

James Road, Crowland

Design Principles and Design Code

July 2019

Client: AD, RM, JM & B Alcock

Project: Outline application for the erection of up to 6 self/ custom build flood resistant, eco homes

Project no: 421

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1.0 Introduction

1.1

This Design Principles and Design Code document accompanies an outline planning application for the erection of up to 6 flood resistant self build/ custom build eco homes with access from James Road.

1.2

The application has been submitted in outline with all matters reserved except access. An illustrative site layout, illustrative house design, Design & Access Statement and illustrative artists impressions have been provided which indicates how the site could be developed to provide a safe sustainable environment for the occupants of the new homes.

1.3

This statement forms part of a series of reports and documents submitted in support of the planning application.



2.0 The Vision

2.1

The vision for these proposals is driven by an aim to create high quality, highly sustainable homes which demonstrate that flood risk can be dealt with through carefully considered design that ensures that occupants are free from danger and creates a scheme that compliments and integrates well with Crowland as well as the general Fen landscape.

The proposals also aim to promote the Governments aspirations to improve the supply of land for self-build/ custom building by providing a site of sufficient size and density which would be an attractive proposition for self-builders. The provision of self-build serviced plots adds diversity and variety to the housing market, offering an alternative to mass developer housing. The Government also seeks to improve the variety of sizes of sites offering opportunities to smaller builders and self-builders. Currently there are 42 applicants on the South Holland District Council register and these proposals aim to make a contribution in reducing the number of applicants awaiting serviced plots within the South Holland District.

It is felt that these aims are exceptional aspirations and this scheme would be the first of its kind within the South Holland District.

3.0 Local Character Analysis

3.1 Road Pattern Analysis

Crowland is a typical Fenland settlement, located along the A16 between Spalding and the city Peterborough. The historic centre of Crowland is defined by roads built between buildings which follow the building form.

As the settlement has grown from the main routes in and out of Crowland road forms and patterns have evolved according to the prevailing design aspirations at the time. This has led to stronger road dominated patterns with buildings set back from footpaths. More modern developments off the main routes incorporate cul-de-sac type road arrangements.

