRMING**:** Ensure that all shrubs remain firmly bedded in the ground after strong winds, frost and other disturbances. Refirm by treading around the base. Any 'collars' formed at the base of the shrubs shall be broken up and then backfilled with topsoil.

AERATION : Where the bed is compacted or the soil water logging aerate the soil avoiding damage to any underground plant rhizomes etc and avoid damage to underground services where these occur.

8.1 WEEDING PLANTING BEDS: All planting beds are to be kept weed free at all times. The Contractor is to provide a list of suitable herbicides for use in planting beds and obtain the written approval of the CA.

CONTROL WEEDING - Control weeding means applying an appropriate weedkiller at the beginning of the growing season and thereafter the areas are to be checked once a month in season and any weeds spot

treated with an appropriate weedkiller. Initial weedkiller application to be undertaken during mid/late Spring each year **and be completed by 10 June.** This treatment is for newly planted beds .
NOTE CHECK THAT HERBICIDE USED IS SUITABLE FOR USE ACCORDING TO THE PLANT COMPOSITION OF THE BE IF NOT HANDWEED.

8.2 BED MAINTENANCE

MAINTAINING SLATE MULCHED BEDS: During weeding and maintenance operations do not incorporate mulch into the underlying soil. Each Autumn rake over the slate mulch to provide a neat and tidy appearance

PLANTING BED EDGES**:** On one occasion per year the soil at edges of planting beds shall be reduced to 50mm below the adjacent hard or grass surface. The resulting soil shall be removed. Care shall be taken to ensure that the bed edges against grass areas are well defined unless otherwise directed by the CA.

NOTE; Where good horticultural practice for the particular shrubs/plants within a bed require a specific fertiliser treatment this shall be applied.

DISEASES: The CA shall be notified of any pest or disease outbreaks. If cutting out diseased material all implements shall be sterilized between shrubs to prevent spreading the pathogen

CONTROL OF UNSUITABLE VEGETATION
During routine visits inspect plantings for sucker growth, and unsuitable/atypical growths and feathers on stems and remove at the point of origin.

8.3 PRUNING SHRUBS AND GROUNDCOVER: All pruning is to be carried out in accordance with the correct horticultural practice for the type of shrub. Vary the amount and nature of the pruning, trimming and shaping according to the species, stage of growth, season and required visual effect.

GENERAL
The Contractor shall allow for pruning once a year, and trimming of vigorous species as necessary through the year.
In all cases dead, diseased and damaged material shall be removed.
Where necessary remove growth encroaching onto footpaths, roads, hard areas, grassed areas, signs, lights, sightlines and other features and if directed by the CA.

- Trim as necessary the species to prevent straggly growth or growth beyond the bed limits, reduce the height of shrubs to free tree stems as directed, trim to maintain tall shrubs at a defined height and round off the planting as directed to provide a neat appearance.
- Any plants which die or are otherwise defective during the 5 year Defects/Maintenance Period shall be replaced at the Contractor's cost in the next October and March planting season.

ALL ARISINGS FROM PRUNING SHALL BE SHREDDED AND REMOVED FROM SITE AS GREEN WASTE.

PRUNING GENERALLY: The CA will give directions on site for all planting beds to indicate the approach to be adopted for pruning beds and the effect required.

PRUNING EQUIPMENT: The Contractor shall use only two bladed secateurs or other cutting equipment approved by the CA. All cut ends shall be left with a clean finish.

The adjacent plantings should not over run one another and judicious pruning of the shrubs should be undertaken to achieve the best visual effect.

9.0 HEDGE MAINTENANCE

- Ensure that all plants remain firmly bedded in the ground after strong winds, frost and other disturbances.
- Refirm by treading around the base. Any 'collars' forming at the base of the plant shall be broken up and then backfilled with topsoil
- Provide aeration where compaction is considered to be one cause for poor plant condition.
- Spotweed treat slate mulched trenches.
- Any plants which die or are otherwise defective during the 5 year Maintenance Period shall be replaced in the next October and March planting season.
- MAINTAINING SLATE MULCH: During weeding and maintenance operations do not incorporate mulch into the underlying soil. Each Autumn rake over the slate mulch to provide a neat and tidy appearance

9.1 HEDGE CUTTING:

Trim carefully and neatly to regular line and shape, with the width at the top less than that at the base, using suitable mechanical cutters unless otherwise directed by the CA. Both sides and tops of hedges shall be cut back to previous year's growth. The Contractor is to finish all work to give a neat and tidy appearance over the whole hedge and remove arisings. All cuts shall be cleanly made, without tearing. Remove all grass and weed growth from the base of the hedge together with any litter.
New hedges to be maintained at a height of 1.20m generally

10.1 INVASIVE NON NATIVE SPECIES

In the event that invasive plant species become established on site they will be controlled at the nearest opportunity using approved methodology and guidance (http://www.nonnativespecies.org) to avoid the risk of further contamination and spread. Common examples include:

- Cut Himalayan balsam (*Impatiens glandulifera*), by hand or machine below the lowest node to prevent the formation of flowers and seeds.
- Spray giant hogweed (*Heracleum mantegazzianum*) with herbicide as a spot treatment when the plants are growing actively but still less than 1m high. Control on a catchment basis, working downstream to prevent seed recolonisation.

