
Policy and Place Scrutiny Committee

3rd October 2017

**Barry James, Strategic Commissioning Manager
(Community Infrastructure)**

**Dan Martin, Service Manager – Flood Risk
Management**

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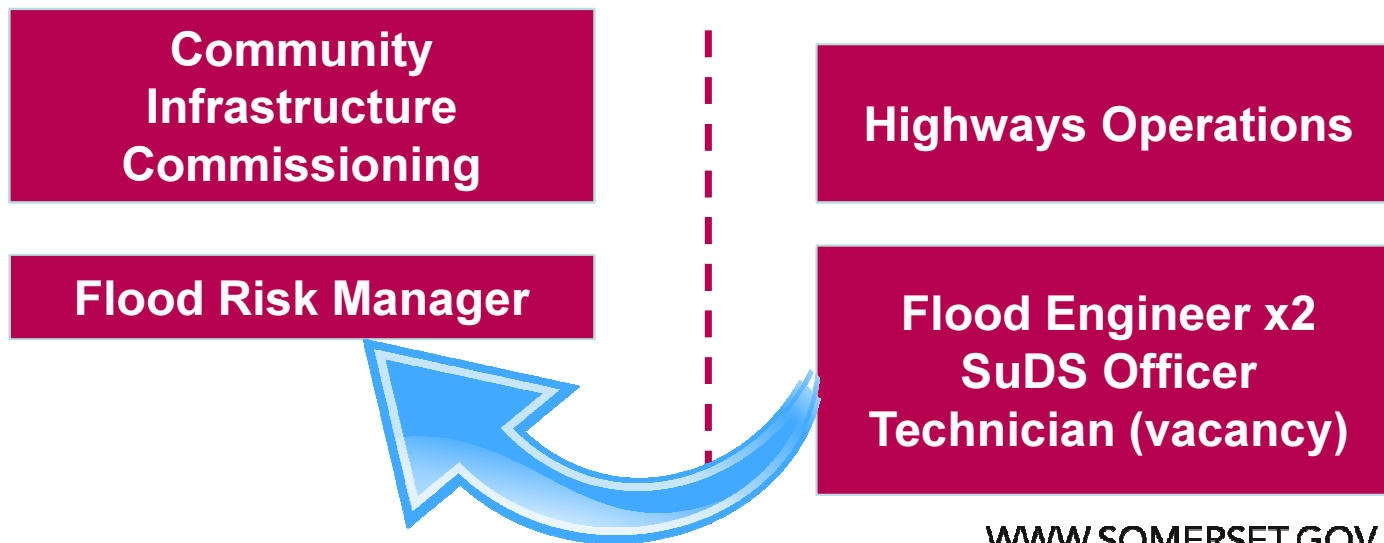


What Dan and I are going to cover:

- Lead Local Flood Authority Update
- Bridgwater Tidal Barrier Latest
- The Future of the Service – a review to deliver improvement

The Lead Local Flood Authority: Service delivery – we've restructured

- All non-highway elements of flood risk management together into one team in Community Infrastructure Commissioning
- Direct control and delivery of strategic objectives and schemes on the ground
- Timing fits well with need to prepare programme and submit our SRA grant applications for 2018/19.



