

# COMING UP ROSES!

For most people the only restriction to enjoying a garden is the great British weather, but for many others consideration must also be given to accessibility and navigation



We speak to **Faith Leach**, Head of Estimates, Clarks Construction Ltd., **Andy Sturgeon**, Principal, Andy Sturgeon Design, **Charlotte Harris**, Co-founder/Director, Harris Bugg Studio, and **Mark Lane**, Managing Director/Principal Designer, Mark Lane Designs Ltd., who discuss their favourite projects and offer some inspiration for accessible garden design.

**Above:** Mark Lane, working with Thrive, redesigned the gardens surrounding Sense's flagship building, Touchbase Pears

#### Tell us a little about a recent accessible garden project you've worked on?

**Faith:** We recently worked on a high-end residential extension and reconfiguration project in collaboration with Cowan Architects. The ground floor London apartment was made fully accessible for our client, including adaptations to their beautiful landscaped garden, ensuring the homeowner had full independent wheelchair access to all areas, as well as a route to the therapy room at the rear, that was constructed as part of the scheme.

We modified all external thresholds with gently ramped access, as well as levelling



**Above:** Andy and his team busy placing thousands of plants at the new Horatio's Garden in Belfast

steps and external pathways.

Of course, like many London properties in an exclusive location, the process wasn't exactly straightforward as every piece of material had to be manoeuvred through the existing property, all through a single doorway. Nevertheless, our team tackled each obstacle and achieved a beautiful finish for our client!

**Charlotte:** Last year we created a garden for Horatio's Garden at RHS Chelsea Flower Show – for the first time on Main Avenue, an adaptive garden that put the priorities of all those with different mobility needs at its heart.

Embracing the mission of Horatio's Garden charity to nurture and support all those learning to live life after a traumatic spinal injury, the garden gave visitors to the show a sense of the hope and transformative effect having access to a Horatio's Garden can have when coming to terms with a devastating spinal injury.

The founder of the charity, Olivia Chapple, asked us to shine a light on adaptive gardens and demonstrate that accessible spaces do not have to compromise on aesthetics and experience simply because of the specific functional and practical requirements they have. The charity wanted to open a dialogue at the iconic RHS Chelsea Flower Show to show how wheelchair accessible gardens are relevant for everyone.

Starting its life at Chelsea Flower Show, its longer and far more important legacy will be as the start of the transformation of a car park at the Northern General Hospital in Sheffield, where it will be eight times the size of the show garden and the eighth Horatio's Garden in the UK.

As a studio, we spent many months meeting and listening to the whole Horatio's Garden community of patients, NHS staff, and garden teams to

**“ALL GARDENS ARE SENSORY BUT WE THOUGHT A LOT ABOUT WHAT THIS REALLY MEANT TO THE GARDEN USERS INCLUDING PATIENTS INSIDE ONLY ABLE TO LOOK OUT THROUGH WINDOWS”**

**ANDY STURGEON, ANDY STURGEON DESIGN**



make sure our design was completely responsive to their multi-faceted needs and incorporated the key elements that patients find so critical.

Every single element of the garden was informed by the experiences of patients with spinal injuries. Planting, views and interactions were carefully located and layered to accommodate different ways of seeing – whether up from a hospital bed or on wheelchair level.

We prototyped completely smooth, flat, permeable, cement-free terrazzo paths, designed to be patient-friendly, environmentally-friendly and aesthetically beautiful.

A garden room provided welcome relief and privacy from the busy ward, and was made of natural materials in complete contrast to the sterile and formica wards.

And, within the garden room, 1200 clay thumbprints, carefully exhibited on the walls, showed the real life community of patients and NHS staff with whom we had consulted.

The garden design was heavily influenced by the stories, history, and craftsmanship of the Sheffield region, connecting it to its legacy home in Sheffield, where, at the UK's second largest NHS spinal injury unit, it will serve thousands of patients, their families and the NHS staff that care for them each year.

A beautiful bespoke water feature, designed for bed and wheelchair height and responding specifically to patient requests to attract wildlife to the garden, featured reflective bronze cutlery dies. Elsewhere in the garden, hand-crafted stone 'cairns', representing way finding when the path is unclear, gave structure, rhythm and presence. All of these elements – and many more – including a greenhouse, social building and 30+ more trees will be part of the garden when it opens in 2025 in Sheffield.