PROPOSED LIDL STORE, GREAT NORTH ROAD, MILFORD HAVEN
LANDSCAPE MANAGEMENT PLAN SCHEDULE

9th February 2021

	TASK DESCRIPTION	Year 1				Year 2				Year 3				Year 4				Year 5			
		Jan Feb Mar	Apr May Jun	Jul Aug Sep	Oct Nov Dec	Jan- Feb Mar	Apr May Jun	Jul Aug Sep	Oct Nov Dec	Jan- Feb Mar	Apr May Jun	Jul Aug Sep	Oct Nov Dec	Jan- Feb Mar	Apr May Jun	Jul Aug Sep	Oct Nov Dec	Jan- Feb Mar	Apr May Jun	Jul Aug Sep	Oct Nov Dec
PLANTED TREES	Check the trees and after high winds	Monthly				Every two months				High winds				High winds				High winds			
	Check to include health/disease/pest etc and remedial measures																				
	Refirm																				
	Aeration if necessary																				
	Check trees refix upright as necessary staked and u/ground guyed.	Monthly check and refix				Every two months															
	Cut ties loose in year 3 and remove stakes on planting bed trees												Cut Ties								
	Remove weeds for first three years																				
	Top up mulch for first two years only																				
	Water as necessary during drought periods,regularly in dry periods																				
	during first two years of establishment																				
	Apply foliar or liquid fertiliser if necessary in first two years	March				March															
	Pruning as necessary to remove deadwood and as necessary to																				
	retain natural habit form of the crown																				
	Replace defective trees if required				Oct	March			Oct	March			Oct	March			Oct	March			Oct
EXISTING TREES	Check the trees and after high winds	Every two months				Every two months				High winds				High winds				High winds			
	Bi- Annual check of trees to monitor trees to reduce risk																				
	of fallen branches, limbs or in severe cases fallen trees.																				
	Pruning as necessary to remove deadwood																				
	Check and remove suckers																				
HEDGEROW NEW	Check to include health/disease/pest etc and remedial measures	Monthly				Every two months															
	Refirm																				
	Remove weeds until hedge establishes. Thereafter as necessary																				
	Top up mulch for first two years only																				
	Aeration if necessary																				
	allow balanced growth.																				
	Water as necessary during drought periods																				
	Replace defective hedge plants as appropriate				Oct	March			Oct	March			Oct	March			Oct	March			Oct
	Trim hedges in September/October			Sept/Oct				Sept/Oct				Sept/Oct				Sept/Oct				Sept/Oct	
ORNAMENTAL PLANTING BEDS AND RAIN GARDENS	Check to include health/disease/pest etc and remedial measures	Monthly				Bimonthly															
	Refirm																				
	Remove weeds for first three years.Thereafter as necessary																				
	Top up mulch for first two years only																				
	Reduce depth of soil at edge of planting bed once per year																				
	Aeration if necessary																				
	Water as necessary during drought periods																				
	Replace defective plants				Oct	March			Oct	March			Oct	March			Oct	March			Oct
	Prune as necessary according to species type																				
	Check and remove suckers and inappropriate plants																				
	MONITORING																				
TREES	Arboricultural check every two years after two years of annual checks																				
	If there significant storm damage after high winds the																				
	arboriculturalist would be called to site																				
FINAL CERTIFICATE	A detailed inspection will be made at the end of the first	Date dependent on Practical																			
	year of maintenance and a final defects report will be issued	Completion date																			
	This will include progress on all biodiversity recommendations																				
MONITORING	Annual defects checks to be made in following 4 years to																				
	assess defects replacements.																				

TIMING OF OPERATIONS

	JAN	FEB	MAR	APRIL	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
Bird Nesting Season												

0m 10m 20m

Carpark

VAYNOR ROAD

Cupressus Hedge

Plants overhanging Fence

T7 Sycamore Hgt 17m C

T8 Ash Hgt 17m C

T11 Hawthorn Hgt 6.5m C

T12 Hawthorn Hgt 6.5m C

T13 Sycamore Hgt 7.5m C

2.50m Closeboarded Fence

Apple

House 61B

Gravel

Tarmac

Blockwork Wall

Building 61 under construction

10 Holly Hgt 5m C

Enterprise Rent a Car

Japanese Knotweed

T9 Cherry Hgt 6m C

Reinforced Concrete

Fuel Tanks from Former Garage

GREAT NORTH ROAD

T6 Leyland Cypress Hgt 9m C

1.80m Closeboarded Fence

Cordylines

Cordylines

House 61A

2.00m Closeboarded Fence

Concrete

Concrete

Gate

T5 Field Maple Hgt 8.5m B

T4 Field Maple Hgt 8m C

Tarmac

Existing Lidl Store

Ornamental Bed

1.80m Fence

Tarmac

Closeboarded Fence

Paving

Garage

T1 Field Maple Hgt 8m C

Hedge

1.80m Fence

2.00m Stonewall

Access

Closeboarded Fence

Filling Station

T2 Ash Hgt 10m C

Monitor for Ash disease

Blockwork Wall

Pine

T3 Hawthorn Hgt 5m C

2.00m Stonewall

Trees to be removed

Trees and Vegetation to be retained

Japanese Knotweed

Planting Beds to be removed

Planting Beds to be retained

Grass Areas

Corscadden Associates
77 Fairleigh Road
Pontcanna, Cardiff. CF11 9JW
Tel 02920 373053

