

Fellgate Estate, Jarrow Surface Water Management Plan 2015



South Tyneside Council

Fellgate Estate, Jarrow

South Tyneside Council and Northumbrian Water are working together to reduce the risk of flooding in Fellgate Estate.

Working in partnership

**NORTHUMBRIAN
WATER** *living water*



South Tyneside Council

Background

South Tyneside Council and Northumbrian Water have been working together to reduce the risk of flooding in Fellgate Estate. This two stage project has been underway since September 2014.

Stage one: Upgrading the surface water sewer network

This £2.5 million project was led by Northumbrian Water. It involved upgrading the surface water drainage system serving Fellgate Estate and building two detention basins in the fields adjacent to Durham Drive (South). Construction works were completed in early March 2015.

Final landscaping and planting in the basins areas were completed in spring 2015, followed by some final road resurfacing completed by April 2015. There are small pockets of grassed reinstatements yet to be completed and planned for the summer 2015.

Stage two - Surface Water Management Plan (SWMP)

At the same time South Tyneside Council has been finalising the Fellgate Estate Surface Water Management Plan to reduce the residual surface water flood risk.

The Fellgate SWMP has now been approved and its funding secured from the Environment Agency. Details of this plan is provided within this handbook.

The construction works for stage two will be carried out by the principal contractor, Lumsden & Carroll who also completed stage one.

What is the **Surface Water Management Plan**?

South Tyneside Council is investing around £800,000 in funding from the Environment Agency to build new sustainable drainage systems in Fellgate. These systems will help reduce the remaining residual surface water flood risk in this area.

WORKING AREAS

New sustainable drainage systems will be built in or near the following areas:

- **Fellgate Primary School**
- **Rochester Square**
- **St Joseph's RC Primary School**
- **Lawnsway**
- **Durham Drive (East)**
- **Lincoln Way**
- **Durham Drive (West)**

CONSTRUCTION WILL TAKE AROUND SEVEN MONTHS AND STARTED ON MONDAY 18 MAY 2015.

Site investigation is being carried out in a few areas while some of the main works have begun in St Joseph's RC Primary School and near Lawnsway.

The construction works will be mostly contained in public open spaces and will have a limited direct impact on residents. However, there will be some traffic management for the work in Durham Drive (details provided on pages 5 and 6).

The upgraded surface water sewer system and new sustainable drainage systems will jointly provide flood risk reduction from multiple sources of flooding within the estate.

In addition to its flood protection benefits, these drainage systems will create ecological benefits by increasing natural habitats and biodiversity.

The planned works form the first phase of implementation of the Surface Water Management Plan (SWMP).

Sustainable drainage systems

What are they?

Ponds: These are depression areas which hold water at all times (wet ponds). They provide leisure and educational focal points for local communities. Ponds provide temporary storage for storm flows, then return these flows into the drainage system when water levels subside. Flows are discharged through a controlled outlet. They also provide an ecosystem which removes pollutants from the storm flows.



Swales: These vegetated, broad and shallow open channels transfer surface water flows to storage, remove pollutants and encourage the flows to soak away naturally.



An example of a large basin under construction.

Bunds: These are ridges built along edges to direct water to and collect water at a desired location.



Basins: These vegetated depression areas are normally dry. During rainfall, they collect and temporarily store storm flows. They slowly release these flows through a controlled outlet into the drainage system when water levels subside. The vegetation helps remove pollutants from the storm flows.

Planned works

St Joseph's RC Primary School

We will build a new swale which will capture roof drainage and surface water flows from St Joseph's School.

We will also create a pond in the north east corner of the playing field in an area which has been historically prone to standing water. Surface water flows will be channelled through the swale to this new pond when it rains.

Rochester Square

We will be building a new swale to capture surface water runoff from the Hedworthfield Community Centre playing field and transfer to a new detention basin in the grounds of Fellgate Primary School.

We will also locally re-grade some areas of the public footpath north of The Glade to help channel surface water to the new swale.

Lawnsway

We will build a new swale along the eastern side of Hedworthfield Community Centre's playing field near Lawnsway.

This will intercept surface water runoff and convey it to a new detention basin in the Community Centre car park.

We will also install some new drainage locally to the car park area, to separate surface water flows from the main system.

Durham Drive (East)

We will build a new drain in the northern verge of Durham Drive to collect surface water flows that pool in the highway. The new drain will discharge in to Calfclose Burn.