**Mark:** Recently, I had the great pleasure of redesigning the gardens surrounding the charity Sense's flagship building, Touchbase Pears, in Selly Oak, Birmingham. The garden had become overgrown, and the brief was to design a space where clients and visitors could actively garden, sit back and relax and be surrounded by nature, and an area for events and create a sensory garden.

The design was shown to HRH Princess Anne, Patron of Sense. Funding was going to be piecemeal, including self-fundraising events, so we designed the garden in sections, focusing initially on a woodland walk full of texture, an outdoor room for gardening activities (working alongside the charity Thrive, who use social and therapeutic horticulture to change lives positively) with scent, colour and texture to excite and calm the senses, as well as an



area for tables and chairs. Hence, clients, visitors and staff have somewhere to sit in the summer.

**Andy:** It was a garden for a spinal unit in Belfast created by Horatio's Garden, a charity that has been delivering gardens at spinal units across the United Kingdom.

**What was your favourite project of those you've worked on?**

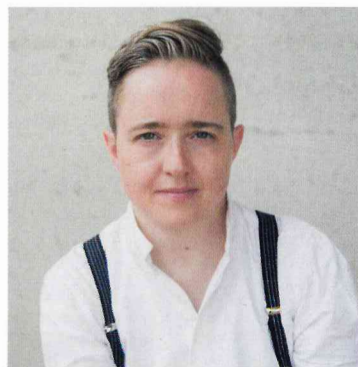
**Charlotte:** From the very start the mission of Horatio's Garden really spoke to us – the power of nature and gardens to transform lives, especially those coming to terms with traumatic and life-changing injuries.

Working with the charity on the garden for Chelsea Flower Show and now on the larger, permanent garden at the Northern General Hospital in Sheffield is a once in a lifetime opportunity and one that all of us in our small studio team has embraced, in the spirit of making something exceptional.

**Faith:** The London apartment's garden has been my favourite project; I think outdoor space is so important for overall wellbeing and with the modifications, the homeowners will be able to make full use of the space, from planting in the raised beds to social activities with family and friends.

**Andy:** Horatio's Garden in Northern Ireland.

**Mark:** My favourite garden is a small one in Kent for a client with motor neurone disease. The cottage sits near a river, but the clients wanted a garden you wouldn't expect to find behind a small cottage. They also love the ruggedness of Dungeness, so my brief was to create a safe and secure garden, with a cottage-Dungeness style! Not exactly a straightforward brief to follow.



**“WHEELCHAIR ACCESSIBLE GARDENS ARE RELEVANT FOR EVERYONE...”**

**CHARLOTTE HARRIS, HARRIS BUGG STUDIO**

**Right:** Horatio's Garden [Chelsea Flower Show 2023] designed by Charlotte Harris and Hugo Bugg. Image © Marianne Majerus

**Below:** Charlotte Harris' water feature for Horatio's Garden is visible from many angles. Image © Marianne Majerus



The client has difficulties with proprioception or not being aware of where his limbs and body are in relation to the surrounding environment. The existing garden had got very overgrown, so we ripped everything out, relocated the garden shed, introduced wide concrete paths with exposed aggregate for extra grip, large turning circles and feature walls, as well as a secluded seating area to the rear, with space for a wheelchair to slide in between other sitters.

The planting is relaxed and informal, and the larger white wall is used to air outdoor films during the summer. In the centre of the garden is an ornamental cherry tree, which the client can see from his bed from the relocated bedroom to the rear of the house. Planting, in general, is low-maintenance to enable his wife/carer to spend more time together.

**Has there been an element you have incorporated into a garden that has particularly surprised/delighted your client?**

**Mark:** We designed the gardens surrounding a large barn/farm complex for clients who rent out the buildings for people looking for a gorgeous and stylish place to stay, in the Kent countryside.

As this was an old farm, the large concrete areas, perfect for walking on or for parking, were harsh to the eye. We hunted around the larger farm and found old farm equipment, which we repurposed, for example, an old cart with planted up feeders on top introduced greenery and colour, while old pallets were turned into a table with a glass top, other larger feeders were used as planters, while reclaimed wood help build pergolas and seating areas.