email ca@corscaddenassociates.com

LIDL STORE : MILFORD HAVEN

Drawing Title

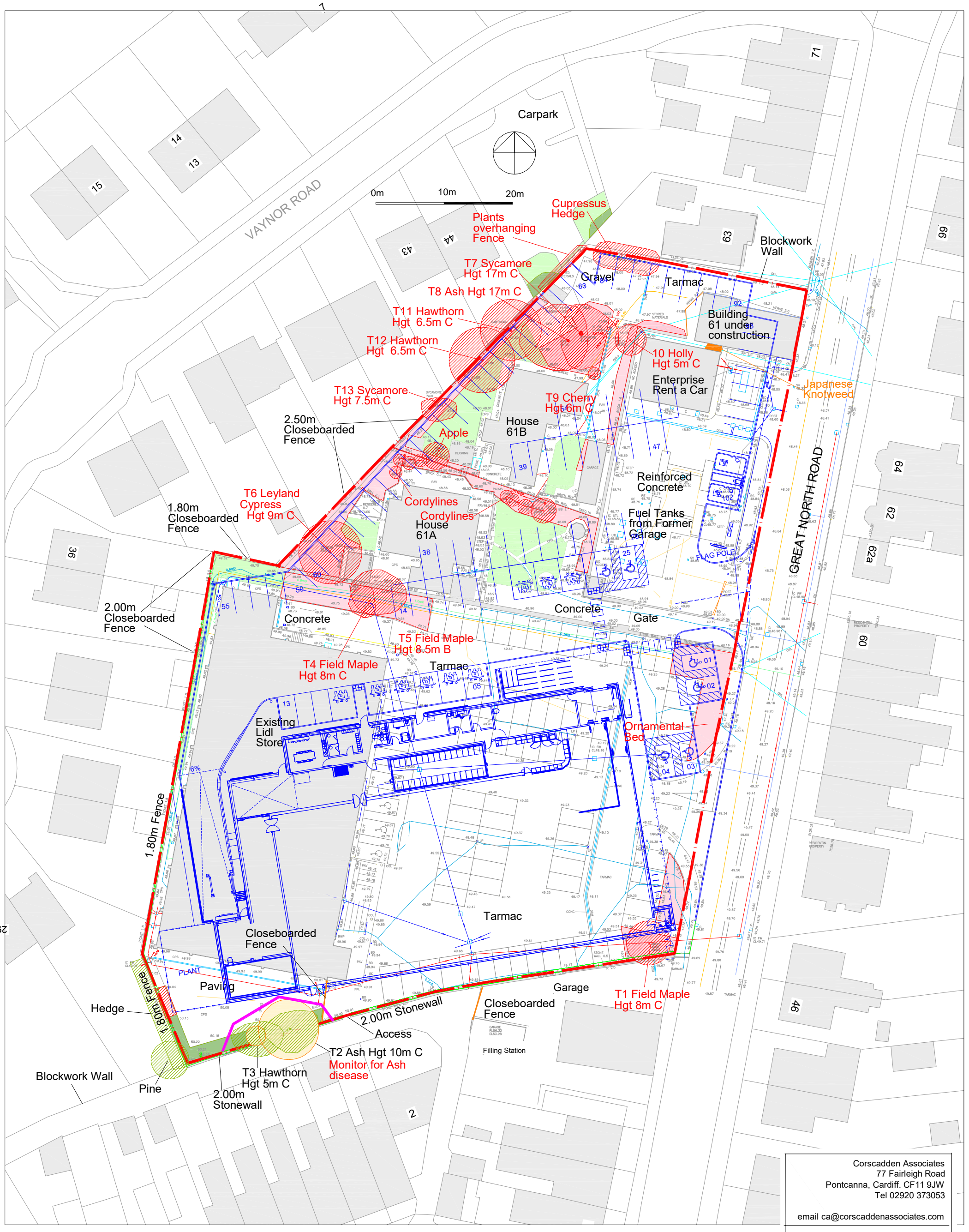
EXISTING FEATURES

Scale	Date
1:500 at A3	28 Dec 2020

Drawing No
2020 MIL-01 Rev A

173

2020 MIL-01 Rev A
8 Feb 2021
Tree Survey added



Trees to be removed

Trees and Vegetation to be retained

Japanese Knotweed

Proposed Development

Planting Beds to be removed

Planting Beds to be retained

Grass Areas

Tree Protection to BS 5837:2012

2020 MIL-02 Rev A
8 Feb 2021
Tree Survey added

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email ca@corscaddenassociates.com