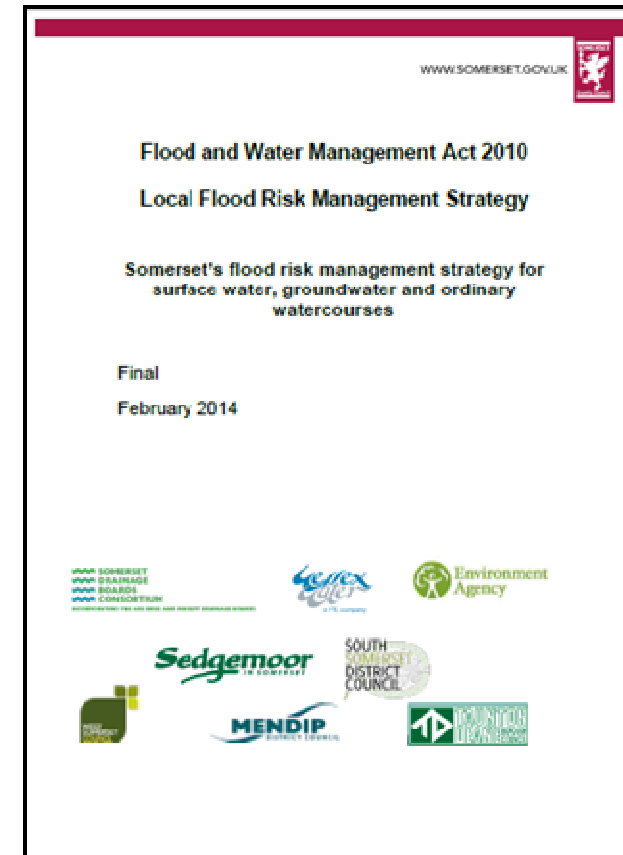
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Programmes of work

Actions within our Local Flood Risk Management Strategy. SCC will:

- **Make best use of partnership arrangements and to work with other organisations and stakeholders;**
- **Work with partners to, identify and submit new projects for funding approval.**
- **Continue to undertake local studies and assessments;**
- **Focus on areas where the greatest social, economic and environmental benefits can be delivered using a catchment wide approach;**
- **Seek new and alternative sources of funding to 'top-up' funds so more local flooding schemes can progress;**



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Looking forward: works in 2018/19

Diminishing number of good engineering schemes linked to local sources of flooding – “quick wins” have been addressed.

Smaller work programme but focuses on our duties/responsibilities.

Bring our work back to the actions in the LFRMS.

Studies focused on local flooding, its mechanisms and consequences (including future risk). Build our candidate list.

Evidence to support strong bids for funding for flood alleviation schemes.

Applications (this week!) for SRA funding to support enhancements to our service:

- Creation of an enhanced asset database
- CCTV surveys of culverts
- Riparian Enablement and Enforcement Officer including increasing understanding of roles
- SuDS Developer Guide
- Sponge 18/19 – further match funding for our EU sustainable drainage retrofit project

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SuDS in the planning process

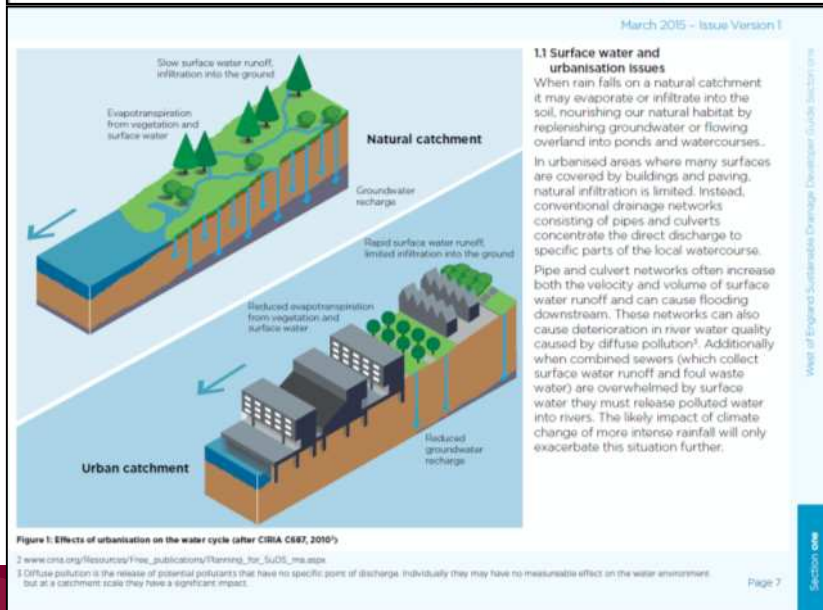


Regional Developer guide signposts to existing policy and guidance – want to create locally specific additions.

SuDS review – look at a sample of development sites where SuDS have been constructed. What can we learn.

