

Taylor Wimpey

Delivering SuDS at Grangewood Manor



Ciria Susdrain Presentation – March 2014


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Taylor Wimpey

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(25 minutes)



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Taylor Wimpey Introducing Taylor Wimpey

- One of largest residential developers in UK
- We build over **10,000** homes each year ranging from one-bedroom apartments to six-bedroom homes and have 24 regional offices.
- We are a responsible homebuilder and health and safety is our non-negotiable top priority.
- We are a public limited company (plc) and listed in the FTSE250 index. Our vision is to create value and deliver quality becoming the UK's leading residential developer.
- We do much more than build homes.
 - Community engagement
 - We strike partnerships
 - We bring places to life breathing investment into communities
 - We develop sustainable communities (Socially & Economically)

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Taylor Wimpey Site Background Information

- 9.85ha and located in rural Leicestershire
- Originally promoted by our Strategic Land team
- **Outline Planning Permission granted in July 2012**
- Outline Consent restricted site to **145 homes (37 are affordable)**
- Site supported by Design & Access Statement and Master Plan
- **Reserved Matters Approval granted in March 2013**

APPROVED

APPROVED

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Taylor Wimpey Site Background Information




Taylor Wimpey at Grangewood Manor, Leicester Forest East. Leicestershire



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Taylor Wimpey Drivers for SuDS

- Outline Consent required a **Sustainable Approach to drainage**
- Water Authority's policy **not to** adopt any balancing facility or allow a private management company to maintain feature. This meant.....
- **No** S104 Approval and **No** future adoption for a Traditional Approach
- To get to grips with the **FWMA** and to put Taylor Wimpey at the forefront of **SuDS**
- **Entered negotiations with LCC as future SAB (Partnership)**



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Taylor Wimpey Design Criteria


- Discharge rate restricted to greenfield run-off as per approved FRA. QBAR rural **(14.9 l/s)** used based on positively drained areas
- Positive outfall to existing on-site ditch
- **Flood protection** up to 100yr + 30% climate change of **critical storm duration**
- Offer as much drainage as possible for adoption
- **No** infiltration – BRE soakaway testing undertaken as part of site investigation works
- Design to be in the image of **FWMA and Draft National Standards**

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Taylor Wimpey Design Process & Relationships

The Journey

- Produce a blobby plan.....
- 'A conceptual drainage design to accompany planning documents' – **Before plan**
- Conceptual design produced and met with LCC to discuss drainage and adoption strategy
- Drainage design developed to fully meet LCC requirements
- Second meeting held with LCC to discuss design in detail



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Taylor Wimpey Design Process & Relationships

Lots of engagement with LCC!

Consultant
Engineer

SAB officer
Highways
Architect

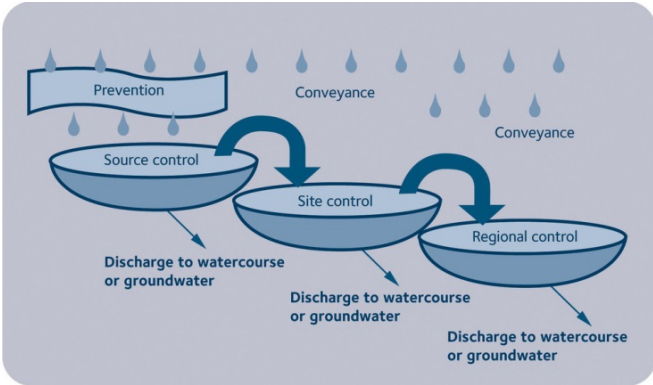
Biscuits



Picture taken on 09.09.13 at TWEM offices

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Taylor Wimpey Design Process & Relationships



FUTURE SAB CONSENT ✓

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Taylor Wimpey Design Process & Relationships

