Green Matters
Concept – Design - Realisation

CSEX EXTERNAL CASCADE LIVING WALL















A highly ecological and environmentally functioning wall system, designed to improve the local environment by reducing the level of pollutants, carbons HAPs and heavy metals in the atmosphere.

Site - Deane Valley

The system has been designed to be sympathetic to the bio-diversity, sustainability and species diversity requirements of the region and site, design considers the species diversity and the aesthetic performance of the system considering the aspect and the likely variable seasonal climatical conditions.
We have designed a system which is environmentally and ecologically functioning whilst providing aesthetic, acoustic and thermal benefits.

Mission Statement:
Our ambition is to improve health and wellbeing for our customers by developing the symbiotic and biophilic relationship between people and plants.

Our aim is to help people to be more productive and to embrace the environment they live and work in by integrating plant material into everyday life and working practice.

We embrace small changes and strive to discover more sustainable ways of placing plants in home and work environments.

By incorporating plant material. we look to remove and reduce damaging toxins from the local atmosphere, improve air quality and help to reduce pollutants than can be very damaging to health.

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Technical specification – Cascade external living wall system

Site Specific Data

Wall height (mm)	3000
Wall width (mm)	9500 + 4400
sqm	41.7
Wall 1	Main building
Wall 2	Proposed fencing
Site	Deane Valley
Edge Details	12000 (mm) TBC
Corner Details	6000 (mm) TBC
Top Closure	13900 (mm) TBC
Bottom Closure	13900 (mm) TBC
Water Inlet	Top Right
Water Pressure	1.5-2 BAR
Water outlet	Bottom right of system
Troughs high	10 x 200 (mm)
Corner Interface	TBC
Interface between wall 1 and 2	TBC
Exposed edges of system and building interface	TBC
Drainage sump	TBC
Trough Height	System built in 200mm increments
Trough Depth	200mm including back plate
Support frame	TBC, timber (preferred) or self-tapping frame that can support 70kg/sqm
Vertical centres	500 (mm) from side of system
Horizontal centres	200 (mm)from base of system.
Trough Colour	Black
Plant Coverage	90%
Edge planting	TBC



System Description:

- The cascade living wall system is substrate based and closed. A closed system manages water and prevents water ingress unlike some hydroponic systems. The system works through a series of sealed troughs that carry water from the top to the bottom of the system. When full the system will provide water for the plants for 3-4 weeks but if excess water is introduced, a drain at the base of the system can be used to take excess water to a designated soak away.

  The patented closed system technology provides integral waterproofing and water management and is the only system that sustainably uses all the water introduced with no mandatory requirement for drainage or run off.
- This provides the confidence to place the system internally and externally within design layouts where water damage is unacceptable.
- The system is supplied pre-constructed to the dimensions of the wall and the plant material is pre-potted, this provides a quick and clean installation with 90% coverage instant greening effect.
- Exposed edges of system can be finished with closure strips.
- Irrigation can be manual or automated and plant rotation, seasonal plant introduction, colour introduction, flowering, fruiting, edible and harvestable packages are available

VEGETATION / SYSTEM:

- To achieve the correct blend of performance, environmental function and aesthetics the selection of plants is critical to the success of the system.
- Plant modules are introduced at 32 per sqm and laid out in an informal or formal zoned pattern as per site requirements.

SUBSTRATE:

- The substrate is peat free and uses compost and horticultural grit, crushed brick substrate and leca with 20% green waste.
-

ESTABLISHMENT:

- The critical period for any system is the first 6 months following installation.
- Plant modules are pre-planted so should start to develop fibrous root systems quickly, but water management is important. The system must not be allowed to dry out, if this happens the substrate within the capillary wick may crack and prevent water from rising to the root areas of the modules. Equally if left over saturated in the winter the dormant plants will lose much root mass through rotting so drying the system back in the winter is also critical.

VEGETATION:

- A sustainable system needs to have enough plant diversity to be both sustainable and bio-diverse but this material must have a sufficient amount of all year interest to ensure the aesthetics of the system are maintained, especially in the winter when many plants are dormant.
- We assume that 8-10% plant change per year will be allowed for to maintain the system performance.

Support Frame

The support frame will need to be provided and will need to have the integrity to support a saturated weight of 70kg/sqm. The frame should provide a vertical upstand at 500mm centres and a horizontal at 200mm centres from the base of the system to support the troughs.