Large proportion of developer constructed SuDS privately maintained and so construction is not inspected.

SuDS Inspector Service – ensure drainage schemes are built as specified. Service offered to Local Planning Authorities.



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Demonstration Projects

SPONGE2020 EU funded with other contributions including the SRA.

Create showcase SuDS sites in Somerset

Raise awareness of SuDS and the multiple benefits they can offer.

Encourage the uptake of SuDS.

Compare with traditional techniques

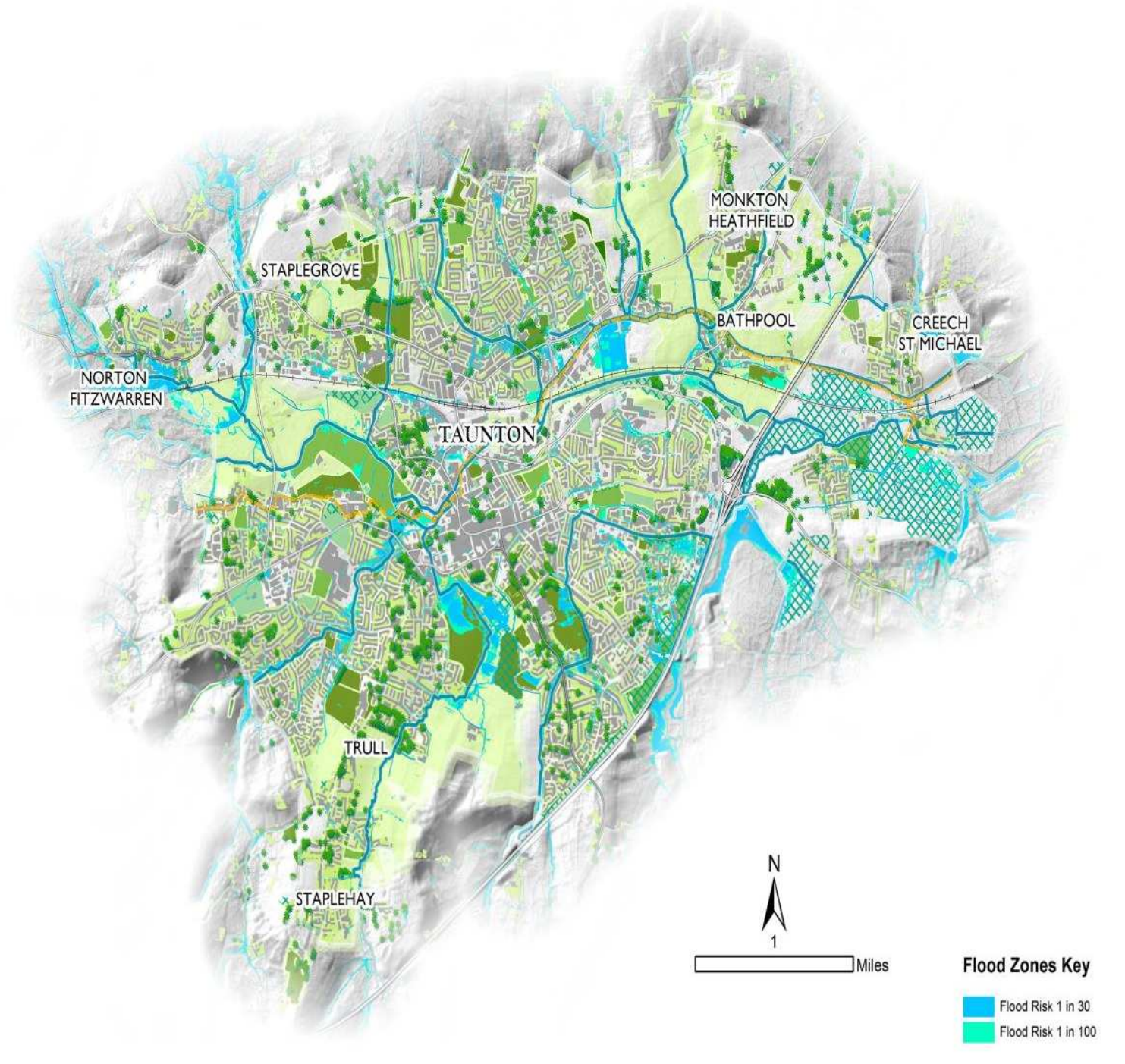


SPONGE SOMERSET

..visit somerset-sponge.org..

