OLD CO-OP FUNERAL HOME
NORTH ROAD
CARDIFF

PLANTING METHODOLOGY AND LANDSCAPE MAINTENANCE MANAGEMENT PLAN

30 October 2023

Corscadden Associates
77 Fairleigh Road
Cardiff
CF11 9JW
02920 373053
07966 423074
ca@corscaddenassociates.com

CONTENTS

1.0 INTRODUCTION

The Site is the former Gradell Rosemount Funeral Home (Co-op Funeral Home) which is a listed building with metal decorative pillars and balustrades with associated parking and gardens with a rear L shaped building by the service yard. The Site west fronts on to North Road a main road into the centre of Cardiff. On the west side of North Road is a carpark and the woodland of park alongside the Taff which extends down to Cardiff Castle. It also includes a derelict overgrown area to the north of the funeral home.

The site is bounded by stone walls and the private road of Queen Anne Square is on the south and east boundaries. There are trees on the lower west and south boundaries and part of the east boundary. The east boundary tree line is mainly a conifer line.

The proposals are renovating the listed building and apartment blocks to the north and south with associated parking,, landscape and drainage features.

1.1 SCOPE OF LANDSCAPE WORKS

The Works are

- Importation of Topsoil and Subsoil
- Proposed hedgerows.
- Proposed planting beds.
- Proposed rain gardens
- Proposed trees plantin
- Proposed native planting
- Lawn grass areas –short and long grass
- Detention basin.
- Management for 5 years

1.2 **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.

- CA 2023-North Road-01 Rev B Existing Features and Tree Survey
- CA 2023-North Road-02 Rev C Existing Features and Overlay
- CA 2023-North Road-03 Rev A Landscape Proposals Trees-Hedges-Native-Grass
- CA 2023-North Road-04 Rev A Landscape Proposals Planting beds
- CA 2023-North Road-05 Rev A Landscape Proposals Rain Gardens
- CA-North Road –Planting Schedule 27 October 2023
- CA North Road Planting Methodology and Aftercare 30Oct2023

The document used in preparing the Planting Methodology were

- 17276-500-01 Proposed Drainage Strategy by Vale Consultancy

1.3 GENERAL CONDITIONS

EXISTING STRUCTURES ON OR ADJACENT TO SITE:

- North Road and associated footpaths and cycleways.
- Private Road Queen Anne Square
- Adjacent residential properties
- Adjacent commercial and mixed use properties some with University connections..
- Services in site area and in adjacent road and footpaths.

1.4 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 will be 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.

1.5 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
- 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.

1.6 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

1.7 NOTIFICATION OF RECORDS:
The Contractor shall notify the CA of the date of commencement and completions 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.

1.8 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.

1.9 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
- 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 and ditch
- Hazard – services
- Hazard - mechanical and manual handling
- 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.

HSE APPROVED CODES OF PRACTICE: Comply with the following:

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

1.10 PROTECT AGAINST THE FOLLOWING

1.11 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.

1.12 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.

1.13 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.

1.14 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

1.15 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.

1.16 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.

1.17 BURNING: Burning is not permitted on site

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

1.19 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.

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

1.21 TIMING OF WORKS AND ECOLOGICAL CONSIDERATIONS
Protected Species
No Protected Species should be disturbed by the development.

Nesting Birds
Any bird actions as per ecologist's recommendations.

Bats
Any bat actions as per ecologist's recommendations.

Amphibians
None present on site.

Reptiles
Any reptiles actions as per ecologist's recommendations.

2.0 INITIAL WORKS

CLEARANCE AND INTIAL ENABLING WORKS

- Tree removals and treeworks to the arboricultural details.
- Tree protection of retained trees to arboriculturalist's details.
- Minimal soil on site.
- Topsoil and subsoil required to be imported.

.

2.1 TOPSOIL AND SUBSOIL

The Site has minimal existing soil and topsoil and subsoil will need to be imported material..

2.2 IMPORTED TOPSOIL

- Quantity: All topsoil that is 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. This analysis should be provided by a qualified soil scientist.

This report 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.