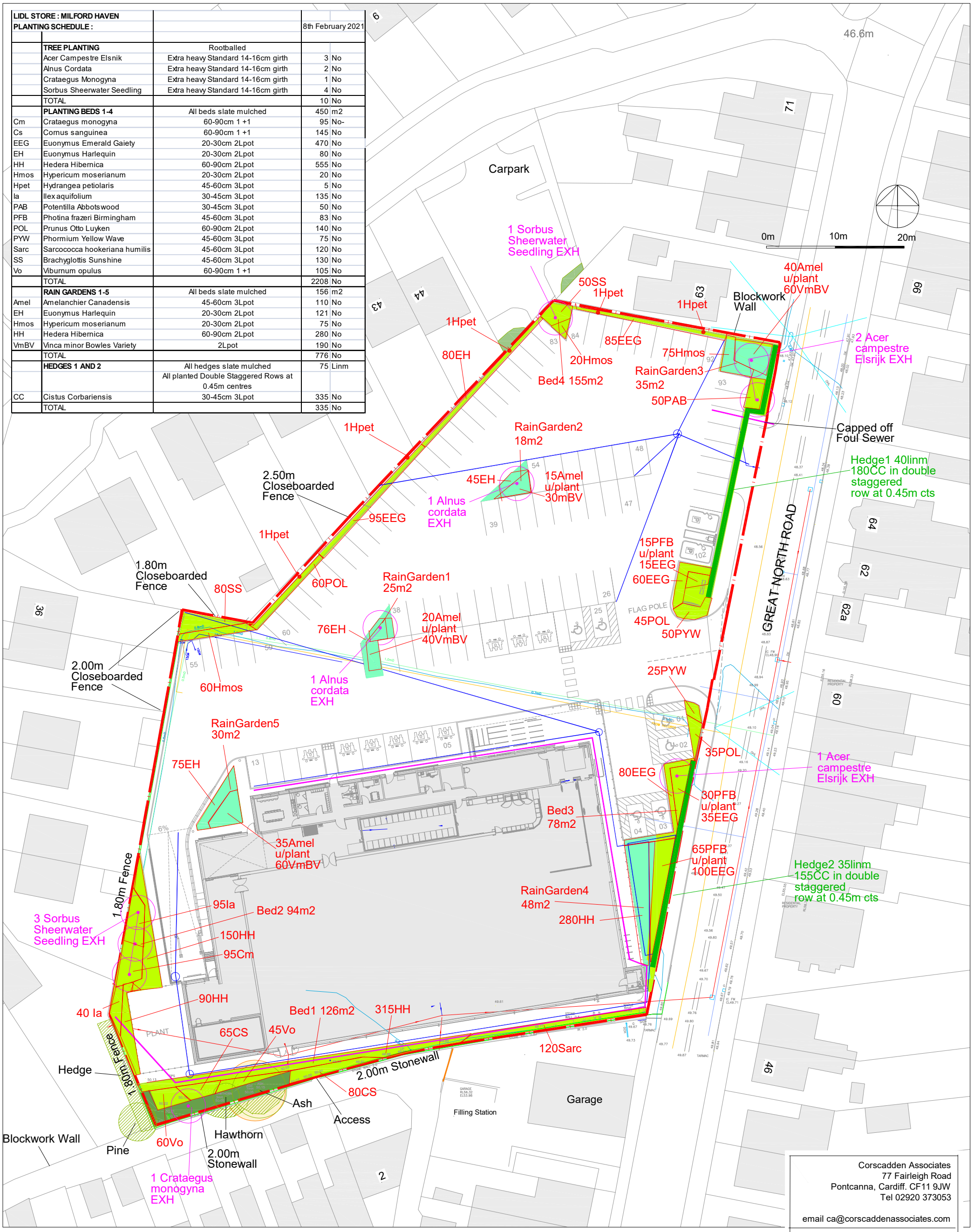
LIDL STORE : MILFORD HAVEN

Drawing Title
EXISTING FEATURES OVERLAY

Scale	Date
1:500 at A3	28 Dec 2020

Drawing No
173 — **2020 MIL-02 Rev A**

LIDL STORE : MILFORD HAVEN				
PLANTING SCHEDULE :			8th February 2021	
	TREE PLANTING	Rootballed		
	Acer Campestre Elsnik	Extra heavy Standard 14-16cm girth	3	No
	Alnus Cordata	Extra heavy Standard 14-16cm girth	2	No
	Crataegus Monogyna	Extra heavy Standard 14-16cm girth	1	No
	Sorbus Sheerwater Seedling	Extra heavy Standard 14-16cm girth	4	No
	TOTAL		10	No
	PLANTING BEDS 1-4	All beds slate mulched	450	m2
Cm	Crataegus monogyna	60-90cm 1 +1	95	No-
Cs	Cornus sanguinea	60-90cm 1 +1	145	No
EEG	Euonymus Emerald Gaiety	20-30cm 2Lpot	470	No
EH	Euonymus Harlequin	20-30cm 2Lpot	80	No
HH	Hedera Hibernica	60-90cm 2Lpot	555	No
Hmos	Hypericum moserianum	20-30cm 2Lpot	20	No
Hpet	Hydrangea petiolaris	45-60cm 3Lpot	5	No
Ia	Ilex aquifolium	30-45cm 3Lpot	135	No
PAB	Potentilla Abbotswood	30-45cm 3Lpot	50	No
PFB	Photina frazeri Birmingham	45-60cm 3Lpot	83	No