**“RESIN BONDED PATHWAYS LEND THEMSELVES VERY WELL TO WHEELCHAIR ACCESS...”**

**FAITH LEACH, CLARKS CONSTRUCTION LTD**

Everything is on flat, even ground. There are a couple of small steps into some of the outbuildings, but the client invested in lightweight ramps to assist visitors. It was these repurposed items that really surprised and delighted the client. We also took up some areas of the concrete and introduced setts with good grip and small joint lines, used primarily in areas where alternative directions could be found. These setts enabled blind and visually-impaired people to locate their position, but the feel and texture of the setts.

**Faith:** I think being able to reach every part of the garden has been particularly important to our client, to allow them to be fully included and involved with gardening and social activities.

**Andy:** The complex planting plan we designed delivers constant surprises!





**Below:** This garden in Dungeness is one of Mark Lane's favourite projects

**Left:** Andy Sturgeon designed Horatio's Garden in Musgrave Park Hospital, Belfast.

## “BEING OUTDOORS HELPS REDUCE LEVELS OF OBESITY, INCREASE PHYSICAL ACTIVITY, AND IMPROVE MENTAL HEALTH...”

MARK LANE, MARK LANE DESIGNS LTD



**Charlotte:** When the garden was unveiled at Chelsea Flower Show many of the charity's beneficiaries, advocates and user ambassadors were invited to visit and experience the garden first hand. It was wonderful to hear their feedback about the many elements we featured in the show garden. For us, seeing people in the garden, enjoying it, smiling and sharing their stories was such a moving moment.

Many people commented on the immersive nature of the garden as well as the way all aspects of the design had been considered from various vantage points, reflecting how patients in beds or wheelchairs would be able to see and interact with the garden.

For instance, the height of the water feature allows those in wheelchairs to see all the details of the Sheffield cutlery casts positioned on top and to run their hands in the water. The trees are planted



into the pathways so those in wheelchairs and beds can get up close to them and touch their tactile bark, yet still easily move around them.

Planters with hidden wheels are easy to move and shift depending on where a patient prefers to be. In the richly planted beds, leaf shapes, textures and colours have been thought about when choosing the plants, including the delicate shape of the leaves found on the Acers and Birches to create an interesting all-season tree canopy – for those in beds and only able to look up.

The trees also provide important cooling and shading – responding to patients whose temperature regulation and UV sensitivity is often affected by a spinal injury.

**What advice do you have regarding surface materials for pathways, planting schemes, seating options?**

**Andy:** We used a resin bound gravel with falls of only 1:100 which is almost flat. This came from lessons learnt regarding patients in beds being able to use the garden. This was also beneficial to wheelchair users.

All gardens are sensory but we thought a lot about what this really meant to the garden users including patients inside only able to look out through windows. We harnessed the faintest breeze allowing grasses to become animated, everything near paths and seats is tactile, whether plants, water, furniture, or walls.

Plants and the wildlife they bring is close to paths, seats, and windows, so the interaction is as easy as possible. Even climbing plants and trees above people's heads played an important role.

Indoor pods are vital to assist body temperature regulation and also for privacy away from the wards.

The garden also has some challenges for rehabilitation including a Boccia court and a sloping path.

**Charlotte:** For Chelsea, we created a completely new, patient-friendly, environmentally-responsible and aesthetically beautiful surface material for the pathways. Using revolutionary green materials, our eco-terrazzo was made from cement-free, ultra-low carbon concrete and unusable crushed waste which would otherwise be sent to landfill.

It contained no high-carbon steel and having prototyped and tested for months, the surface was completely permeable, so water could drain off safely. We reduced the carbon footprint by 77% when compared to Portland cement – the equivalent of 14 return flights from London to Barcelona.

The surface was designed to be completely smooth and joint-free when laid to ensure pain-free movement for those

# FACTS & FIGURES

Cutting through a dense thicket of standards and guidance for accessibility in gardens, **Mark Lane** explains it in brief

**T**o propel a manual wheelchair, for example, the ISO standard for wheelchairs (ISO 7193) notes that a clearance of not less than 50mm, preferably 100mm, on both sides is required.

Entry points need to have an accessible clear opening width of at least 1000mm, gates should not exceed 30N, and gates should have clear visibility between 500mm and 1500mm above ground level.