RAIN GARDEN AND DETENTION BASIN SPECIALIZED SOIL
30% Sand
30% Loamy Topsoil
30% Organic Matter

2.3 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:-
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.

2.4 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 300mm 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

- Importation of Topsoil and Subsoil
- Proposed hedgerows.
- Proposed planting beds.
- Proposed rain gardens
- Proposed trees planting
- Proposed native planting
- Lawn grass areas –short and long grass

- Detention basin.
- Management for 5 years

3.1 PRODUCTS AND MATERIALS

3.2 TOPSOIL AND SUBSOIL

Topsoil and subsoil depths required for the soft landscaping

- 300mm imported topsoil and 300mm imported subsoil in planting beds and hedges trenches.
- 300mm imported topsoil and 600mm imported subsoil in tree pits.
- 75mm topsoil and 225mm subsoil for Eco Rich Lawn grass areas
- 400mm depth of specialized soil for rain gardens
- 300mm depth of specialized soil for detention basin

3.3 AMELIORANTS

ROOTDIP: Where 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.

RABBIT GUARDS FOR NATIVE PLANTS: Provide black plastic spiral rabbit guards for trees of a suitable size for girth of native plants to be guarded. Provisional

PERMEABLE ROOT BARRIER
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

MULCH:
Melcourt Ornamental Bark Mulch to be used. The product shall consist of

- predominantly matured European Pine Bark with an even nominal particle size distribution of 5-35mm with minimal dust and fines and less than 5% wood content.
- The pH to be between 4.5 and 5.5.
- The product shall be pest, disease and weed free and not have been treated with Methyl Bromide or any additives.
- The product shall have been tested in accordance with the requirements of BS 4790:1987, for fire resistance.

Or other approved product with the same specification.

MULCH TO HEDGEROWS AND PLANTING BEDS Supply and spread a layer of bark mulch 75mm thick over the area of the hedge trench and planting beds..

MULCH TO TREE CIRCLES. Supply and spread a layer of bark mulch 75mm thick within the 900mm diameter circle in grass areas,

MULCH Supply and spread a 75mm layer of bark mulch to native planting blocks outside the detention basin.

RAIN GARDENS
No mulch to be applied to rain gardens. No mulch to be applied to native planting within detention basin.
.

3.4 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 and Heavy Standard Trees will have 2No stakes. The stakes are to be set 1200mm above ground.

AERATION WATERING AND FEEDING UNIT
RootRain Urban to be applied to Extra Heavy Standard trees.

GreenBlue Urban,
Northpoint,
Compass Park,
Junction Road,
Bodlam,
TN32 5BS,
Tel: 01580 830 800
Email enquiries@greenblue.com

3.5 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 All trees shall be rootballed. They shall be of a minimum height of 4.25-5.00m with a sturdy reasonably straight stem maximum 1.80-2.00m in height from ground level to the lowest branch with a minimum girth of 14-16cms when measured 1.00m from ground level.

- Heavy Standard Trees All trees shall be rootballed. They shall be of a minimum height of 4.00-4.500m with a sturdy reasonably straight stem maximum 1.80-2.00m in height from ground level to the lowest branch with a minimum girth of 12-14cms when measured 1.00m from ground level.

- Native Block Whips ; 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. All whips are to be bareroot

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

HEDGE PLANTS are pot-grown or container-grown may, according to species and are to be 40-60cm in 3Lpots and all of a consistent shape and size..

POT GROWN SHRUBS/PERENNIALS: 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 GRASS

SEED
Grass seed shall be stored in sealed bags, on boards off the ground in a cool, clean, dry place, free from vermin.

The grass seed shall consist of the mixture as specified below. Certified seed shall be used and shall meet specifications for germination and purity laid down in Section 5.3 of BS 4428: 1969 "Recommendations for General Landscape Operations".