Water inlet

The mains supply with a minimum pressure of 1.5 BAR should be located where the two walls meet so the source can be split to fill the two walls

Water outlet

The water overflow drain will be located at the bottom right of the main wall and the bottom left of the small wall.
Edge detailing

Corner detailing

Where the system meets at the corner, there are two options, one wall will run over the exposed edge of the other wall and an edge detail will finish the system or a corner box section can be installed, alternatively the planters meet on the apex and the system is edge planted to provide a seamless corner.

SYSTEM SPECIFICATION:

Back Plate	Interlocking rear plate behind each trough that locks into the trough above providing a solid impermeable system.
Sealed Trough	200mm deep trough that carries water from the top to the bottom. 200mm height of trough and back plate section.
Lateral Drain	Lateral drain system that is required when system width exceeds 4m, one per trough, used to join troughs for long elevation runs.
Vertical Drain	Alternating vertical drains, one per trough.
Main Inlet	Not fixed delivery pipe from in line controller on mains source, the non-connected solution negates the need for back flow break tanks and the need for a full plant room
Overflow Outlet	Valved drain in the base trough to suitable drainage sump.
Automated Controller	Multi zoned controller to manage fill process.
System depth	200mm + support frame
System weight	90kg/sqm
Species diversity	10-12 + BD seed 25
Trough Height	200mm
Sun Tolerant	80%
Shade tolerance	20%
System	Semi formal swathes and planting groups
establishment	6 months
Initial coverage	90%
Irrigation requirement	monthly
Aftercare requirement	Monthly or quarterly

Plant Species

Where possible the identified species will be used but with plant production at present some species compromise may be required.

Hedera helix, Hh ivalace, Glacier, Goldheart, Goldchild, Pittsburgh, sagittifolia, Erysimum Bowles Mauve, Asplenium scolopendrium, Aster divaricatus, Bergenia 'Overture', Bergenia purpurea, Bergenia cordifolia, Campanula portenschlagiana 'Ambella Intens, Campanula portenschlagiana 'Ambella Intens, Liriope muscari, Mukdenia rossii 'Karasuba', Pachysandra terminalis, Persicaria affinis, Pulmonaria 'Cotton Cool', Sarcococca confuse, Saxifraga umbrosa, Vinca minor alba, Buxus, Astrantia 'Moulin Rouge', Brunnera macrophylla 'Jack Frost'/'Looking Glass', Carex elata aurea, Frageria vesca, Geranium 'Orkney Cherry' – purple foliage, Geranium cantabrigiensis, Geranium macrorrhizum album, Geranium pyrenaicum 'Bill Wallis', Hakonechloa macra, Kalimeris incisa 'Charlotte', Luzula nivea, Sesleria autumnalis, Tiarella 'Pink Skyrocket

SYSTEM FUNCTIONAL PERFORMANCE:

Bio-diversity	● ● ● ● ●	Storage	● ● ● ● ●
Sustainability	● ● ● ● ● S	BREEAM compliant	● ● ● ● ●
Instant green	● ● ● ● ●	Industry compliant	● ● ● ● ●
Pollution filter	● ● ● ● ●	Attenuation aid	● ● ● ● ●
Nectar/pollen	● ● ● ● ●	Thermal / Acoustic	● ● ● ● ●
Habitat provision	● ● ● ● ●		
Species diversity	● ● ● ● ●		
Aesthetics	● ● ● ● ●		

INSTALLATION PROCESS:

- With the frame fitted and the integrity to support the weight of the system confirmed.
- A scaffold tower or full scaffold will be required as the system is over 2m in height.
- The troughs will be built off site with connectors and ends fitted to the exact width requirement.
- The system will then be fitted.
- The troughs starting at the base will be secured to the frame using standard screw fixings, 20mm stainless.
- The troughs will then have their lateral and vertical drains fitted
- Plant modules are fitted, and the system is filled with water.
- The initial fill will saturate the modules so it is recommended to re-fill the system after two weeks.

METHOD STATEMENT

Delivery:

- Registered lorry with tail lift
- All materials on standard pallets
- Material delivery will be required close to the wall areas.
- Plant material is delivered potted on trolleys carrying 60 plants each and weighing 200kg..
- Materials in bulk so unless stated following site survey there is no allowance for small bags, movement of materials up ladders, stairwells or lifts.