Handles, latches or other ironmongery should be located between 750 and 1000mm above ground level. They should either be with a lever action or designed so that a single, closed fist can operate them, and not be cold to the touch. Gates and ironmongery need to contrast tonally with the surroundings.

Turning spaces are key for wheelchair and scooter users. To provide a full range of scooters and wheelchairs turning through 180 degrees, a length of 2800mm and a width of 2200mm are required.

Pathways provide access for all users through and between features in the accessible garden. They need to be of a sufficient width with an appropriate surface, and where terrain mitigates against universal access, alternative routes need to be created.

Actual and potential hazards need to be eliminated. To turn 90 degrees, a manual wheelchair user requires a minimum space of 1200mm x 1200mm, and to turn through 180 or 360 degrees, a space of 2000mm x 2000mm is required.

### Meandering routes

Also, make a distinction between direct routes and meandering routes, possibly with different materials or colour contrasts. For two wheelchairs to pass, a path should be 1800mm–2000mm wide. If this is not possible, a width of 1500mm will work, with passing bays at every 50 metres on level ground.

Drainage should ideally be positioned beyond the boundaries of the access route or set flush with the surrounding surface. Slot drains should be no wider than 13mm and set at right angles to the dominant line of travel.

Tapping edges to pathways helps visually impaired and blind persons. They also help stop the wheels of scooters and wheelchairs from ending up in a flower bed.

All surfaces need to be firm, stable, non-slip in dry and wet conditions and obstacle-free. Paving should have a minimum 'R' value of R12 or R13, which is suitable for patios and pathways, or a rating of 51–70 PTV (Pendulum Test Value) and 70+ PTV, respectively, under BS EN 13036-4:2011 Pendulum Test. R13 (61+ PTV) is best on slopes.

The difference in level between adjacent paving should be no more than 5mm. Paving joints should be flush, or no wider than 10mm or deeper than 5mm. Great materials for accessible hard-standing are, self-binding gravel, resin-bound or resin-bonded aggregate, concrete,



tarmac, porcelain tiles or wet-pour surfacing with a base of SBR and a top layer of EPDM granules.

### Level pathways

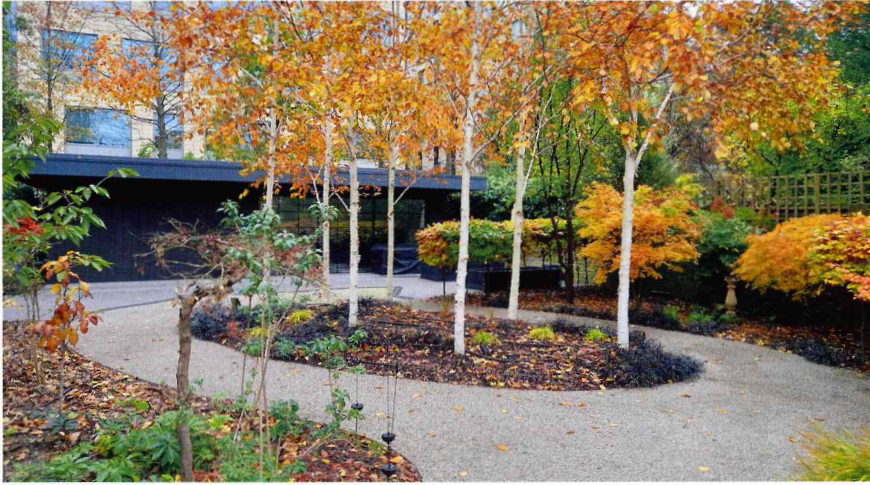
For changes in level, ramps are an obvious choice, and for some ambulant people, a few easy-going steps will be more accessible than a ramp. Level pathways or ramps are ideal for wheelchair and scooter users. Provide both, where possible. Part M suggests ramps for slopes with a minimum of 1:12, but this is often too steep for many users and can be hazardous if a wheelchair user has a weighty backpack, which can cause the chair to topple backwards. Ramps for slopes exceeding 1:20 need flat landings and are provided for every 750mm of vertical climb.

Steps (in accordance with Document K and M of the Building Regulations, BS8300:2009+A1:2010, BS9266:20113 and Building Research Information Paper IP15/03) should have a level landing at top and bottom of each flight, be unobstructed and the rise of flight between landings should contain no more than 12 risers for a going of less than 350mm and no more than 18 risers for a going of 350mm or greater. All nosings should be made apparent with a permanent contrasting material 55mm wide on both the tread and the riser.