4.1 GRASS AREAS

GRASS SEED MIXES

DETENTION BASIN		120.0	m2
EMORSGATE SEEDS : MEADOW MIX FOR WETLANDS : EM8			
Ref EM8			
Tel 01553 829028			
enquiries@emorsgateseeds.com			
Agrostis capillaris	Common Bent	2	%
Anthoxanthum odoratum	Sweet Vernal Grass	2	%
Brizia media	Quaking Grass	4	%
Cynosurus cristatus	Crested Dogstail	48	%
Deschampsia cepitosa	Tufted Hair Grass	2	%
Festuca rubra	Red Fescue	22	%
Achillea millefolium	Yarrow	2	%
Betonica officinalis	Betony	0.1	%
Galium verum	Lady's Bedstaw	2.4	%
Leucanthemum vulgare	Oxeye Daisy	0.6	%
Plantago lanceolata	Ribwort Plantain	4	%
Rumex acetosa	Common Sorrel	0.1	%
Silaum silaus	Pepper Saxifrage	0.1	%
Primula veris	Cowslip	0.2	%
Silene flos-cuculi	Ragged Robin	1	%
Ranunculus acris	Meadow Buttercup	1.4	%
Lotus pedunculatus	Greater Birds Foot Trefoil	0.8	%
Lathyrus pratensis	Meadow Vetchling	0.4	%
Succisa pratensis	Devil's Bit Scabious	0.1	%
Sanguisorba officinalis	Great Burnet	1	%
Vicia cracca	Tufted Vetch	0.1	%
Angelica sylvestris	Wild Angelica	4	%
Centaurea nigra	Common Knapweed	1	%
Filipendula ularia	Meadowsweet	0.6	%
Leontodon hispidus	Rough Hawkbit	0.1	%
		100	%
sow at rate of 4gms per sqm			

ECO RICH LAWN AREAS	G1-G4	463 m2
GERMINAL WFG 20 DETAIL	Sow 10gms per sqm	
Festuca Ovina	Sheeps Fescue	20.00%
Festuca rubra rubra	Strong Creeping Red Fescue	15.00%
Festuca rubra litoralis	Slender Creeping Red Fescue	12.50%
Festuca rubra commutata	Chewings Fescue	12.50%
Poa pratensis	Smooth Stalked Meadow Grass	10.00%
Agrostis capillaris	Browntop Bent	5.00%
Agrostis stolonifera	Creeping Bent	2.50%
Lolium perenne	Perennial Rye	2.50%
Daucus carota	Wild Carrot	1.00%
Succisa pratensis	Devilsbit Scabious	1.00%
Trifolium fragiferum	Strawberry Clover	2.00%
Trifolium pratense	Red Clover	2.00%
Trifolium repens	White Clover	2.00%
Plantago lanceolata	Ribwort Plantain	1.00%
Lotus uliginosus	Greater Birdsfoot	0.50%
Scabiosa columbaria	Small Scabious	0.10%
Taraxacum officinale	Dandelion	0.50%
Lotus cornuiculatus	Birdsfoot Trefoil	1.00%
Medicago lupulina	Black Medick	1.00%
Linum usitatissimum	Flax	1.80%
Cerastium fontanum	Common Mouse-Ear	0.30%
Primula veris	Cowslip	0.10%
Hypochaeris radicata	Cats-Ear	0.50%
Pimpinella saxifrage	Burnett Saxifrage	0.20%
Leontodon autumnalis	Autumn Hawkbit	1.00%
Rhinanthus minor	Yellow Rattle	1.00%
Achillea millefolium	Yarrow	1.80%
Viola tricolor	Wild Pansy	0.20%
TOTAL		100%

5.0 WORKMANSHIP - LANDSCAPE

5.1 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.

5.2 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.

5.3 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 , within the carpark areas and footpath edges..

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 300mm as required,

5.4 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..

5.5 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

Topsoil obtained from Site or imported topsoil shall comply with the requirements of BS3882, be of neutral soil reaction and reasonably free from stones. The maximum size of stones shall be 25mm in any one direction. The soil should be reasonably free of excessive quantity of weed seeds, roots or perennial weeds, and be free of sticks, sub-soil and foreign matter.

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 AND HEDGE TRENCHES

- 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.