POL	Prunus Otto Luyken	60-90cm 2Lpot	140	No
PYW	Phormium Yellow Wave	45-60cm 3Lpot	75	No
Sarc	Sarcococca hookeriana humilis	45-60cm 3Lpot	120	No
SS	Brachyglottis Sunshine	45-60cm 3Lpot	130	No
Vo	Viburnum opulus	60-90cm 1 +1	105	No
	TOTAL		2208	No
	RAIN GARDENS 1-5	All beds slate mulched	156	m2
Amel	Amelanchier Canadensis	45-60cm 3Lpot	110	No
EH	Euonymus Harlequin	20-30cm 2Lpot	121	No
Hmos	Hypericum moserianum	20-30cm 2Lpot	75	No
HH	Hedera Hibernica	60-90cm 2Lpot	280	No
VmBV	Vinca minor Bowles Variety	2Lpot	190	No
	TOTAL		776	No
	HEDGES 1 AND 2	All hedges slate mulched	75	Linm
		All planted Double Staggered Rows at 0.45m centres		
CC	Cistus Corbariensis	30-45cm 3Lpot	335	No
	TOTAL		335	No



Proposed Trees
Proposed Planting Beds
Rain Garden Areas
Retained Bed Section
Trees and Vegetation to be retained
Surface Water Drainage
Foul Drainage

2020 MIL-03 Rev A
13 Jan 2021
Add Rain Garden

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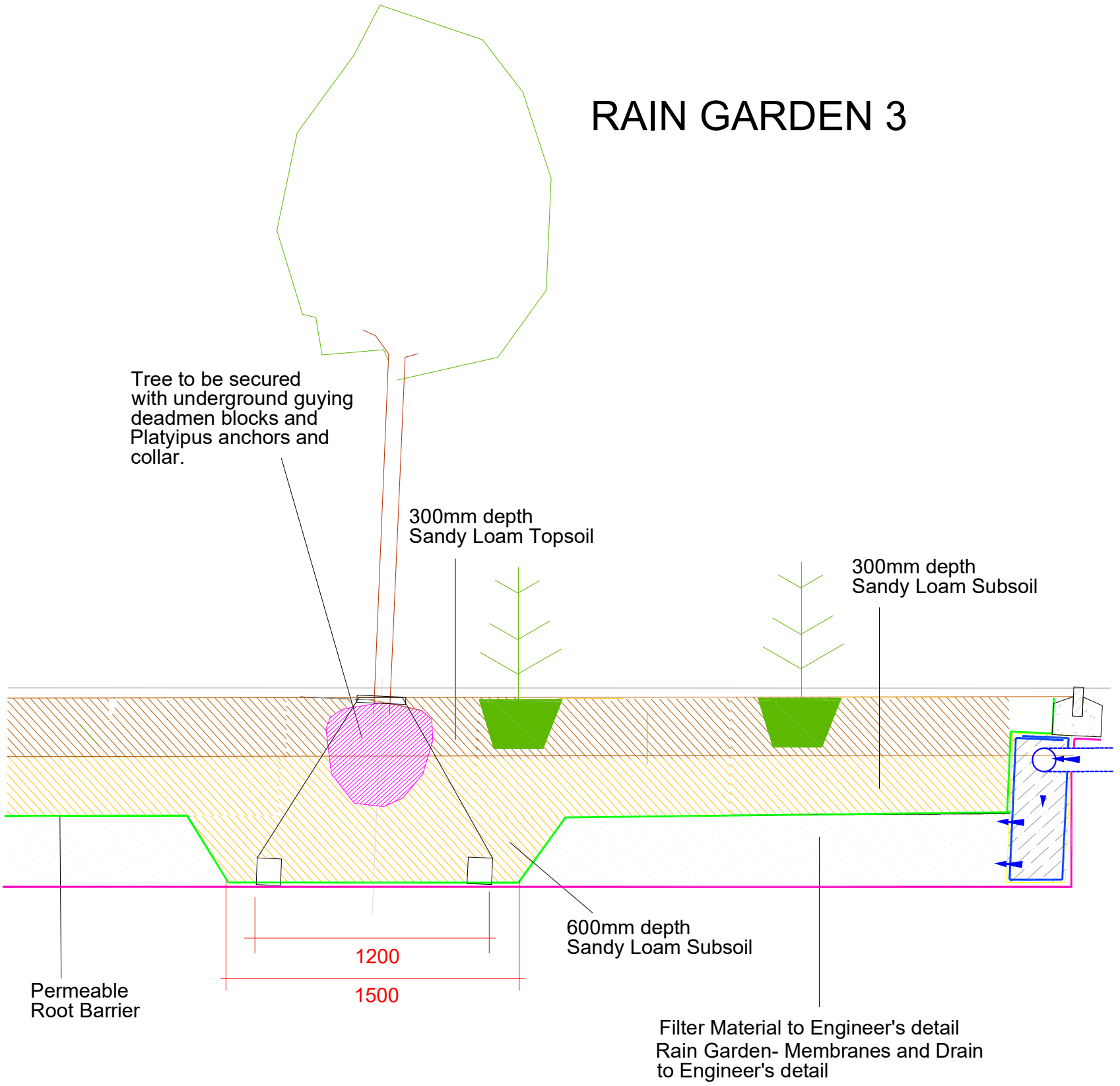
LIDL STORE : MILFORD HAVEN