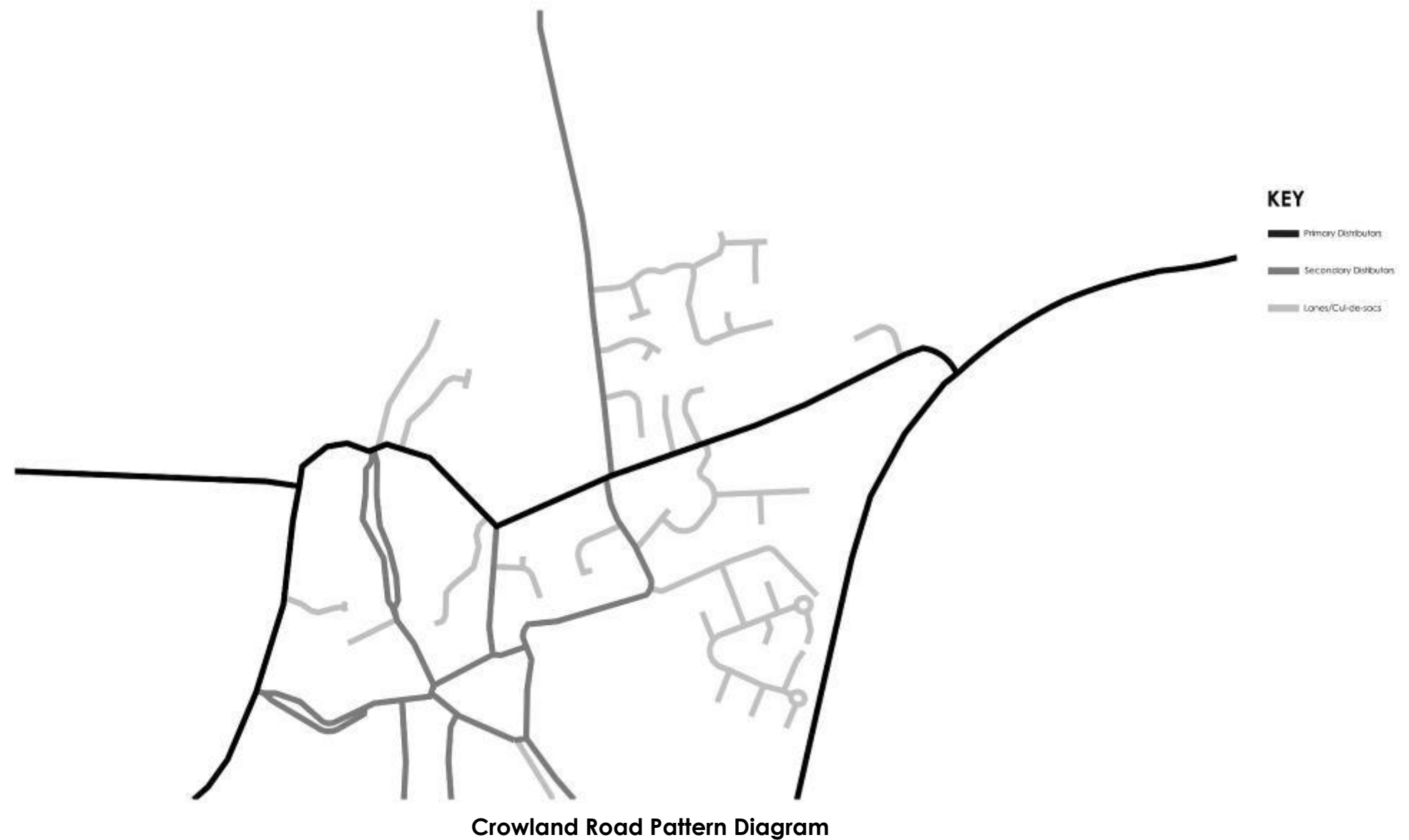
3.2 Character of Historic Core

Crowland's historic points of interest are predominantly the medieval Abbey and Trinity Bridge, both of which are Scheduled Ancient Monuments. The town has historically grown from the Abbey in a radial pattern with the oldest buildings at the centre and more recent development towards the outskirts.

Development has become constrained in recent years by the bank to Crowland High Wash to the west and James Road to the east. This has forced the majority of new development to the north and south of the settlement.

Crowland displays a blend of traditional architecture at its heart bounded with more modern constructional types of the last 100 years. The majority of the buildings along North Street, West Street and East Street date from the eighteenth Century interspersed with buildings from the nineteenth and twentieth Centuries.

The majority of buildings are now residential in composition with some commercial uses at the centre of the town and on the outskirts of the settlement.



3.3 Urban Form

Buildings towards the centre of Crowland are generally two or three storey in form, with a mix of single, two and three storey buildings in more recent post second world war development off the main routes into the town.

There is some variety in scale and type of frontage to buildings. Streets at the centre of Crowland take the form of continuous terraced blocks with forms taking that of semi-detached or detached properties on the outskirts of the town. Postland Road to the north of the town centre is predominantly a mix of single and two storey homes in detached forms.

3.4 Materials

The central core of Crowland displays a varied palette of materials due to the sporadic nature of construction throughout its history.

Buff stone, red brick and white render are predominantly found around the town centre. Most brickwork is plain with contrasting window heads. Roof materials are predominantly grey slate with some red clay pantiles, thatch and more recent concrete replacement tiles.

With younger properties towards the outskirts of Crowland, materials become more generic with a mix of red, orange and buff brickwork combined with concrete interlocking roof tiles. Very recent developments to the south of the settlement have attempted to more reflect the core materials of Crowland.

Chimney's are present on the oldest buildings towards the centre of Crowland but these become very sporadic as the buildings radiate away from the centre. Chimneys are seen