6.0 PLANTING GENERAL

6.1 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, bareroot plants 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

6.2 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 300mm 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 close to drainage runs, services and adjacent to stone boundary walls- this will apply to most tree planting on this Site.
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.The root barriers will be required to the rear face of the retaining wall to the carpark edge where there is a hedge and tree planting.

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

6.3 EXTRA HEAVY STANDARD TREES AND HEAVY STANDARD

These are planted around the site
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 pits are to backfilled with existing subsoil 600mm thick and existing topsoil 300mm thick. 10% Green Compost is to be mixed in thoroughly into the 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 trees 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 edges and fixed before backfilling

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

Supply and fit an aeration watering tube around each Extra Heavy Standard tree. The unit is not required for Heavy Standard trees.

Supply and fit a root barrier 1000mm deep along sides of pits to the facing drainage or other service runs and where pits are close to boundary walls..

Water trees thoroughly after planting.

Where trees are within grass areas form a 900mm diameter circle around each plant and supply and spread a 75mm layer of bark mulch around each plant within the circle

6.4 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 300mm and spread a 300mm depth of existing subsoil and a 300mm depth of existing topsoil over area.
Cultivate planting beds spread a 50mm layer of Green Compost, over the area and work into the full topsoil depth. Remove any debris arising from cultivations.

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 Bark Mulch 75mm deep over the area.

Water plants thoroughly after planting.

6.5 HEDGEROWS 1-2 PLANTING

Hedgerow planting comprised of Viburnum tinus Eve Price 40-60cm height in 3Lpots all of a consistent height and size to be planted at 0.60m centres in a double staggered row with 500mm between rows

Excavate hedge trench 1000mm wide to a depth of 600mm..
Break up base of hedge trench to a depth of 300mm
Spread a 300mm depth of imported subsoil and a 300mm of imported topsoil over area of the trench

Spread a 50mm thick layer of Green Compost Over the area and work into the full topsoil depth. Remove any debris arising from the cultivation

Cultivate trench and work in Green Compost, 50mm layer spread over area to top 150mm topsoil depth. Remove any debris arising from cultivations.

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

Water the hedge plants thoroughly after planting.

Supply and spread a 75mm layer of bark mulch over the area of the trench of the hedge on the

6.7 NATIVE BLOCK 1-3

These blocks are around the edges of the detention basin and partly on the sides of the detention basin.

The Native Blocks away from the Detention Basin have soil depths of 300mm imported topsoil and 300mm imported subsoil. The Detention Basin has a soil depth of 300mm of specialized soil..

Root dip all the plants in seaweed extract.

Sufficient soil shall be removed from the pit to enable the roots to be contained without distortion. The base of the pit shall be forked over to break up the ground to an additional depth of 100mm.

The plant shall be set upright in the centre of the pit. The returned soil shall be finely broken and firmed in around the root mass so that no residual voids remain. Surplus soil shall be distributed around the plant station and the empty container removed from site.

Net guards shall be fixed to all bare root plants PROVISIONAL

Supply and spread a layer of bark mulch 75mm thick over the area of the native block after planting

6.8 RAIN GARDENS

These are to the Engineer's detail for the filter material, filter membranes, drainage and pipes finishes laid on a permeable drainage layer. The units are infilled with specialized soil.

No fertiliser to be used
No mulch to be used.

The plant material for the rain gardens are all potted stock. Hardy perennials, and shrubs pit planted in the rain gardens

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

Water plants thoroughly after planting.

6.9 PROTECTIVE FENCING

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

6.10 DEFECTS LIABILITY

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

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

After planting remove all soil from hard surfaces and grass areas 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.

7.0 GRASSING

:

7.1 GRASS SEEDING : NEW GRASS AREAS

Areas for grass establishment are as indicated on the Contract Drawing.

- LawnGrass Areas are to be Germinal Eco Rich Lawn Grass Mix WF20 seeded at rate of 10gms per square metre.
- Detention Basin is to Emorsgate EM8 Meadow Mix for Wetlands seeded at the reta of 4gms per aquare metre.