Drawing Title
LANDSCAPE PROPOSALS

Scale	Date
1:500 at A3	28 Dec 2020

Drawing No	
173	**2020 MIL-03 Rev A**

RAIN GARDEN 3

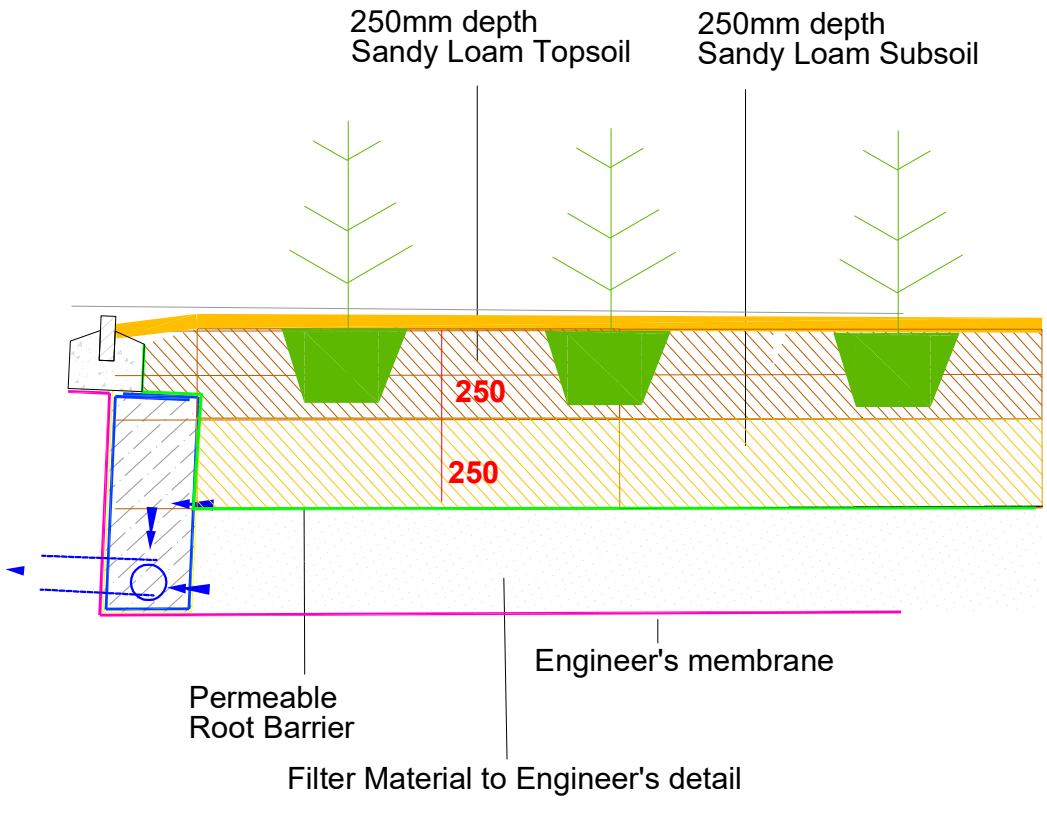


NOTE Depth of Rain Garden dependent on Engineer's requirements.
Soil requirement for planting is dependent on landscape type
Planting beds 250mm Sandy Loam Topsoil : 250mm Sandy Loam Subsoil
Tree RainGdn 1-3 and 5 300mm Sandy Loam Topsoil : 600mm Sandy Loam Subsoil

A permeable rootbarrier is to be installed below the soil areas

RAIN GARDEN PLANTING NO TREES

Note in Rain Garden Bed 4 500mm depth over the cellular storage tank only no filter material