Off-loading:

- To be provided and organized by site or contractor. The contractor will be responsible for vertical and horizontal distribution in adherence with site protocols.
- Installation:
- Installer PPE is provided

- It is the responsibility of the site to provide a scaffold for the installation process where the wall works exceed 2m in height.
- There is no allowance for working from man safe systems.

Method:
- Installation of trough system
- Installation of planted modules to pre-determined design.
- All materials will be installed sequentially.
- There will always be a minimum of two operatives on site at any time.

Technique:
- Trough system
- Lateral drains
- Vertical drains
- Planted modules
- Irrigation controller
- System fill.

Aftercare:
- Suitable access must be provided for any aftercare operation to be completed.
- A suitable fall arrest / edge protection system or complete scaffold must be provided before works can be commenced.
- Material removal is disposed in a site suitable method as per agreement.

Biophilic and Environmental profile

External
- Vegetation absorbs and process airborne carbons
- Reduction of local pollution, emissions
- An appropriate system can remove up to 1kg/sqm of carbon and heavy metals from the atmosphere each year
- Improvement in working and living environments
- The presence of green material can improve local air quality
- Reduce incidence of breathing and health disorders
- Improve environmental and ecological conditions
- Improves local ecological profile

Environmental
- Environmental benefits are a reaction to changing climate patterns and a management of atmospheric and ground generated pollution
- Systems trap and process HAPs and airborne elements using plant material as carbon sinks and pollution filters
- Re-oxygenating the urban environment reducing the incidence of air pollution at ground level by up to 60%
- Reduction in urban temperature peaks, heat island affect
- Stimulation of local bio-diversity and ecology and a reduction of localised air pollution
- Improving local micro climate performance by as much as 20%

Sick Building Syndrome
- Plants can also reduce SBS impact (Sick Building Syndrome) and SAD (seasonal affective disorder). The correct blend of plant material and lighting can significantly offset both disorders

Productivity and Biophilic Responses
- A reduction in the incidence of short term stress
- A reduction in absenteeism
- Improved creativity, and productivity
- Clarity of thought, wellbeing, motivation and contentment.

Physiological and Psychological
- Improve adaptability, alertness, attention, concentration, mood and emotion
- Mental restoration and cognitive function
- Enhances respiratory responses, physical comfort, muscle relaxation
- Reduction of work place short term stress leading to lowering of blood pressure and stress hormones, tension, anger, anxiety, fatigue and lethargy

FUNCTIONAL PERFORMANCE:

BIOPHILIC SYSTEM FOR HEALTH AND WELLBEING BENEFITS

SUSTAINABLE SYSTEM WITH CONTROLLED LEVELS OF MAINTENANCE

BIO-DIVERSE SYSTEM WITH PLANT SPECIES SUITABLE FOR ECOLOGY

AIR CLEANING, PLANTS IMPROVE THE LOCAL ENVIRONMENTAL

FILTER, THE SYSTEM REMOVES CARBONS, AIR BORNE POLLUTANTS AND HEAVY METALS FROM THE ATMOSPHERE

The system is designed for improving health and wellbeing, plants are designed to remove toxins from the atmosphere whilst maximizing oxygen delivery with minimal VOC (volatile organic compounds) exchange.

USPS

The cascade system has many advantages over its competition, there is no establishment delay for plant development, the system is instant greening with high levels of coverage, aesthetic and performance



- Pre-established plant modules provide 90-95% coverage.
- Plant density, 30 per sqm
- Rotation, design flexibility and introduction of seasonal interest possible.

- 75kg/sqm saturated weight
- fully waterproofed and sealed system
- flexible module sizing to any width
- organic peat free compost
- high recycled content
- locally sourced plant material
- 12-month warranty in accordance with maintenance contract
- no mandatory need for run off or drainage if filled correctly.

SYSTEM ANALYSIS:

- the system has closed system technology that can be remotely monitored through regional sensors and smart technology applications. (this is not a standard inclusion and required when using a fully automated irrigation system.)
- substrate based system comprising 30 plants per sqm in a variety of flexible formal, semi-formal and informal natural layout plans.
- Designs can allow for seasonal introduction of flowering or foliage plants, feature plants or harvestable and flowering species.



