



## Derwenthorpe



One of the first large scale exemplar low-carbon communities in Northern England, Derwenthorpe represents an intelligent and successful response to the demands of energy efficient design and the requirements of an equitable and sustainable development.

### Overview

Derwenthorpe is a mixed tenure, exemplar sustainable community of 540 high-quality, energy efficient homes on the periphery of York. The First Phase, consisting of 64 homes, was completed in March 2013 and construction of the next phase is underway.

Embodying the ethos and legacy of the Joseph Rowntree Housing Trust, and following the precedent set by nearby model village New Earswick, Derwenthorpe provides a residential community that meets not only the demands of the current inhabitants but also those in the future.

### Masterplan

The first phase of the scheme is an extension to the existing village of Osbaldwick, enhancing the local community and extending Osbaldwick Village Street. Similarly the future phases connect to and extend other

residential streets, thereby integrating the scheme into the existing context, rather than simply existing as a standalone development.

The masterplan makes good use of the existing hedgerows to structure the site. These have been enhanced to create ecological zones and amenity spaces that thread through the development. A network of pedestrian and cycle routes cross the site allowing easy access between neighbourhoods and into the centre of York via the Sustrans cycle network.

Within the scheme, the different sized houses are used appropriately to support the urban structure and provide enclosure and continuous frontages to the streets and spaces. Larger houses are used adjacent to the surrounding open spaces, and at key points to punctuate the streetscape and terminate forward views. The smaller houses are generally used in

### Location

Derwenthorpe, York

### Client

Joseph Rowntree Housing Trust

### Project Size

521 homes

### Status

Phases 1–4 completed 2019 (481 homes)  
Phase 5 construction 2023 (40 homes)

### Masterplanners

Studio Partington

### Concept Masterplanners

PRP Architects

### Planning Consultant

Jennifer Hubbard

### Client Advisor

DSP Architects

### Project Managers

MDA Consulting

### Structural and Highway Engineers

Alan Wood and Partners

### Services Engineers

Arup

### Landscape Architects

FIRA

### Flood Risk Consultant

JBA Consulting

### Development Partner and Contractor

David Wilson Homes

### Prototype Houses and Energy Centre Contractor

Mansell

### Monitoring

Leeds Beckett University and UCL





“From first light through to sunset all of the main rooms in the house use sun and light to good effect. It is endlessly pleasant.”

– David Friend,  
Derwenthorpe resident



short terraces along the homezones with the elevations varied to suit the position of the houses, for instance at gables or corners.

**Homes**

The 540 home development comprises two, three and four bedroom homes with areas between 90m2 and 170m2. The designs draw on the rich architectural legacy of the Joseph Rowntree Foundation’s century-old model village at nearby New Earswick. Careful choice of materials and detailing combined with large steeply pitched roofs, painted brickwork, and striking dormer windows create a distinctive sense of place. The houses are light and well proportioned with generous flexible rooms, designed to comply with the requirements of both Lifetime Homes and

plants can be grown, wet clothes and boots can be left, and children can play with direct access to the garden.

Derwenthorpe is a joint venture development between the JRF/JRHT, a social landlord, and David Wilson Homes, a private developer. Undertaking the development in this way provides a mixture of tenure, with 40% being for rent and shared ownership and 60% for private sale. All houses are designed to the same standard and with the same appearance regardless of tenure. The affordable homes are ‘pepper potted’ across the whole site, avoiding grouping of tenure and promoting equality and diversity.

**Sustainability**

Prior to commencing Phase 1, two prototype houses (TAP) were developed



Standards and Quality in Development. Dual aspect main living rooms bring natural light deep into the plan and allow cross ventilation throughout the year, while high ceilings of 2.6m and 2.7m lend an overall sense of light and space.