All works specified shall be carried out in accordance with BS4428 "Recommendations for General Landscape Operations Section 5"

Grass areas

- Remove debris and unsuitable material
- Top up topsoil to a depth of 75mm over seleced subsoil as necessary
- Clear weeds and vegetation by the use of a herbicide –glyphosate and dead vegetation removed to provide a clean seed bed for grass seeding.
- Cultivate to a fine tilth and seed

The grass seeding is to be carried out in either Spring (March - May) or Autumn (mid August - mid October) subject to the availability of the site for seeding.

The Contractor shall apply additional cultivations or applications of weedkiller required to destroy all weed growth, if owing to the time of year or other causes, there is a period of waiting between the completion of cultivation and final grading and seeding operations. As far as is practicable, cultivation and seeding shall proceed in close succession with a minimum elapse of time between each operation.

Ensure that there is a clean seed bed before sowing the seed.

SEEDED AREA REQUIREMENT

- Growth and development: Healthy, vigorous grass sward, free from the visible effects of pests, weeds (undesirable species)and disease.
- Appearance: A ground cover of even density, height and colour for grass. areas.

CLIMATIC CONDITIONS

- General: Carry out the work while soil and weather conditions are suitable.

NOTICE
Give notice before:

- Setting out.
- Applying herbicide if appropriate.
- Preparing seed bed.
- Seeding.

SETTING OUT

- Boundaries: Mark clearly.
- Delineation: In straight lines or smoothly flowing curves as shown on drawings.

7.2 GENERAL AMENITY GRASS OPERATIONS

INITIAL GRASS CUTTING:
After the seed has germinated a first cut is to be made when the grass has reached 65mm in height and cut to 50mm height.
A second cut shall be given to grass when it has reached 75mm reducing it to 40mm.
Arisings are to be removed from the grass areas.

GRASS AREA WATERING.
The Contractor shall water the sown grass areas as necessary and agreed with the CA as failure due to drought will be the sole responsibility of the Contractor.

7.53 DEFECTS LIABILITY

FAILURE OF SEEDING (AFTER PRACTICAL COMPLETION)
Grass Areas - Bare areas and areas of dead grass which are apparent after Practical Completion will be regarded as defects and must be made good by recultivation and seeding at times agreed with CA.

7.6 PRACTICAL COMPLETION FOR GRASS SEEDED AREAS

Grass areas will only be accepted for Practical Completion when germination is seen to be even and of correct density and all weeds removed and the first cut has been satisfactorily undertaken.

No individual areas of grass area will be accepted for Practical Completion until the entire landscape works are completed to the satisfaction of the CA.

Should Practical Completion be delayed all grass areas shall be maintained in accordance with the specification for maintenance.

7.7 GENERALLY SEEDING OF GRASS AREAS

Care will be required when programming seeding of grass areas to ensure that completed seeding is not damaged by trafficking by others or additional works being undertaken in grass areas after seeding.

Verge areas may need to be seeded separately after the main grass areas as they are the location for services, signs, verge markers etc and are likely to require works after main grass areas are seeded.

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.

7.8 GRASS AREA MAINTENANCE UNTIL PRACTICAL COMPLETION

MOWING **:**

The first growing season, the new grass areas and detention basin should be cut regularly (one cut per Month from March-October inclusive) to approximately 50mm to control annual weeds

When conditions are dry ensure that the grass is not cut too short

Water as necessary

WEEDKILLER TREATMENT IN LAWN GRASS AREAS.

While actively growing, spot weed treat grass areas with a suitable approved weedkiller to kill vigorous perennial weeds such as thistle, ragwort, rosebay willow herb, knotweed and docks and bramble regrowth
Retreatment as required is to be carried out during September.

NOTE NO WEEDKILLERS TO BE USED IN THE DETENTION BASIN

Weed control by hand weeding or strimming…

8.0 LANDSCAPE MAINTENANCE

MAINTENANCE PERIOD ONE YEAR IN LANDSCAPE CONTRACT AND FOUR YEARS WITH AGENT APPOINTED BY THE CLIENT TO GIVE A TOTAL OF 5 YEARS

8.1 DEFINITIONS

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

8.2 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.