WATER MANAGEMENT:

The system delivers a constant moisture supply which will need to be filled every 3-4 weeks.
The system takes 9L/sqm of water every 3-4week period (1-2L/sqm /week)
Watering is managed by manual or automated control that fills the system
An automatic irrigation system is connected to trough water sensors that control the fill process.
Plants use all the water in the troughs so catchment and drainage is not required
Low maintenance (see aftercare and management package)

LOGISTICS:

Systems up to 2.5m in height can be easily installed from step ladders.
Systems above 2.5 m will require access towers or a fixed scaffold for the installation process and any subsequent maintenance visits.
Full PPE will be supplied by the company unless otherwise instructed
Water and power will be required and provided to areas specified by the company.
An electrician will be required to connect the mains to the irrigation computer controller and a 240V 3 pin covered connection will be required to power the irrigation system
Irrigation computer will need to be fitted as per site assessment report

AFTERCARE:

The company will provide a periodic, monthly or quarterly remedial establishment and management package.
This process will include irrigation and self-watering support calibration and remedial intervention
plant change and rotation package
Incompatible plant, weed removal
pest and disease programs, pruning and material removal
After this period a full aftercare and management package for 12 months is strongly recommended. (see estimate)

BENEFITS: (WHY CONSDIER A CASCADE SYSTEM?)

Internal

- Integrated green technology for buildings to improve health and wellbeing, environmental and ecological function
- Vegetation designed to remove PMs (small particles and dust often associated with breathing disorders) from the local atmosphere
- Removal of HAPs (Hazardous Airborne pollutants)
- Removal of identified VOCs (volatile organic compounds), Carbons and heavy metals found paints, carpets and



cleaning products in the work and home environment
- Re-oxygenation of the local environment, home or office

External

- Vegetation absorbs and process airborne carbons
- Reduction of local pollution, emissions
- An appropriate system can remove up to 1kg/sqm of carbon and heavy metals from the atmosphere each year
- Improvement in working and living environments
- The presence of green material can improve local air quality
- Reduce incidence of breathing and health disorders
- Improve environmental and ecological conditions
- Improves local ecological profile

Environmental

- Environmental benefits are a reaction to changing climate patterns and a management of atmospheric and ground generated pollution

- Systems trap and process HAPs and airborne elements using plant material as carbon sinks and pollution filters
- Re-oxygenating the urban environment reducing the incidence of air pollution at ground level by up to 60%
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DESIGN:

When considering design, we take into consideration a range of items.







- Temperature and light
- Aspect, exposure and location
- Air salinity, pollution levels
- Maintenance requirements
- Access
- Aesthetic performance requirements
- Ecological and environmental factors
- Client specification and expectation
- Allergies and side effects of flowering species
- Compatibility with surrounding design and layout
- Structural integrity of the system and substrate / frame
- Water availability

We the design a system which follows strict rules of sustainability.

- Formal, informal or semi-formal layout
- 100% all year-round interest and evergreen palette.
- Mixed foliage with 10% flower as standard. (generally flower free internally)

TEMPERATURE.

Plant selection is dictated by the seasonal temperature of the wall, by air movement and relative humidity.
Following the site survey, we will select species that can tolerate the humidity, air flow, temperature and light conditions.

FIXING THE SYSTEM:

The Cascade system needs a solid structural surface to connect too. If the wall substrate is suitable and structural, a timber frame, will need to be provided for us to fix the system too.
The structure needs to have the structural integrity to support 70kg/sqm of saturated load.
No support frame is part of the standard estimate process but a full specification can be provided if required or the process can be added to the estimation package.

IRRIGATION SYSTEMS:

Most living wall systems require a solid fixture connection that includes a break tank or valve system that prevents back flow to the mains connection.
The cascade system is one of the few that does not require a solid connection, there is no pipework other than the delivery line that runs from the tap controller to the open trough, this prevents any potential backflow and makes the fill process for the system one of the easier processes.

Correct irrigation control is essential to ensure a wall is correctly cared for. Delivering the correct water dosage is critical for system sustainability.

Systems under 7 sqm and Living Art Panels

- In some circumstances, small wall areas can be irrigated by hand.
- Living walls up to 7sqm can be filled as part of the maintenance support package that will need to be in place for the first 12 months.
- The system has a fill requirements of 9L/sqm and this provides water for the plants for 3-4 weeks.
- Water can be introduced using a bottle, watering can or stand-alone container to the second trough from the system top.
- Living Art panels are filled by hand by removing one plant and filling the closed system with the recommended amount of water for the size of system.
- Full guidelines are provided and must be followed to prevent system overflow and damage to surrounding areas.