2020 MIL-04 Rev B
25 Jan 2021
Notes revised

2020 MIL-04 Rev A
13 Jan 2021
Minor revisions

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LIDL STORE : MILFORD HAVEN

Drawing Title
RAIN GARDEN SECTIONS

Scale	Date
1:25 at A3	28 Dec 2020

Drawing No	
173	**2020 MIL-04 Rev B**

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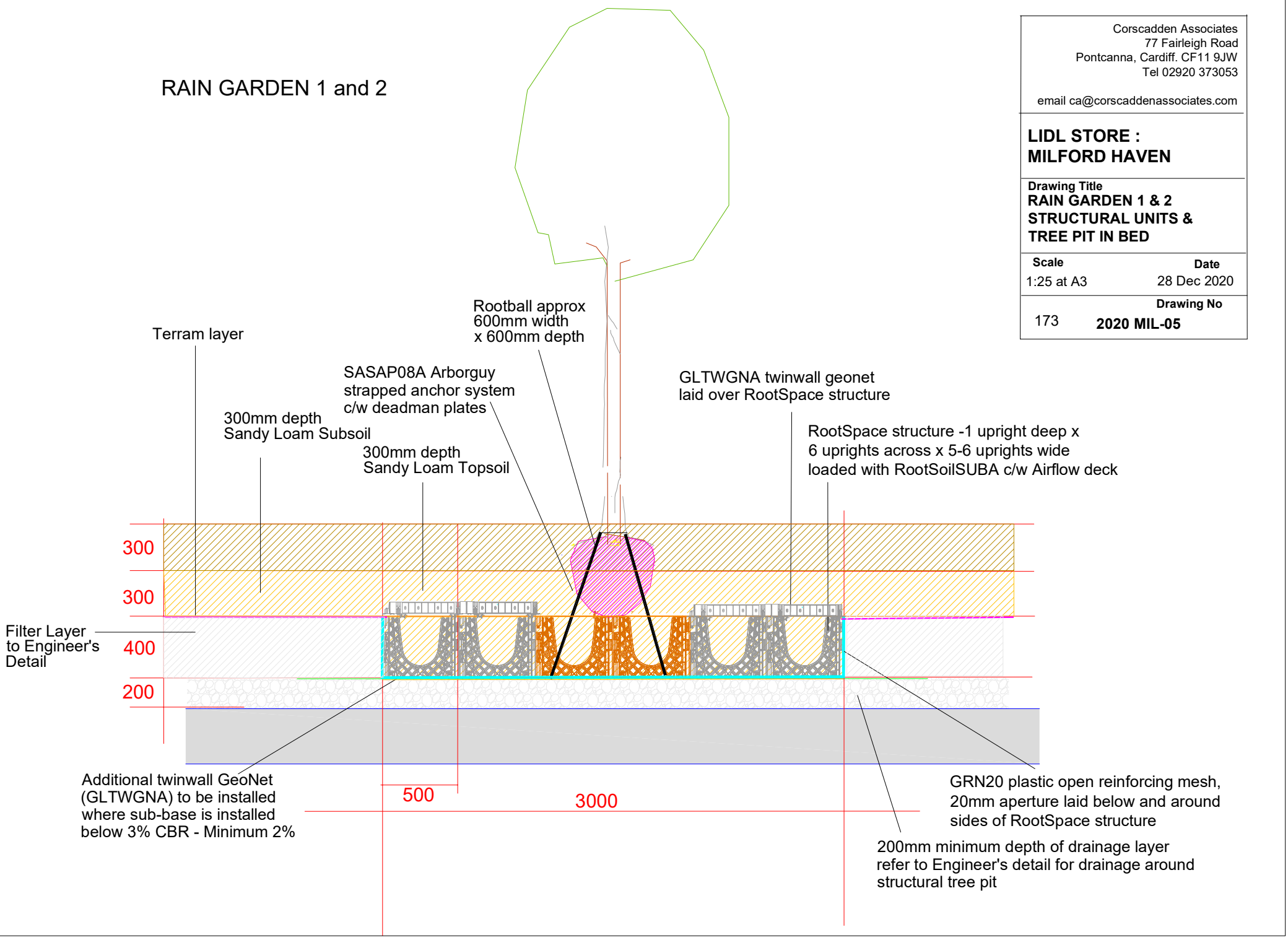
LIDL STORE :
MILFORD HAVEN