A new sewer will also be constructed from the northern verge to the southern verge.

This will connect the surface water sewer and Calfclose Burn.

We will carry out these works under traffic light managements which will allow the road to remain open whilst work is ongoing.

Durham Drive (West)

We will build a new bund along the western verge of Durham Drive to retain surface water runoff in the field to the west.

We will carry out these works under traffic light managements which will allow the road to remain open whilst work is ongoing.

Fellgate Primary School

A new drainage channel is to be constructed in the school playground to intercept surface water runoff and convey it to a new pond in the school field.

A temporary access is to be created at the end of Lincoln Way for machinery to access the school field.

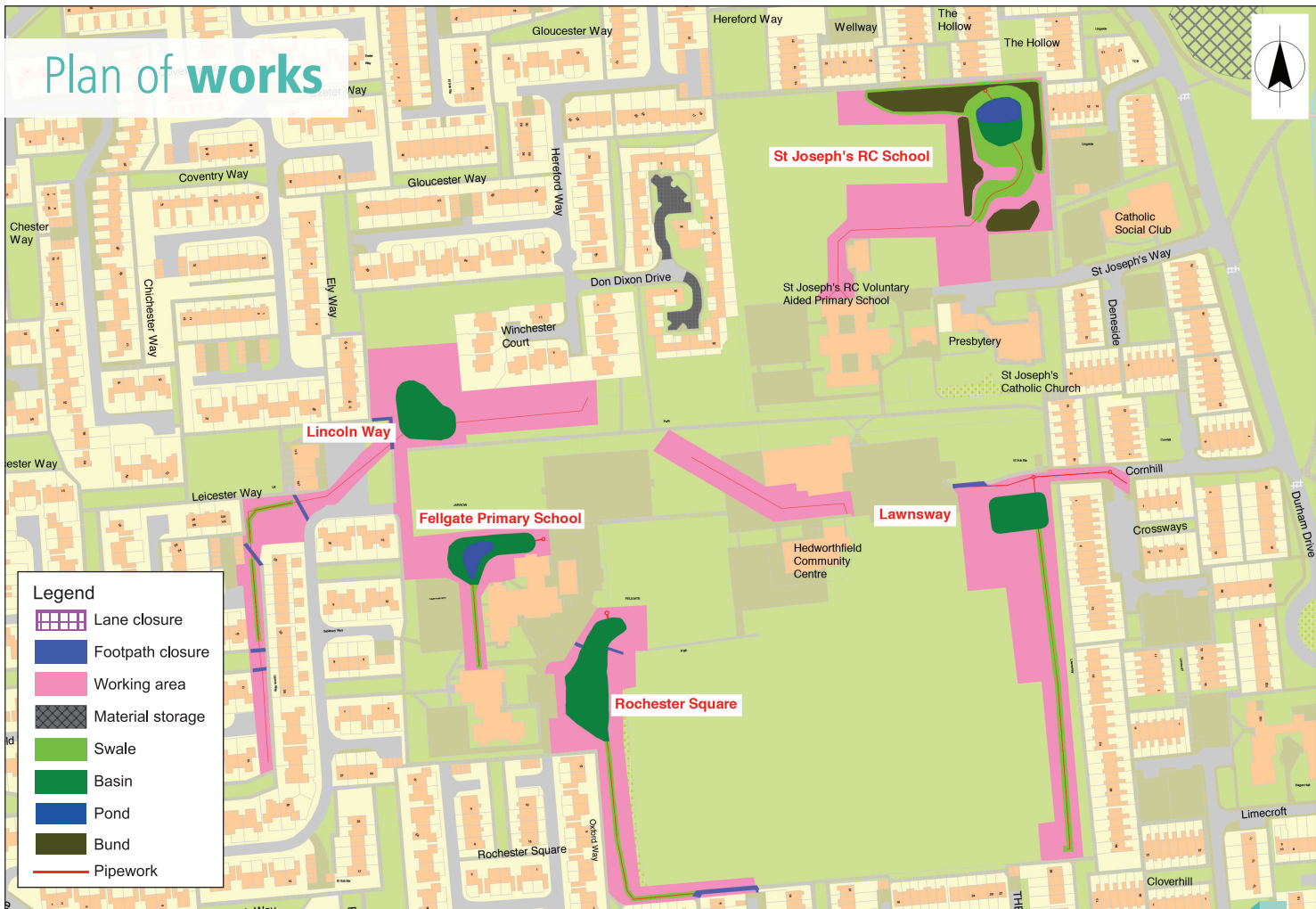
Lincoln Way

A new filter drain and swale is to be constructed in the grass verge in front of Lincoln Way to intercept surface water runoff and take it to a new detention basin in grassland north of Fellgate Primary School.