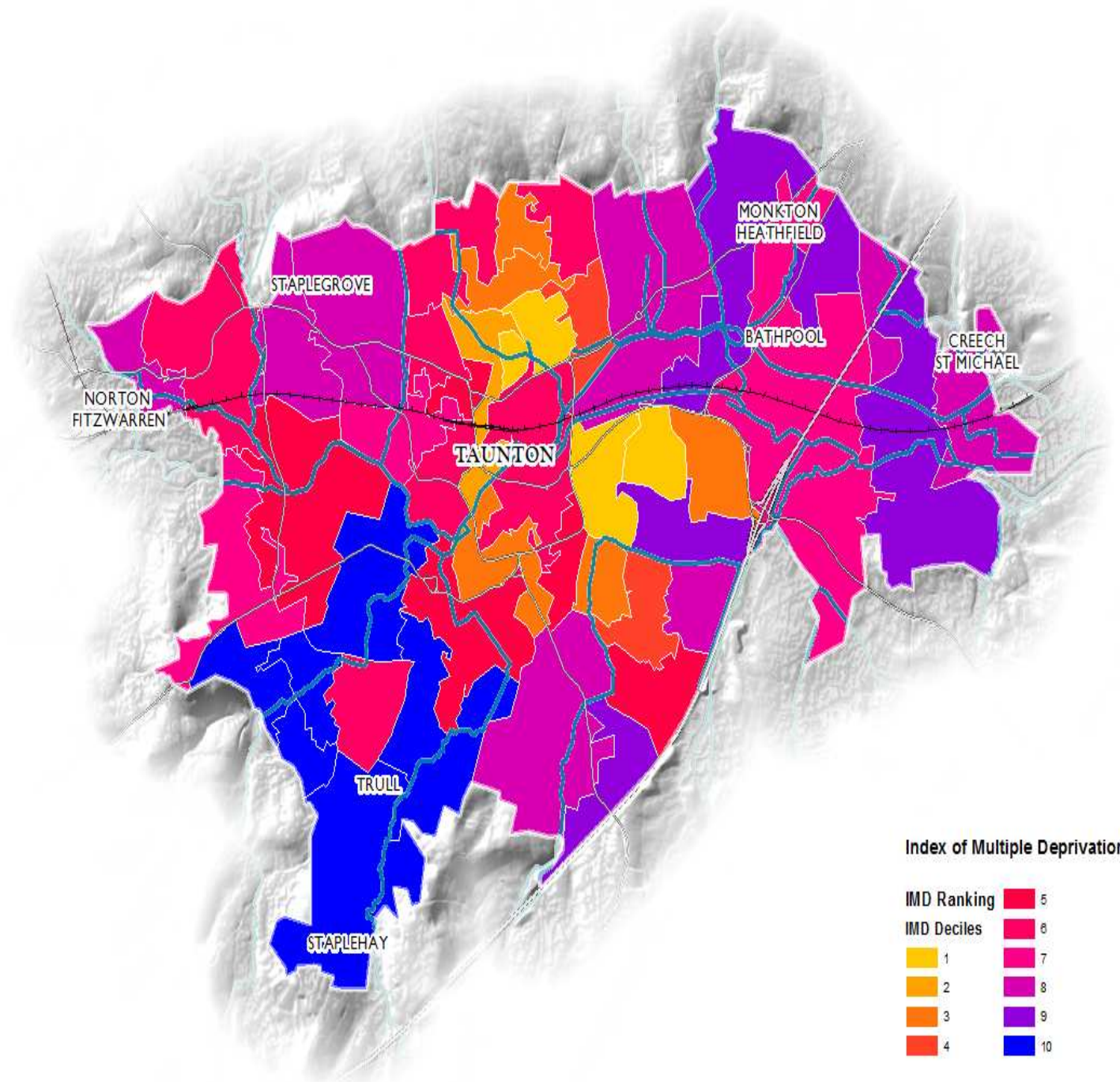
Surface Water Flood Risk

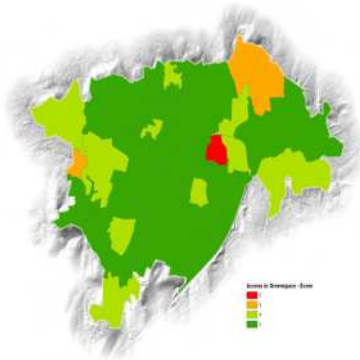
Modelled 1 in 30 and 1 in 100 surface water flood maps. Data from the Environment Agency.



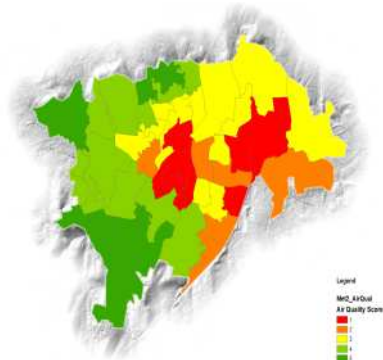
Index of Multiple Deprivation

Decile ranking of IMD data, showcasing multiple factors of deprivation combined.