Systems over 7 sqm (or where no mains water is available)

- A direct feed from a mains supply is required to make the process time efficient.
- An automated timer can be attached to the mains feed to control the process but only if suitable catchment or an over flow solution is available at the base of the system.
- Systems any size can be filled by hand from a container with a pump but the fill process will take approximately 3-5 mins/sqm depending on water pressure.

Full Irrigation system solutions.

- Where site regulations dictate, a break tank and pump system with lateral risers and feed lines can be installed in an agreed location or plant room to irrigate the wall.
- If the system requires multiple watering feeds, a dosing and splitter station plus feed integration can be added to the tank system so the wall is fully automated.

The system comprises:

- A suitable hand filling process that adheres to all health and safety protocols.

Or

- An automated controller with non- system connected delivery hose to the second from top trough.

Or

- A break tank and pump system connected to the controller and mains feed. (this option will require plant room space)

Or

- A break and feed tank. Dosing station, splitter, automated alarm system, dry tank alarm system, delivery lines. (this option will require plant room space)

FILL PROCESS:
The system should be checked to be dry before the watering process begins. The bottom trough often holds water the longest and this should be emptied before the fill process begins.

DRAINAGE:
The cascade system is filled until water reaches the third from bottom trough.
If the fill process continues for longer than this point or if the water pressure is too high or if there was water within the system before the fill process, the base trough is likely to overflow.
It is recommended to have an over flow drain in the base of the bottom trough where water if filled to an excessive pint can be drained or flows to a suitable drainage location.

EDGE DETAILING:
We provide a 3mm di-bond powder coated solution that can be a standard edge detail 220mm deep or which can be designed with a 50mm return that frames the edge of the wall. The standard colour is black to match the system.
Details and colour requirements need to be added to the estimation package.



Soft Edges
Where a planted edge is required, planted edge pots will be used to cover the visible elements of the system to create a natural non-framed system finish

PLANT ROTATION PACKAGES:
- As part of this package we will rotate the planters in the wall to freshen up design 4 times a year
- This process can help to minimise plant loss and create new and exciting aesthetics
- By moving plants to differing light areas, we allow for plant development whereas if left in their original locations, plants may struggle and eventually fail

SEASONAL PLANT INTRODUCTION PACKAGES
- This package allows us to introduce seasonal material, either coloured foliage, flowers, a particular colour for THE time of year.
- Spring package with whites and yellows
- Summer package with deep green feature plants.
- Winter package with reds and whites
- Christmas package using seasonal plants, foliage and colour

THEMED PACKAGES:
- We can develop harvestable walls where a client wants to grow fruit, vegetables, herbs or seasonal salad leaf.
- Herb walls with 8-10 plants changed 3 times a year to reflect the season
- Biophilic walls to maximise the toxin extraction from a room or area and maximise the oxygenation of the zone.

BRANDING:
- The system can be designed with plant colours to meet brand requirements and lettering or logos can be constructed from lightweight materials that pin through the system to the frame behind.

SUBSTRATE:
- Substrate mixes are specific to the plant type used, all mixes contain water management products and slow release fertiliser packages start after 18 months
- All mixes are peat free and contain green waste organic material

NUTRITION AND FEEDING:
- The system should not be over fed as this will lead to elongated growth and increased maintenance.
- The system is fed once a year with slow release tabs.

Delivery & logistics
- Plant material is delivered on purpose made trolleys that hold the capillary stems of the planters.
- Troughs will come pre-made to the required width of the system.



Materials will be delivered to site using a long wheel based van (1-20sqm of system) or articulated, flatbed or rigid lorry (20sqm + of system

Unloading:
All materials will be on trolleys or pallets and will require off-loading
(A full logistics process will be added to the confirmation document following site assessment)
Materials will be on trolleys and will need to be moved by hand from offloading area to point of installation
Vertical or horizontal distribution is the responsibility of site.

Power:
Power will be required to cut the troughs to size or make alterations.

Water:
Water will be required to fill the trough system.
An agreed feed will need to be provided at the top of the system if an irrigation system is to be used.
The mains feed with ball valve connection should provide a feed of 1-1.5 BAR pressure.
We will require a standard tap with threaded end to fit the irrigation or feed pipe.

Installation:



Installation time will be 1 day per 10sqm of system
Installation team will consist of 2-3 operatives
There is a requirement for site mechanisation for moving materials to the point of installation, this must be provided unless previously agreed
Ladders, scaffold or additional access requirements will be fully listed in confirmation documents
Full PPE will be used and all operatives are qualified to work residential and commercial sites

AFTERCARE & MAINTENANCE:
The company will provide a full remedial maintenance package with or without rotation and seasonal interest packages. Maintenance can be done on a single, monthly or quarterly package of support.

