

Living walls

This guide explains the elements to consider when designing, planning or commissioning a living wall project.

Predominantly written for clients and main contractors, this document will help you understand how we work with you to achieve a smooth and successful living wall installation.

It can be read as a useful guide, or in conjunction with our proposal for your specific project.

When provided alongside a project proposal this document forms part of that proposal and explains our approach to delivering your living wall project, including which elements are included in our scope and which are assumed to be provided 'by others'.

Got a questions about your living wall project? Get in touch and we'll be delighted to help.



Living wall system

Your project will be based on our third-generation exterior living wall system, including integrated irrigation.

Our proposed system provides the following benefits:

- Large plant pockets accommodating P12 plants
- Automatic irrigation through integrated pipework
- Ability to plant & pre-grow modules prior to install
- Can be constructed to accommodate slight curves
- Integrated surrounding frame to hide pipework
- Modular construction allowing flexible dimensions
- Relatively light at approx 40KG/m² when planted
- Fire rated to BS-EN 13501-1 achieving B-s2-d0

The system is constructed from recycleable plastic modules which attach to a metal profiles, fixed back to the supporting wall.

Water and feed is supplied to the top of each living wall section via pipes. These then connect back to a central irrigation controller in a suitable nearby location.

Drainage connections to the base of the wall carry wastewater away from the living wall.

The planted modules are sealed and spaced away from the supporting wall/structure to avoid the need for tanking.

The system can fix back to a suitable concrete, block or brick wall, or to a 'helping hand' system if required.



Irrigation

A central irrigation system provides water and feed to the living wall system to allow the plants to thrive.

Your living wall will be connected to an automatic irrigation system designed and supplied by us. This provides the plants with water on a daily basis.

The irrigation controller often links to sensors in the living wall which detect when water is required within a set time window. They control this water supply to ensure the living wall gets the water it needs, without unnecessary waste.

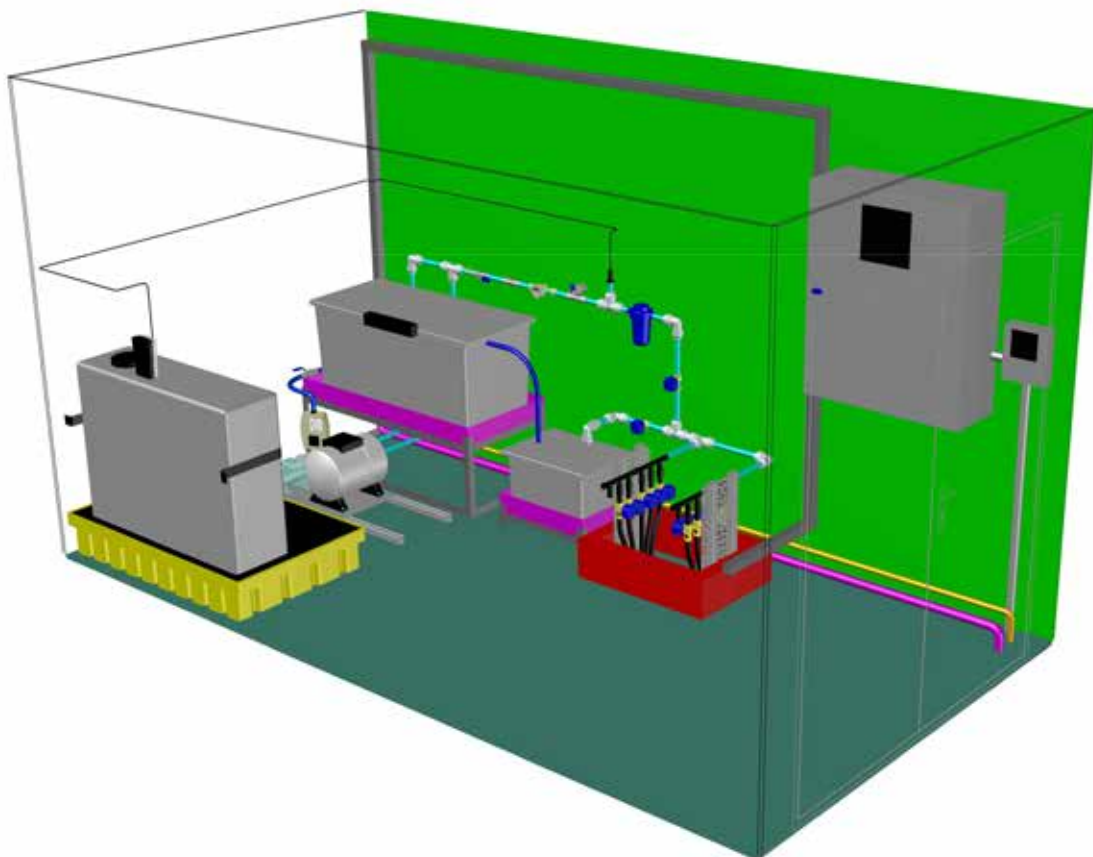
Depending on the model, the irrigation controller can also inject liquid fertiliser into the supply to give the living wall plants the nutrients they need to achieve slow, controlled growth over time.