Construction **works schedule**

AREA OF WORK	PLANNED WORK	TRAFFIC MANAGEMENT REQUIREMENTS
St Joseph's RC Primary School	May – August 2015 (end of school summer holiday)	No requirements.
Rochester Square	May – November 2015	No requirements.
Lawnsway	May – August 2015	No requirements.
Durham Drive East	June – September 2015	Lane closure under traffic light management system. Road signage was utilised to notify residents.
Durham Drive West	July – September 2015	Lane closure under traffic light management system. Road signage will be utilised to notify residents.
Fellgate Primary School	July – August 2015 (school summer holiday)	No requirements.
Lincoln Way	August – November 2015	No requirements.

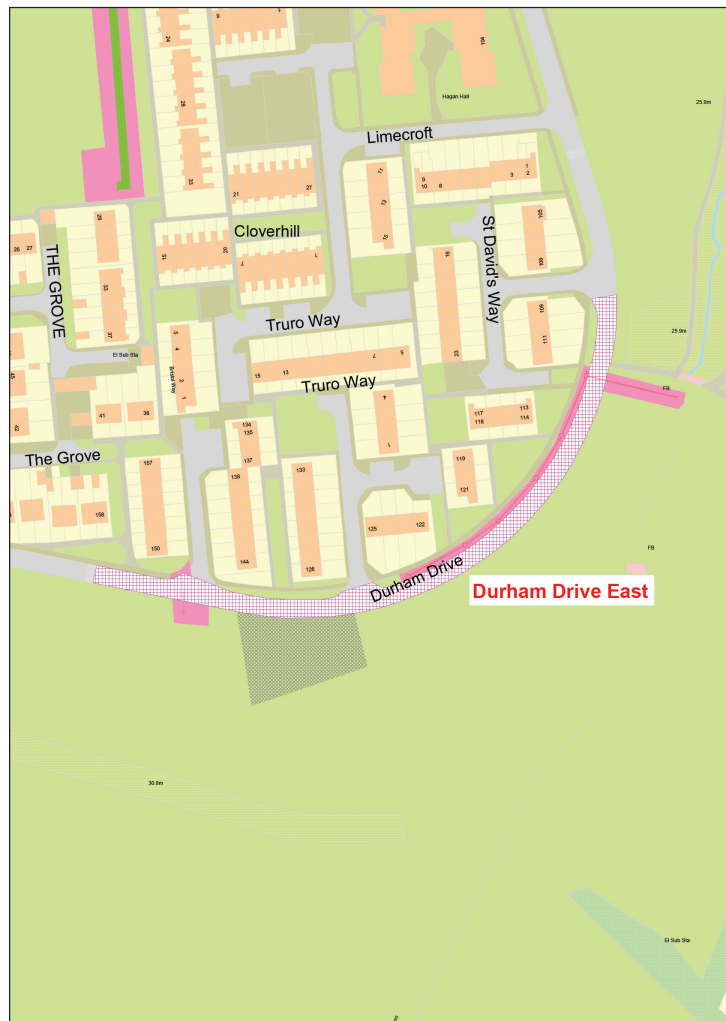
Plan of works



Legend

- Lane closure
- Footpath closure
- Working area
- Material storage
- Swale
- Basin
- Pond
- Bund
- Pipework

Plan of works



What's Next

Property Level Protection

There are additional protection measures from surface water flooding under consideration for some properties outside the already covered areas in the SWMP.

These plans are currently under development. The design team is reviewing and confirming the surface water flooding mechanism for small pockets of properties within the estate and will be scoping risk reduction solutions for these properties.

There will be further consultation and site visits with these properties prior to any finalised design.

We currently expect that this work will begin by late 2015.

Northumbrian Water

If you require further information or advice please contact the Customer Centre on **0345 717 1100** or log onto **www.nwl.co.uk**

You can also follow Northumbrian Water on twitter **@nwater_care** and **@NorthumbrianH2O**

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