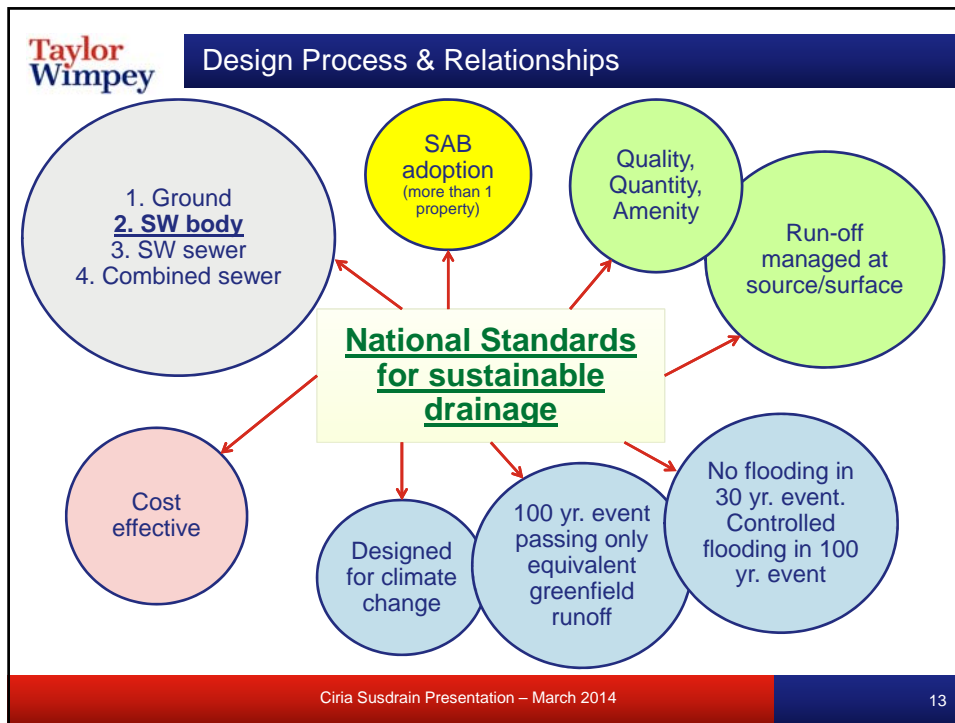
- **Prevention** – Reduce drained areas where possible
- **Source Control** – Permeable paving incorporated for minor roads/private drives
- **Site Control** – Conveyance swales and filter drains
- **Regional Control** – Detention basin at bottom of site with restricted flow rate

Approach ticks quality, quantity and amenity requirements and LCC agreed to adopt all storm water drainage features

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Taylor Wimpey Design Process & Relationships

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Taylor Wimpey Design Process & Relationships

- **To compare.....the “Traditional Approach”**
- Offer 1 in 30 yr pipes and storage to STW under S104 submission. 1400m3 required achieved by 800m or 1500Ø pipe.....**OUCH!**

- Exceedance storage up to 100yr + 30% climate change contained in balancing lagoon. 950m3 required. Balancing lagoon to be offered to **?????** For adoption
- **Remember – Water Authority do not accept management companies**

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Taylor Wimpey Design Process & Relationships

- **Traditional vs. SuDS.....The SUDS Triangle**

“Traditional Approach” ❌

“SAB/SuDS Approach” ✅

FUTURE SAB CONSENT

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Taylor Wimpey Design Process & Relationships

- **The “SAB/SUDS Approach”**

Leicestershire County Council

Leicestershire County Council

Leicestershire County Council

FOR APPROVAL

BEGGARS LANE, LEICESTER FOREST EAST
PART OF PLAN (NGR 452108, 302429) SITE CENTRED

Ipp Consulting

Taylor Wimpey

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Taylor Wimpey Construction & Commercial Feedback

Maximum water level
100 thickness
800
IL VARIES
1
4
500
1
4
1
Impermeable membrane
Type B filter material to clause 505 of the current Highways Agency Specification for Highway Works.
225mmØ Surface water carrier pipe

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Taylor Wimpey Construction & Commercial Feedback

Picture of Permeable Paving Under Construction

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Taylor Wimpey Construction & Commercial Feedback

Traditional vs. SuDS

Traditional e/o build cost = **£472,270.80**

SuDS e/o build cost = **£397,068.78**


Saving = £75,202.02

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Taylor Wimpey Public Engagement

- **SuDS as a sales feature.....**



'We are Sustainable developers and your new home is a sustainable place to live'



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Taylor Wimpey Public Engagement

Future Idea.....