Decile 1: 10% most deprived neighbourhoods in the country
Decile 10: 10% least deprived neighbourhoods

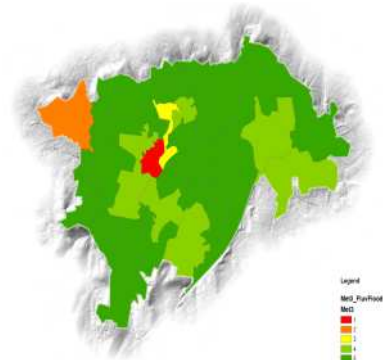




Access to Greenspace



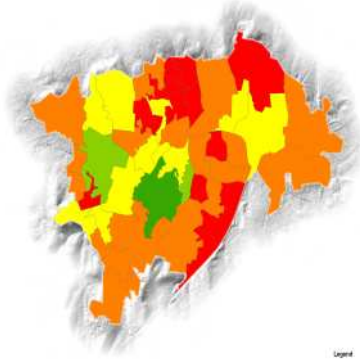
Air Quality



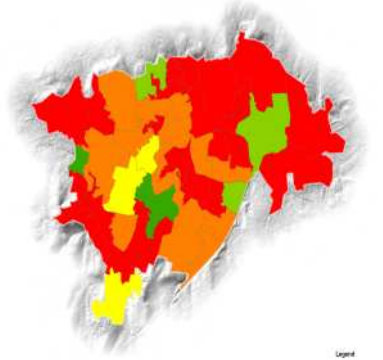
Flood Risk (Rivers and Sea)



Flood Risk (Surface Water)