8.3 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.

Amenity Grass Areas arisings can be dispersed or removed according to whether they are close mown or left to grow long.

Ornamental planting beds, hedges and trees 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.

8.4 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.

9.0 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.

TREES MANAGEMENT

- 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
- Check tree stakes for firmness and signs of rot or damage.
- Refirm or replace as required. 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 nailed securely to the stake. Remove after three growing seasons.
- Provide aeration where compaction is considered to be one cause for poor tree condition.
- Maintain mulch circles around trees weed free for three years.
- Top up mulch in circles in July to 75mm depth for first two years.
- 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.

Above works to staked trees are to be carried out between September and February each year unless specified otherwise and unless necessary during the remaining part of the year.

PRUNING TREES

- 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 cannot be permitted.

10.0 MAINTENANCE OF PLANTING BEDS: AND RAIN GARDENS : 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.

10.1 WEEDING PLANTING BEDS: All planting beds are to be kept weed free at all times.
Beds indicated for handweeding are either Rain Gardens or overgrown and require handweeding to clear them before routine maintenance can proceed. The Contractor is to provide a list of suitable herbicides for use in planting beds and obtain the written approval of the CA.

As indicated in the Contract Drawings weed areas using the appropriate method as follows:

W1. HANDWEEDING – RAIIN GARDEN MUST BE HAND WEEDED. Handweeding means removing all weeds, including roots, by hand hoeing, digging or forking, taking care not to remove more than a minimum quantity of soil, causing minimum disturbance to mulched surfaces and bulbs and leaving the area in a neat, raked, clean condition. Areas to be handweeded are well established areas of ground cover, evergreen plant material or mulched beds.

W2. CONTROL WEEDING – NOT SUITABLE FOR RAIN GARDENS
Control weeding means applying an appropriate weedkiller at the beginning of the growing season and thereafter the areas are too 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 and block of deciduous planting and gapped sections of beds.
NOTE CHECK THAT HERBICIDE USED IS SUITABLE FOR USE ACCORDING TO THE PLANT COMPOSITION OF THE BE IF NOT HANDWEED.

W3. SPOT WEEDING – NOT SUITABLE FOR RAIN GARDENS Spot weeding means treating Nettles, Docks, Brambles, Willowherb, Thistles, Ragworts, Japanese Knotweed, Dandelions, Plantains, Marestail and Cow Parsley and any other weed indicated for removal by the CA with an appropriate contact herbicide. Bring all beds to a weed free condition and allow for the removal, where necessary, of all self sown seedling trees, shrubs and allied suckers.

10.2 BED MAINTENANCE

MAINTAINING BARK MULCHED BEDS: During weeding and maintenance operations do not incorporate mulch into the underlying soil. Each Autumn rake over the mulch to provide a neat and tidy appearance
NOTE RAIN GARDENS DO NOT HAVE MUCHED BEDS

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 RAIN GARDENS 150mm depth next to adjacent areas
Check overflow pipes grating kept clear from planting overgrowing pipe upstands

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.

10.3 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.
- RAIN GARDENS keep overlow pipe upstnads and grating clear

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.

11.0 HEDGES

Trim carefully and neatly to regular line and height, using suitable mechanical cutters unless otherwise directed by the CA. Facing side and top of hedges shall be cut back to previous year's growth. 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. .

New hedges are to be maintained at a height of 1.00m generally.

11.1 HEDGE MAINTENANCE

- Ensure that all hedge plants remain firmly bedded in the ground after strong winds, frost and other disturbances.
- Refirm by tread around the base. Any 'collars' forming at the base of the trees shall be broken up and then backfilled with topsoil
- Provide aeration where compaction is considered to be one cause for poor hedge condition.
- Maintain weed free base around the hedge base. Once the hedge is established cease weeding.
- Any hedge 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.

12.0 NATIVE BLOCKS

These blocks are to be grown to have a natural woodland edge effect.