Information Boards?

- What is this?
- Why is it here?
- What does it do?
- School Visits – wildlife?

Balancing Lagoon at Grangewood Manor – Part complete

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Taylor Wimpey Lessons learnt


- **Pre - Planning** - Surface water features to be identified **ASAP**
- **Planning** – Upfront dialogue Key – ‘**Blobby plan**’
 - Design around the surface water features – **Not Constraints**
- **Design** – Obvious but....agree design parameters before detailed design
- **Construction** – Allow additional time to construct features

All party buy in.....Not Just Technical

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Taylor Wimpey Taylor Wimpey

- **SuDS or duds?**



- **8 New sites starting in 2014/2015 – ALL WITH SuDS**

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Taylor Wimpey Taylor Wimpey

*“Taylor Wimpey seeks to always **work** with stakeholders within the **communities** where we build our homes. We have been designing and installing sustainable drainage systems for some time, but this is the first time that our **holistic** approach to good consultation and design has been used. This will now see the adoption of a place making **feature** that has a proven practical solution. We are delighted that our approach is seen as a benchmark and a way forward to how working together can bring about sustainable solutions that everyone can be proud of, whilst also bringing about a guaranteed long term **management** for all concerned”*

Dominic Harman– Managing Director

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Taylor Wimpey Taylor Wimpey

*“Although I was initially concerned regarding the **costs** of SuDS on this development, my concerns were eased when the costs comparisons were produced for this development. I am looking forward to the introduction of the FWMA to provide a **level** playing field for all developers alike.”*

Colin Williams – Land Director

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Taylor Wimpey Taylor Wimpey

*“When the engineering team discussed the possible use of SuDS on site I was concerned that it might increase build **costs**, creating a negative impact on the business and future land purchase. After tendering a ‘like for like’ **traditional** system it has shown that deep oversized sewers and manholes are more **expensive**, especially if surplus spoil is taken off-site. Increase in savings could be seen at adoption due to shallower features outside of the constructed roads. In summary I believe SuDS will **enhance** our sites and **maintain** our **cost** base”*

Mark Caines – Commercial Director

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Taylor Wimpey Taylor Wimpey

*“A **clear route** to production and future adoption on this site through the **holistic design** approach has allowed the team to **programme** and deliver the businesses aspirations on this site. I am pleased that **deep** excavations for traditional storage pipes have been designed out in the SuDS approach, making the work environment **safer**.”*

David Beeston – Production Director

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Taylor Wimpey Taylor Wimpey

*“SuDS drainage at Grangewood Manor has **enhanced** the development and created lush green areas giving the development instant **kerb appeal and interest**. Customers are **fascinated** to learn that the lagoons and swales are drainage solutions and **love** the areas of **open space** that they create, in fact we have customers who are **waiting** for plots adjacent to the swales”*

Mariana Knight – Sales & Marketing Director

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Taylor Wimpey Taylor Wimpey – Food for Thought

- Based on the 10 000 home that Taylor Wimpey aim to build this year, if 7 500 (3/4), are green-field and require attenuation, roughly that would be 315 255m³ of storage.
- That's 8 529 route master double decker busses of new storage in the UK this year!



(From just one major housing developer)

- The management of surface water and our approach to flood water management is clearly **significant**. From our regional perspective, we welcome and encourage developing partnerships with area SAB's and, we would ask the this positive engagement is embraced by Consultants, Developers and Authorities alike.

Thank you

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