Aesthetic Value



Recreation opportunities



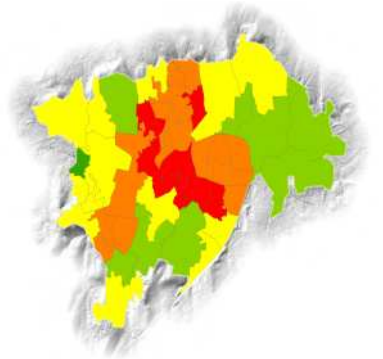
Water quality



Low Flows



Priority Habitats



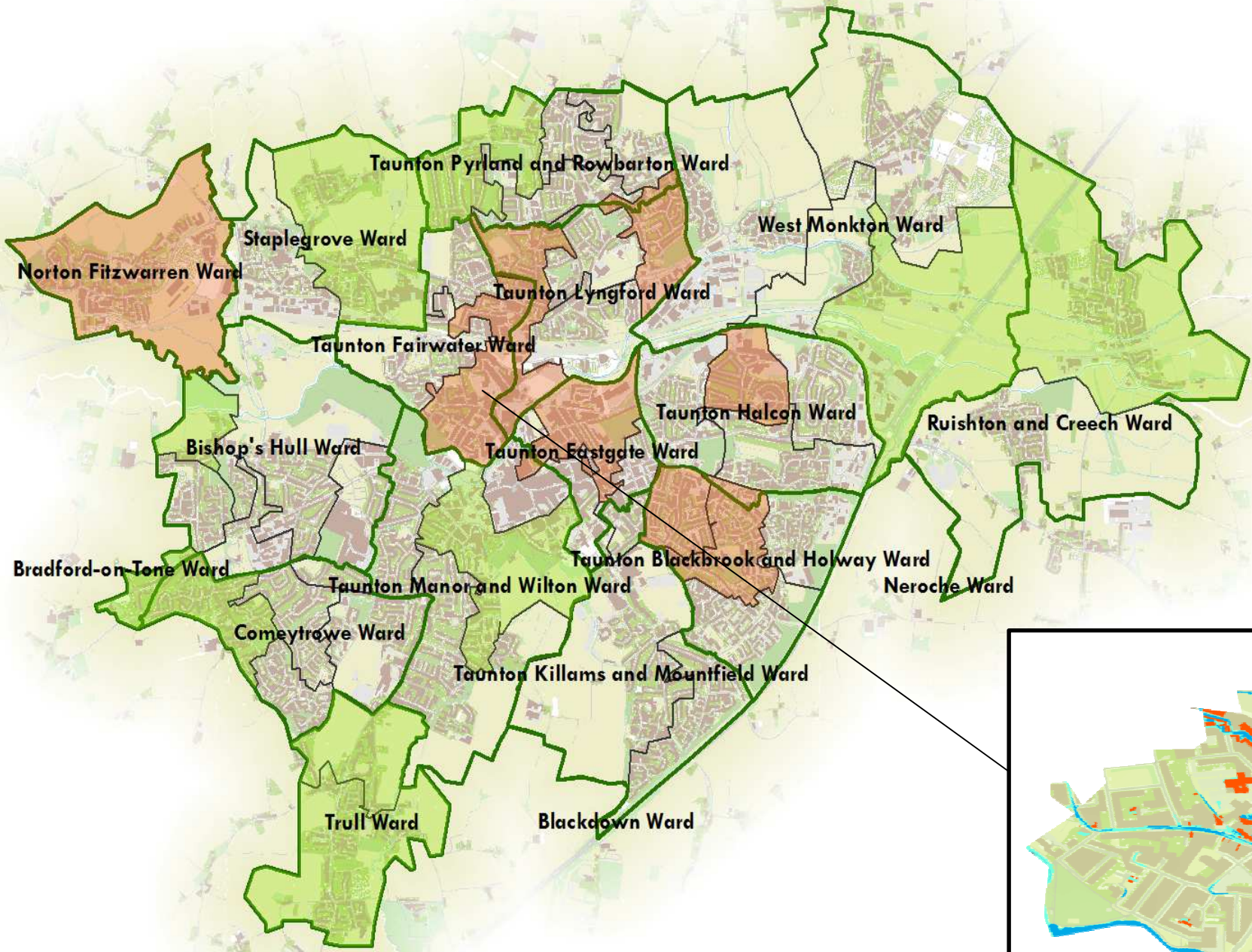
Temperature



House price

Multiple indicators to allow targeting for multiple benefits:


- **Social**
- **Environmental**
- **Cultural**
- **Economic**





Bridgwater Tidal Barrier

- Important part of the Flood Action Plan
- SRA supported; partnership between the Environment Agency and Sedgemoor District Council
- After previous consultation two sites put forward, Site 4 and Site 5



Site 4

- Can minimise flood risk to existing and future development in north Bridgwater
- Construction impacts to residential and commercial property would be minor.
- No space constraints for construction.
- Large upstream storage volume in the river channel.