- Check and refix, replace (and remove if instructed) as necessary net guards on whips/native plants if these are present. Remove netguards in Year 3 or earlier if instructed. During establishment cut back the netguard to allow balanced growth if necessary.
- Ensure that all native plants/whips 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 whip shall be broken up and then backfilled with topsoil
- Netguards if applied to be checked and refitted as necessary and remove in Year 3.
- Provide aeration where compaction is considered to be one cause for poor whip condition.
- Spotweed treat.mulched beds No weedkillers to be used where native plants are in the Detention Basin..
- Top up mulch in native blocks in July to 75mm depth for Year 1 and Year 2
- Any native plants/whips which die or are otherwise defective during the 5 year Maintenance Period shall be replaced in the next October and March planting season.

PRUNING NATIVE PLANTS/WHIPS it is to be undertaken as follows:

- Remove dead or damaged branches and cut back any ragged edges of wounded bark back to healthy tissue.
- Prune only to encourage bushy growth.. Pruning shall be undertaken once per year during mid/late Spring and be **completed by 15 June and once during October in first two years. Thereafter once per year between October and February**. The use of chainsaws and the like will not be permitted

In Year 5 thin the block favouring strongest growing best formed plants.

13.0 GENERAL GRASS MANAGEMENT

INSPECTION OF GRASS AREAS AND LITTER PICKING **:** The Contractor shall inspect grass areas on each occasion before commencing grass cutting operations and shall remove and dispose of all litter, stones and other debris which may cause personal injury, or damage to buildings, machinery or equipment and installations.

COMMENCEMENT OF OPERATIONS**:** Once grass cutting has commenced on an area, the whole area shall be cut and completed.

GRASS CUTTING MACHINES**:** Grass cutting machines shall be appropriate for the size of area being maintained and the standards of finish specified. Inaccessible margins, isolated rough areas of any size, corners, bases of fencelines, bases of hedges, bases of buildings and including weed killed areas and the like shall be cut by suitable machines or by hand at the same time as the main area of grass. Cutters of all mowers shall be sharp, properly set and shall cut the sward evenly and cleanly.

REMOVAL OF ARISINGS: All arisings from grass cutting scattered over roads, paths and planting beds should be swept up, collected and removed from on the same day mowing is undertaken. Arisings from Conservation and Wildflower Grass Areas to be removed.

OBSTRUCTIONS : All growth around obstructions in grassed areas and grass overhanging edges of planting beds, bases of trees, stone light surrounds, fence lines and the like shall be cut on each occasion that the grass is cut.

GRASS EDGES**:** Where grass abuts horizontal hard surfaces cut it back to the edge of the hard surface without forming a channel wherever the overgrowth of grass exceeds 100mm, using an appropriate grass edge cutter, cutting to smooth curves and straight lines as appropriate.

GRASS CUTTING MACHINES **:** Damage to plants or other material caused by the use of these machines, including nylon cord cutting machines, for whatever reason will require the Contractor to supply and place suitably approved replacement material all at his/her own expense.

AREAS OF GRASS TO BE STRIMMED: The areas to be strimmed are steep banks or around obstructions or in areas too small for the mowers to be used. The grass areas shall be strimmed to maintain to the height specified for adjacent grass areas and arisings removed or dispersed according to the grass type.

13.1 LAWN GRASS AREAS

Close Mown
Note no chemicals or fertilisers to be used in these areas.
MAXIMUM HEIGHT not to exceed 60mm
MINIMUM HEIGHT not to be less than 40mm

Amenity grass areas, broadleaf weeds to be controlled by mowing only – no chemicals to be used.

13.2 LAWN LONG GRASS AREAS to encourage wild flowers

Note no chemicals or fertilisers to be used in these areas.
CUT TWICE/THREE TIMES A YEAR
In Year 1 the first growing season, the new wildflower and grass areas should be cut regularly (one cut per Month from March-October inclusive) to approximately 50mm to control annual weeds
Once the sward is established for the following years
Cut to a height of 50mm in April and September and if necessary undertake a third cut in winter.
Leave arisings insitu for two days then remove from site

Control broadleaf weeds (but allow for wildflowers to come through) by handweeding or strimming. Retreatment as necessary in season.