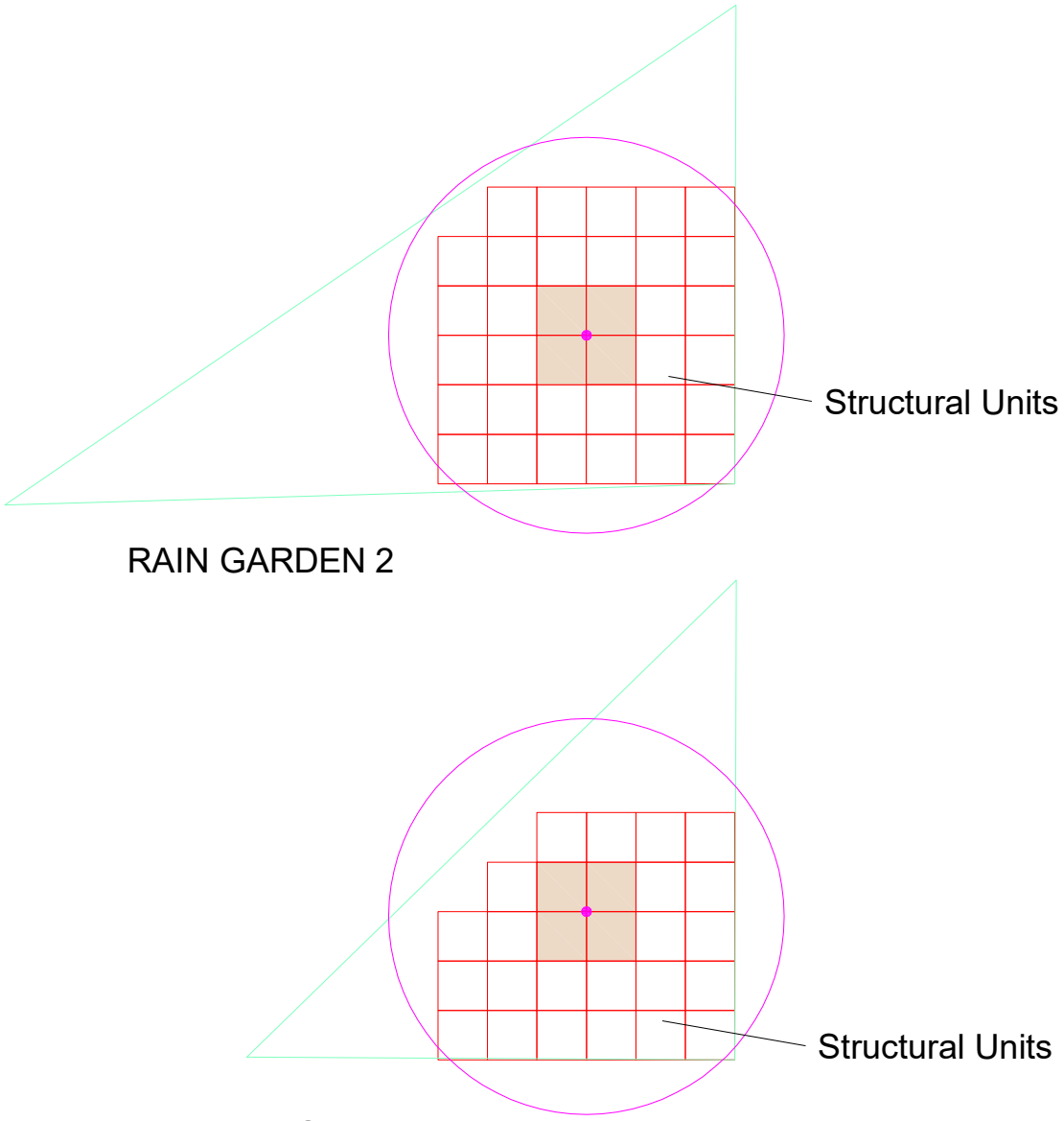
Drawing Title
RAIN GARDEN 1 & 2
STRUCTURAL UNITS &
TREE PIT IN BED

Scale	Date
1:25 at A3	28 Dec 2020

Drawing No	
173	**2020 MIL-05**

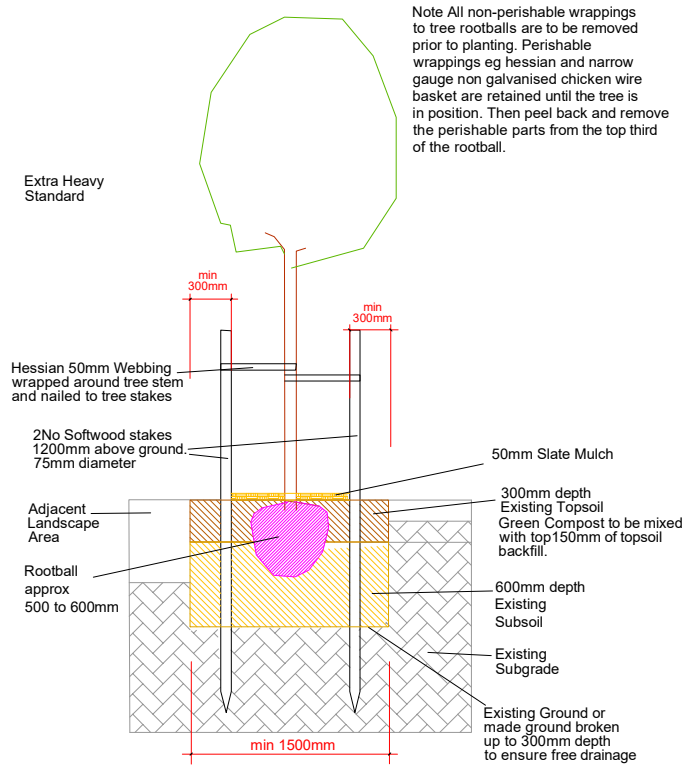
RAIN GARDEN 1 and 2





RAIN GARDEN 2

RAIN GARDEN 1



EXTRA HEAVY STANDARD

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