The estimated costs* of a tidal barrier and associated banks for **Site 4** are:

- **Site 4** £65M – £80M

* Total project cost estimate includes design/development, legal, land, construction and contingencies

There are still some issues to be addressed and these will be considered in detail at the next stage.

These include:

- The type of gate, rising sector or vertical lift.
- The extent and alignment of the improved downstream defences.
- The impact on silt movement in the River Parrett.
- Mitigation for environmental impacts that cannot be avoided.
- Construction methodology and access.

Site 5

- Works effectively for flood risk management
- It has an acceptable level of environmental impact.
- Would not be out of character with the adjacent built environment.
- Minimal impact on navigation.

The estimated costs* of a tidal barrier and associated banks for **Site 5** are:

- **Site 5** £45M – £60M

What do you think?

Please ask our staff any questions that you have about the scheme and then provide your comments via the feedback forms provided.

If you would like to send in your comments later please email your response to bridgwater.barrier@environment-agency.gov.uk

We will collate all feedback from this consultation and make a decision about the preferred barrier site in October 2016. We will produce a summary of the consultation which will be available from the late autumn. This will be available to view on Sedgemoor District Council and the Somerset Rivers Authority websites

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Bridgwater Tidal Barrier

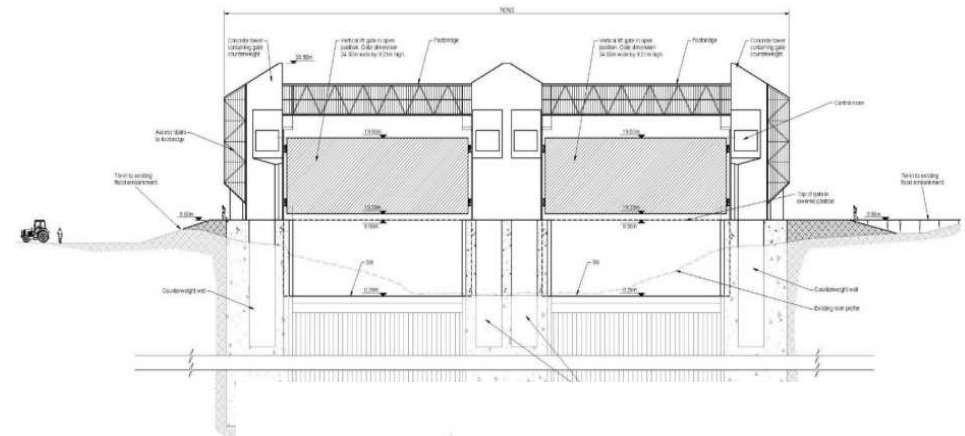
Site 5 – between Express Park and Chilton Trinity village - favoured

- More affordable than Site 4
- Narrower part of the river: less maintenance costs
- Works well for flood management
- Less impact on the natural environment
- Better chance of getting relevant permissions
- Several points of access for construction vehicles
- Fits with aspiration for pedestrian bridge linking Chilton Trinity with Express Park (aligns with the Bridgwater Vision)



The Proposed Barrier - Vertical Lift Gate

- ∇ Gate type – Vertical Lift in two sections
- ∇ Gives more flexibility
- ∇ Allows continued navigation during maintenance
- ∇ Proven reliability in silty, tidal environment
- ∇ Lower maintenance and operational costs
- ∇ Similar technology to other Somerset sluices - no requirements for specialist staff
- ∇ Ability to be used to pen water for potential future amenity uses
- ∇ Potential to flush silt beneath the gate to assist maintenance
- ∇ Potential to add pedestrian bridge and cycleway



Latest Situation

Baseline environmental surveys done

Project Team engaged with Parish Council to address concerns about location of the barrier and impacts downstream