Important: Adhering to water regulations

Water regulations require that commercial irrigation (such as for living walls) be dealt with as a 'Category 5' water risk.

This means that a 'WRAS approved' break tank with an 'AA' or 'AB' air gap is required between the irrigation controller and the mains water supply to avoid any risk of contamination.

In some circumstances the building may already have this in place for other purposes, otherwise it will need to be included as part of the living wall project.



Inleaf custom irrigation system for large-scale living wall in plant room

Exterior plants

The plants design for your living wall is determined by its location, aspect and conditions - and the desired visual effect.

The pictures below show typical exterior plants which we use in living walls, and the wall aspect/direction to which they are suited.

As part of your project, we'll provide a planting design for your approval. This will be based on the site conditions, taking into account your design intent and any plant preferences.

Optional pre-growing of plant modules

The planted modules will usually be planted in advance of installation into the living wall structure.

As an optional extra, the plant modules can be established in our glasshouses for up to three months prior to installation.

This allows the roots to bed into the living wall modules and foliage to grow - providing a more robust plant and more immediately impressive effect.



Alchemilla Mollis



Berginia



Carex Oshimensis



Geranium



Hedera Helix (Ivy)



Heuchera (Obsydian)



Heuchera (Cherry Cola)



Acorus gramineus



Campanula



Pachysandra



Liriope Muscari



Vinca Minor

Access

Safe and cost-effective access is an essential requirement for installation and maintenance of your living wall.

Our team need to gain access to all part of the living wall for installation, and then regularly during maintenance visits a number of times each year.

Making sure this can be done safely and as cost-effectively as possible can have a dramatic effect on the lifetime cost and practicality of your living wall project.

Options for access typically include:

- Scaffolding or scaffold tower
- Boom or scissor lift
- Mast climber
- Rope access/abseiling

Our proposal explains whether we have included for access or whether it is to be provided 'by others' for both the installation and ongoing maintenance.

Considering access early means you can potentially reduce the up-front and ongoing costs of your living wall at design stage.



Maintenance

Once installed it's essential that your living wall and irrigation system are regularly maintained to ensure continued health and visual appeal.

Our maintenance schedule combines summary and full visits, and remote monitoring if applicable to your irrigation system.

Maintenance visits

Focused on the horticultural aspects of your living wall, our full maintenance visits typically require access to the all parts of your living wall, and typically include the following:

- Tidying and pruning the plants
- Removing weeds
- Applying preventative pest control treatments
- Replacing natural plant failures
- Any remedial actions required
- Visual check tasks (see below)

Additional full maintenance visits can be arranged outside of the standard programme if required or requested.

Visual checks

Visual checks take place more frequently than the maintenance visits, and typically include the following:

- Survey of the living wall from ground level
- Maintenance of the automatic irrigation system
- Checking and changing irrigation filters
- Replenishing of liquid fertiliser
- Checking function of sensors from ground level

Remote monitoring

Where applicable to your installation we can also remotely monitor your irrigation controller. This can include checking fertiliser levels, sensor statuses and correct running of the

Handover training

Should you wish, we can provide handover training to allow your team to perform some or all of the maintenance tasks post-installation.



Work 'by others'

Some parts of your living wall project will typically sit outside of our scope of work and be done 'by others'.

A common example is when mechanical, electrical and plumbing (MEP) contractor(s) include the living wall MEP into their scope. This leads to increased design consistency, clearer warranty responsibility and cost-saving.

Our proposal details what we have included in our scope and what would should be allowed for 'by others'.

MEP

The following MEP aspects are typically performed 'by others':

- 3no fused spur mains connections in plant room
- Suitable mains water supply in plant room
- Suitable pipework between plant room and each living wall zone/section
- Cabling between plant room and living wall
- Suitable drainage connection in plant room
- Suitable drainage connection at base of living wall

Where our specification/scope does not include a Category 5 break tank and booster pump it is assumed that this is already available and/or is to be supplied 'by others' upstream of our irrigation controller.

Supporting structure

The living wall will need to be fixed to a suitable backing structure which can carry its weight including the system, plants and irrigation water (typically 40KG/m²).

Where a suitable brick or concrete block wall is in place this will usually be straightforward, in other cases a 'helping hand' system may be used.

Any surveys and calculations required to confirm the design and suitability of the supporting structure are 'by others' and excluded from our proposal.

Interfaces

Where the living wall surrounds other items/finishes (for example door or window openings) we will assume that any interface or flashing detail will be completed 'by others', as required.

Access

Unless our proposal specifically states otherwise, access to all work face to install the living wall is usually assumed to already be in place and provided 'by others' during construction and so excluded from our scope.

Permissions & notifications

Any an all permissions and notifications, and their associated costs, are assumed to be 'by others'. For example:

- Planning permission
- Building control notices/inspections
- Any road closure notices/permissions
- Water authority permissions or notifications

Security, welfare and site facilities

Unless otherwise stated, we'll assume that general site security, power, welfare, waste collection, materials offloading and general construction site facilities are provided 'by others'.

Where work is to be done 'by others', our scope includes reasonable work to communicate and collaborate with other specialists to achieve a positive outcome for your project.