All houses have been carefully orientated with larger windows facing south and many houses have sunspaces to maximise useful solar gain. The sunspaces act as a thermal buffer throughout the year – collecting solar energy in the winter and helping to cool the houses in the summer, providing secure ventilation at high level, and making use of the stack effect for ventilation. On the street elevations the sunspaces are also used to provide a degree of privacy to the south facing living rooms, while maintaining high levels of daylight. On the garden side they provide a practical indoor/outdoor space where

to evaluate design, construction, and performance. The findings from the continual assessment and monitoring directly influenced the construction and detail of all 540 homes. In this way JRHT helped ensure that a large-scale sustainable community is delivered as intended and continues to perform as initially envisaged and designed.

A ‘fabric first’ approach forms the basis of the sustainability strategy for the homes, which have highly efficient building fabric with good u-values, low air-permeability, and carefully controlled thermal bridging. Informed by the prototype testing, the houses were constructed using partial-fill cavity thin bed masonry walls and a structurally insulated panel roof system (SIPS). The masonry wall construction with rigid PIR partial cavity insulation and the inner thin bed blockwork leaf provides

**Awards**

- AJ Architecture Awards 2017 Sustainable Project of the Year (Phase 1)
- RIBA Awards 2017 National Award (Phase 1) Regional Sustainability Award Regional Project Architect of the Year
- Inside Housing Development Awards 2017 Best Affordable Housing Development (rural/suburban) (Phase 1)
- York Design Awards 2017 Large Residential Category Winner (Phase 2)
- Insider Yorkshire Property Industry Awards 2017 Residential Development of the Year
- Civic Trust Awards 2014 Award Winner (Phase 1)
- Built for Life Quality Mark
- Royal Town Planning Institute (RTPI) Yorkshire Awards for Planning Excellence 2014 Yorkshire Planning Excellence Award (Phase 1)
- Housing Design Awards 2013 Completed Winner (Phase 1)
- York Design Awards 2013 New Build: Residential Award (Phase 1) The Press People’s Award for 2013
- What House? Awards 2013 Silver Award for Best Development Category
- Building Magazine Awards 2013 Housing Project of the Year – Highly Commended
- Sunday Times British Homes Awards 2012 Best Affordable Housing Development
- Housing Design Awards 2010 Project Winner (Phase 1a)

**Publications**

- Age-friendly Housing: Future design for older people
- Better Buildings: Learning from buildings in use
- Contemporary Vernacular Design: How British housing can rediscover its soul
- A Sustainable Community? Life at Derwenthorpe 2012-2015
- RIBA Future Homes Commission Report Detail Daylight & Architecture supplement Spring 2018
- The List 18 – Directory of Chartered Practices RIBA Journal: The awards 2017
- Architecture Today Issue 240 (July/August 2013)
- Urban Design Issue 124 (Autumn 2012)



“The quality landscaping and the pedestrianised design of the estate all add to a sense of joy and well-being. This is a genuinely inspirational space to live.”

– Paul Black, Derwenthorpe resident



high insulation levels and the temperature regulating effects of thermal mass. The SIP panel roofs are straight forward to construct and provide a robust solution for thermal performance and air-tightness, due to minimal penetrations through the air-tightness barrier. Post-completion monitoring of the homes has shown a significant narrowing of the performance gap between predicted and actual energy use.

All 540 homes will obtain their heating and hot water from the biomass-fired district heating network, housed in an on-site energy centre. Known locally as the Super Sustainable Centre (SSC), this building has a dual function as a community centre and meeting space. It provides an environment for the community to come together, for local groups to meet, and for the education of local schools and the public about sustainability, alternative energy sources, and carbon reduction in a functioning energy centre. Visitors are able to enter the plant room and to view the operation of the biomass boilers from a first floor level viewing balcony.

spaces that have been created through a collaborative relationship with the highways and planning officers. The intention to create a pedestrian priority and child friendly environment, was foremost in design discussions. The scheme is now held up as an exemplar by the highways department, in terms of both process and outcome.