Presented to NFU and had landowner drop-in session

Working on collaborating with IDB on silt monitoring

Cost looks to have increased – £60m to £70m

Will deliver through a TWAO – Transport and Works Act Order

Downstream defences – delivered through EA powers and a planning application

Complete design, economic and cost assessments

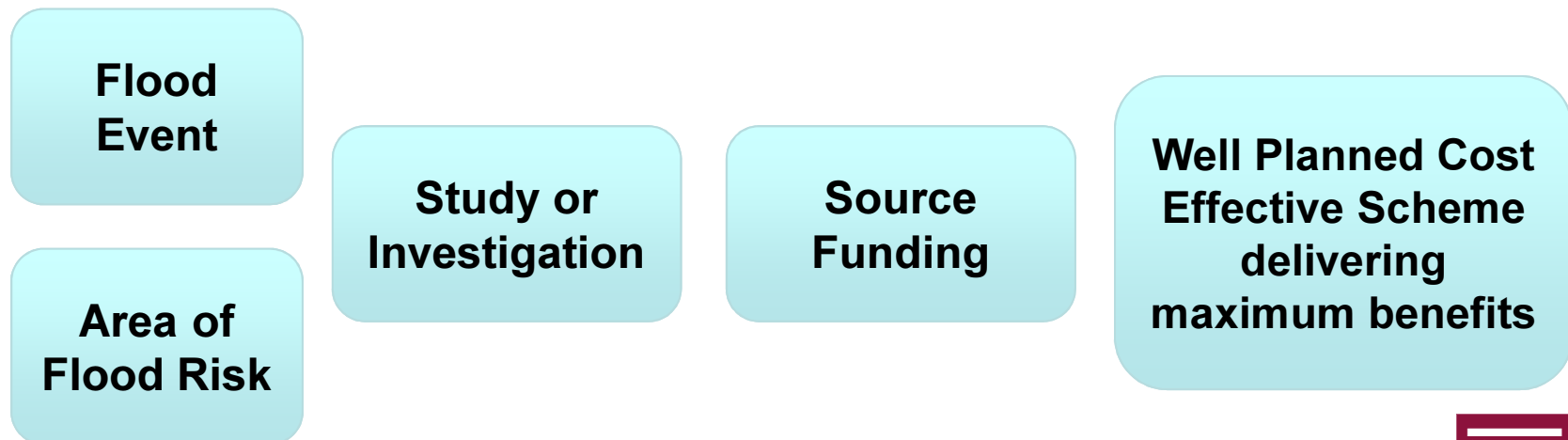
Environmental Impact Assessment preparation

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The Future of the Service: Review to Deliver Improvements

- Funding:
 - Making the most of our budget by being strategic about our use of SCC's flood and water management funding, and making sure we spend it to bring maximum benefits



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The Future of the Service: Review to Deliver Improvements

- **Leading and working with District/Borough Councils** to make the most of SUDS as part of developments
- **Making the most of our partnerships** such as the SRA and ensuring the County Council has a high profile in flood management.
- Put in place a bespoke **high quality developer guide on SUDS** for all planning authorities in Somerset to adopt.
- **Pioneering SUDS techniques** which will help flood alleviation in the county and achieve multiple benefits such as improving our urban and water environments.

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The Future of the Service – a Review to Drive Improvements

- **Refresh and promote our policy documents.** Monitor and report on their delivery; make it clear where we are focusing our activity.
- **Working with local communities and Members** to further build knowledge of local flood issues and to inform funding bids.
- Working with District/Borough Councils to explore and deliver a **consistent level of service on drainage expertise** across the whole of Somerset.

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I have a dream of SUDS....

- Being **integrated** into the design of sites as part of the landscaping – it is not something to be thought of separately
- Delivering **multiple benefits** – amenity, biodiversity, water quality, green space, vegetation, economic benefit, health and wellbeing
- Of **adopted award winning guidance** that meets the needs of everywhere in Somerset
- Of **high level engagement** throughout the whole development process – and not just for “Majors”
- A **consistent approach** across the whole county for with planners confident of how to deal with SUDS
- It's more about **water management than drainage**

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**Integration
into site
design is
the way
forward**



Next Steps

- Team session to draw up a comprehensive plan for future
- Work with the Cabinet Member and Junior Cabinet Member
- We will report back to Scrutiny in due course
- We welcome Members comments/suggestions on our the direction of the service at any time
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- Dan Martin djmartin@somerset.gov.uk

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