The riser and going of each step should be consistent throughout a flight, and the rise should be between 150mm and 170mm, with the going of each step between 280mm and 425mm. Risers should never be open.

Find out more at [www.marklanedesigns.com](http://www.marklanedesigns.com)





using wheelchairs for the first time, assisting ease of movement and removing the impact of painful jolts from paving joints.

Hidden joint lifters were designed in so it could be lifted and relocated to be used in Sheffield after the show.

In developing the eco-terrazzo pathways, we wanted to demonstrate that adaptive gardens are opportunities to design better, rather than a creativity limitation. This was a driving force behind all of the elements in the garden - to design a space that was imperceptibly accessible - beautiful and functional, rather than being a compromise or 'second class' space.

**Mark:** When it comes to planting aim for a good mix of texture, shape and form with a mix of colours. Ideally, plant in a naturalistic style that will attract wildlife into the garden. Avoid trees that will overhang pathways, or be ready to prune back when they do. A small amount of planting tumbling over the edges of pathways is fine, but ensure you keep the paths clear so that wheels, sticks, frames and feet don't get tangled up.

**Faith:** Resin bonded pathways lend themselves very well to wheelchair access, unlike some other finishes there is little chance of wobbling stones, raised cobbles over time, or getting stuck in loose gravel!

Raised beds are a great addition with many designs available to either eliminate the need for users to bend over or reach down to the floor, or to allow space for a chair underneath, it especially helps with keeping the weeds and pests at bay.

**It sounds obvious, but what do you think a garden brings to the lives of those who visit it?**

**Faith:** I think a garden really brings an escape from day-to-day stresses and a bit of tranquility and peace, a place to take a deep breath and enjoy nature and its visitors, which many take for granted, it was

**Above:** Faith Leach made the garden of a ground floor London apartment fully accessible for her client



**“A GARDEN REALLY BRINGS AN ESCAPE FROM DAY-TO-DAY STRESSES...”**

**FAITH LEACH, CLARKS CONSTRUCTION LTD**

**WANT TO CONTACT ANY OF THE PEOPLE IN THIS ARTICLE?**

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an absolute pleasure to be involved with making this an everyday reality for the client.

**Andy:** The garden changes every day; seasonality is vital. It can add a place of privacy, which is important for patients and visitors and is not always possible in the ward.

**Charlotte:** Connecting people with nature is at the heart of everything we do at Harris Bugg Studio and this garden reflects the stories and needs of all the patients we met and listened to when planning our design. By bringing this garden to Chelsea Flower Show, a place to inspire new conversations, we wanted to show that making an adaptive, accessible garden should not be a limitation to creativity and beauty and is good for everyone in our society.

We were delighted to receive the Best in Show award for this garden and to hear how the judges recognised how our design had been driven by the end user, that the brief and the garden had been delivered at an exceptional level and how it would provide a 'wonderful sanctuary' for anyone with a life altering spinal injury.

**Mark:** Being surrounded by greenery, from houseplants to a garden or patio filled with flowers and edibles, has according to the King's Fund been 'linked to long-term reductions in overall reported health problems (including heart disease, cancer and musculoskeletal conditions)'.

Gardening, green spaces and being outdoors also help reduce levels of obesity, increase physical activity and improve mental health.

Dementia studies have shown that exposure to gardens and nature helps reduce agitation, aggression and other symptoms and improves concentration, social connectivity, connection with past memories and access to the natural world and natural light; sunlight produces vitamin D which helps support bone health, lowers blood pressure, prevents disease and promotes good mental health.

Green spaces and gardening can help decrease noise and air pollution, improve immune function by providing exposure to beneficial microbiota and can help with psychological restoration, i.e. providing respite for over-stimulated minds.

The impact of green space throughout childhood is significant. Exposure to green spaces is comparable to family history and parental age when predicting mental health outcomes.

Looking at and caring for greenery and living plants helps protect against mood disorders, depression, neurotic behaviour and stress-related issues. Plants can improve your mood, reduce fatigue, lower stress and anxiety. It's essential to take time out, sit back with a cuppa or your favourite tippie and enjoy the greenery! 