A commitment to the environment is shown in the landscape design. When complete, a third of the site will be comprised of beautifully conceived landscape, which will conserve ancient hedgerows and species-rich grassland as well as providing wildflower meadows and an enhanced wetland habitat to support great crested newts. The Jubilee Pond, at the heart of Derwenthorpe, provides a safe environment for the breeding of ducks, geese, and other wildlife new to the area. The pond is also a key part of the sustainable urban drainage system (SUDS), and helps to mitigate against flooding and control water flow into Osbaldwick beck.



“Derwenthorpe is different: there is a host of innovation under the surface, painstaking attention to details, research and critical evaluation, and above all good placemaking that justifies the claims of exemplar status, and the awards and best-practice citations.”

– Irena Bauman, Architecture Today

Energy saving measures are not limited to the design of the houses alone. The masterplan recognises the importance of streets as places for social interaction, using homezones and mews courtyards to limit access for cars and to prioritise pedestrians. The site is well connected to York City Centre via a dedicated Sustrans path, helping to promote cycling and walking over the use of private cars. All residents are provided with a travel voucher to assist with purchasing a bike or a free bus pass, an electric car club provides the opportunity to use a car by the hour, and an electric bus service also runs from Derwenthorpe into the centre of York.

**Landscaping**

An important feature of the development is the quality of the streets and public

**Community**

Exploring how to achieve a more environmentally and socially sustainable community lies at the heart of Derwenthorpe. The Joseph Rowntree Housing Trust (JRHT) is not just a social landlord; its ethos very much embraces these notions, and as such, it strives to involve the local community and debate local and national issues.

During the development of Derwenthorpe there was much consultation with the City of York’s various departments including Planning and Community Involvement, Highways, Drainage, Environmental Health, and Sustainability. In addition, consultation was undertaken with Yorkshire Water and Northern Electric Distribution plc. JRHT also communicated the principles of the development



“Derwenthorpe [...] is an imaginative and highly successful [...] template for future similar communities by other housebuilders, which clearly delights the residents and fully merits its Completed Scheme Award.”

– Stephen Mullin, Architecture Today



to the recognised Derwenthorpe Committees and Sub-groups attended by local representatives and City of York Councillors, through consultation with the local community.

As the residual key landowner, JRHT is committed to remain involved as an agency to sustain and maintain the community and its environment for the long term. The Derwenthorpe Facebook page is proving very effective for JRHT staff and residents to share vital information and updates about what is going on at Derwenthorpe, and for residents to connect with their neighbours. The Facebook page has also been used to advertise community events including the establishment of a Community Garden, attending The Big Tidy Up, and the inauguration of Osbaldwick Community Choir (the first resident led activity at Derwenthorpe), as well as displaying information regarding upcoming consultations and how residents can get involved and log their views and opinions. Residents coffee mornings are held at the Super Sustainable Centre, as are meetings of the Osbaldwick Community Choir and

yoga sessions. To further support these activities, JRHT is contributing money to a Community Fund towards community facilities and activities in and around the development.

**Monitoring and post-occupancy feedback**  
Evaluation of Phase 1 is being undertaken with four distinct approaches:

- Mid-construction tests and inspections are regularly carried out to help maintain construction quality, particularly with regard to fabric performance and services commissioning.
- A sample of homes has undergone a forensic post-completion test, to verify the whole-house heat loss and services installation as handed over.
- Specific technology testing is looking at recurring challenges created by the adoption of new technologies with regard to ventilation and indoor air quality.
- Wide-ranging post-occupancy monitoring covers everything from resident experiences to carbon footprinting and evidence of the emerging community, conducted over a period of three years.

“I get the opportunity to visit some fantastic housing across the country, but this was exceptional. [...] The scheme is a great example of what can be achieved when architects and designers work together with developers and local authorities to create new neighbourhoods that are desirable and enjoyable places to live.”

– Kris Hopkins MP

“It is a real community now and the Residents Association reflects this. High-quality housing like this is just what York needs and it is a real boost to the area.”

– Hugh Bailey MP