Before maintenance can take place, several elements must be clarified.

- That water and irrigation processes are in place
- That temperature and relative humidity conditions are set and suitable for the plants selected.
- That access is satisfactory and safe.

All living wall systems need regular maintenance and assessing. It is recommended that a monthly program for the first 24 months is considered

Inclusions:
To provide annual support maintenance on a single visit or agreed visit structure per annum.

- Assessment of system, plant health, pest and disease
- Application of pest and disease measures (if required)
- Removal of damaged material and dead flower heads
- Assessment of irrigation and feed regimes
- Rotation of seasonal designs or feature plants.
- Plant replacement up to 8% per annum
- Feed and irrigation calibration and servicing.
- localised pruning and foliage management
- Recording of plant loss or poor establishment and replacement of individual plant failure during the first two months. (in accordance with guidelines)
- Removal of unwanted plant material and weeds.
- Assessment and maintenance of irrigation, delivery, feed and monitoring equipment.
- Assessment and clearance of drainage gulley's, cascade troughs and catchment tanks.
- Winter drain down and spring re-commissioning service.
- Full health and maintenance report with photographs

Exclusions:

- Irrigation system (unless stated)
- Vandalism or theft
- Noncompliance to irrigation recommendations (leading to system failure, plant loss or damage)
- Damage caused by irrigation system being turned off, disabled or removed.
- Damage by other services (including maintenance procedures to surrounding areas)
- Plant loss due to insufficient or non-availability of supplementary lighting regimes or management of light requirement timings or duration.
- Equipment and method for accessing and managing the wall for maintenance, area or pavement closure, scaffold towers, cherry pickers and other forms of mechanization.

All inspections are carried out by company certified, trained qualified personnel
The company does not advocate the use of herbicides / insecticides on the wall systems but on the rare occasion a problem appears, organic and biological control products only are considered
These are applied by certified operators adhering to all health and safety, public notices and water management policies.
Recording of plant loss or poor establishment and replacement of individual plant failure during the first two months
Plant failure is rare but if failure takes place a full analysis will be carried out immediately and all findings will be detailed with costs for repairing the system

All irrigation equipment will be housed in the top or lower trough.
Close attention to irrigation and watering regimes is a constant requirement.
Watering regimes are set to provide enough moisture and nutrient for the system without over saturating or making the system too comfortable.
When the closed cascade system is full, there will be sufficient water to sustain plants for 3-4 weeks before refilling is required.



TERMS AND CONDITIONS

Prices

Do not include VAT
Unless stated do not include for irrigation
The system specification will state the expected coverage of the proposed system

The price does not include for 0% VAT construction projects
Unless stated there is no allowance for ground, vertical and horizontal distribution
The price does not include for waterproofing, insulation or any components unless stated
The price does not allow for main contractor's discount
Single visit allowance unless stated

Delivery & Logistics
The lorry will allow for roll top and side skirts or rear unloading but will not include rails or running lines as standard.
Hyab or crane offloading on request, these may come with an additional cost.
FORS transportation for central London available but not included.

Allowances
A site inspection and measure is completed before a formal pre-contract meeting.
Free and unfettered access to the roof area should be provided for the installation process.
The price allows for a single visit / mobilization
Suitable provision for connecting the living roof system is provided to the specification we set.
That there is provision for 110v power, and connection for irrigation at an agreed pressure, flow rate and location on the wall.
All quotations are valid for 3 months from the date shown on the main document.
The right to review and revise prices is reserved after 3 months.

Lead Time
Project lead time 4-6 weeks (outside covid periods

Site Logistics and Program
1 hour per vehicle off load time is allowed. Excessive standing time may lead to extra charges
Scaffold edge protection and suitable access must be provided before installation can occur
There is no allowance for other trades to be working on the wall substrate during installation.

Design Service & Guarantee
We offer a full design service that includes product location, type, species selection, logistics, feeds, installation and maintenance packages
We offer site assessment services to ensure the selected system is both appropriate, sustainable and practical to install and maintain
We offer a guarantee for the period of the maintenance program
Included in the cost of the system is a 2 - month aftercare package. After that an ongoing contract needs to be agreed

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