13.2 DETENTION BASIN – wetland wildflower mix

Note no chemicals or fertilisers to be used in these areas.
CUT TWICE/THREE TIMES A YEAR
In Year 1 the first growing season, the new wildflower and grass areas should be cut regularly (one cut per Month from March-October inclusive) to approximately 50mm to control annual weeds
Once the sward is established for the following years
Cut to a height of 50mm in April and September and if necessary undertake a third cut in winter.
Leave arisings insitu for two days then remove from site

Control broadleaf weeds (but allow for wildflowers to come through) by handweeding or strimming. Retreatment as necessary in season.

Keep inflow and exit points clear.

NOTE some native blocks extend over the top edges of the detention basin – maintain as specified.

13.3 GRASS REINSTATEMENT OF GRASS AREAS

to be undertaken using the same seed mix used for initial seeding.

Any defective or grass failing to thrive in the first two years of maintenance period is to be reinstated

14.0 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.
- Spray Japanese knotweed (*Fallopia japonica*) with glyphosate during the flowering period. Monitor treated sites and apply spot herbicide treatments to any surviving plants.

NORTH ROAD
MANAGEMENT PLAN
GENERAL YEARS 1-5

30-Oct-23

	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
LITTER	Clear all litter on every visit for landscape maintenance minimum monthly from soft landscape areas.																				
GRASSED AREAS Close mown	Cut grass to a maximum height of 50mm and a minimum height of 25mm.																				
GRASS AREAS Long Grass	September/October cut and remove arisings																				
	If dense winter growth spring cut and remove arisings																				
	Spotweed treatments only																				
	Water as necessary during drought periods, regularly in dry periods in first two years only																				
	Reseed failed sections																				
DETENTION BASIN	September/October cut and remove arisings																				
	If dense winter growth spring cut and remove arisings																				
	No chemicals to be applied. Contain by hand weeding or strmming																				
	Water as necessary during drought periods, regularly in dry periods in first two years only																				
	Keep inlet and outlets clear																				
	Reseed failed sections																				
PLANTED TREES	Check the trees and after high winds	Monthly				Every 2 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. Cut ties loose and remove stakes in Year 3.	Monthly check and refix				Every Two Months				Remove Stakes and Ties											
	Remove weeds for first four 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 as necessary				Oct	March			Oct	March			Oct	March				March			Oct
PLANTING BEDS	Check to include health/disease/pest etc and remedial measures	Monthly				2 months															
	Refirm																				
	Remove weeds for first four years																				
	Top up mulch for first two years only																				
	Aeration if necessary																				
	Water as necessary during drought periods for first 2 years																				
	Prune as necessary according to species type																				
	Replace defective plants as necessary				Oct	March			Oct	March			Oct	March				March			Oct
RAIN GARDENS	Check to include health/disease/pest etc and remedial measures	Monthly				2 months															
	Refirm																				
	Remove weeds for first four years by hand no chemicals to be used																				
	No mulch is applied to these areas																				
	Aeration if necessary																				
	Water as necessary during drought periods for first 2 years																				
	Prune as necessary according to species type																				
	Keep overflow pipe upstands clear																				
	Replace defective plants as necessary				Oct	March			Oct	March			Oct	March				March			Oct
ORNAMENTAL HEDGES	Refirm																				
	Remove weeds for first four years																				
	Top up mulch for first two years only																				
	Hedge to be trimmed and maintained at a height of 1.00m																				
	Water as necessary during drought periods for first 2 years																				
	Replace defective plants as necessary				Oct	March			Oct	March			Oct	March				March			Oct
NATIVE BLOCKS	Refirm																				
	Remove weeds for first four years																				
	Water as necessary during drought periods for first 2 years																				
	Net guards if applied refix and replace, cut back as necessary to allow balanced growth. Remove netguard in Year 3	Monthly				Every two months							Remove Netguard								
	Replace defective plants as necessary				Oct	March			Oct	March			Oct	March				March			Oct
	Thin as necessary in Year 5																				