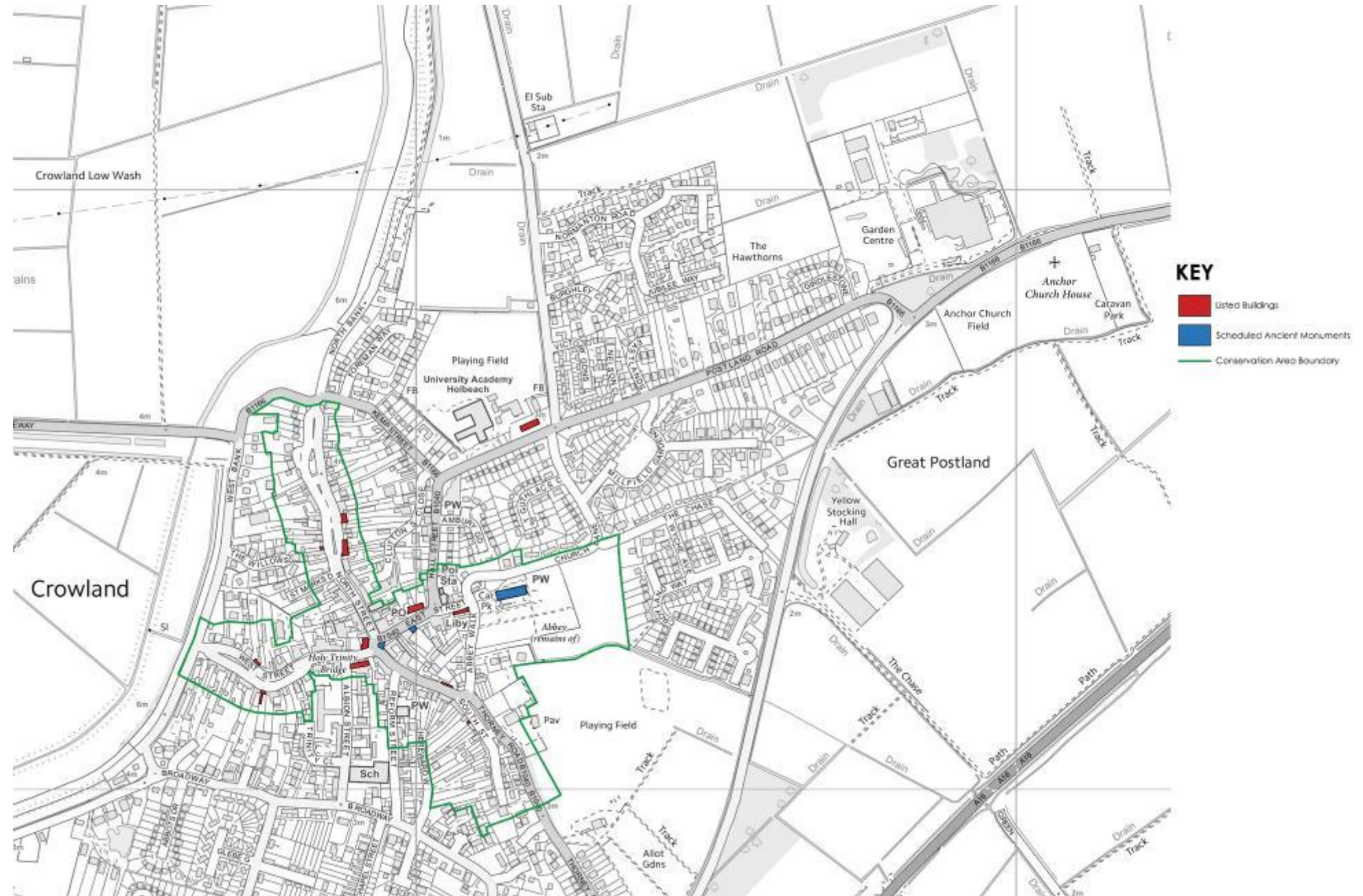


Diagram of Listed Buildings & Conservation Area within Crowland UPDATE PLAN?

as important details at roof level, and fortunately many buildings in the historic core have retained their original chimney's.

Commercial buildings around the outskirts of Crowland are a typical mix of buildings commensurate of their age. Profiled steel cladding is apparent to walls and roofs of varying colours as well as Fletton brick and cement profiled sheet cladding. Roof pitches are generally low with cloaked eaves.

3.5 Architectural Detailing

The details of the majority of the buildings within the centre of Crowland are in keeping with their period, with Georgian and Victorian windows, doors, arches and lintels very typical. A significant amount of the buildings at the core Crowland have retained their original sash windows; however, retail development and the installation of shop fronts have influenced the cohesive street scene at ground floor level.

More recent residential developments to the north and south of the town centre are typically very plain in appearance with little brick detailing and the use of double-glazed casement windows.



Crowland Caravan & Camping building to the west of the site



Simple properties with little architectural detailing along Girdlestone Walk



Crowland Garden Centre building to the south of the site



Variation of street scene at the corner of North Street and East Street, Crowland

3.6 Streets, Lanes, Drives/ Tracks

Crowland has a mix of both wide streets with footways on both sides and narrow lanes with limited footways. Most roads are tarmac finished with a strong kerbline which dominate the street scene.

Drives within the main built up area are a mix of gravel, tarmac and block paving. Outside of the main built up area drives and tracks are less formal, incorporating hardcore bases, gravel/ tarmac chippings and grassed informal edges. There are four cul-de-sacs off Postland Road which provide access to small numbers of properties over gravel drives.

Within the previous submission it was asserted that the proposed access road would be an incongruous feature within the area and provide a hard edge to Crowland. This is hard to reconcile given that there are three typical examples of this type of track/ road within the vicinity of the application site (see next page). All provide a typical soft agricultural feel to the tracks/ roads with grass and landscaping being allowed to dominate the edges so that when seen from a distance they appear as green swathes across a horizontal landscape rather than a hard kerb line.

Parking is a mix of on-street parking and on-plot parking. Informal shared accesses are apparent through out the town which lead to on-plot parking adjacent to properties.



Variation of road and drive materials and arrangements along North Street



Homes set back from the road with brick wall or hedges at the back of the footpath



Existing gravel drive off Postland Road serving multiple dwellings



Existing farm track/ road 500m to the east of the site off James Road



Existing farm track/ road 1000m to the north-west of the site off Clout Drove



Existing hardcore drive off West Bank



Existing farm track/ road 750m to the east of the site off James Road



Existing hardcore drive off North Bank

3.7 Landscaping

Crowland has some key areas of landscaped areas. The 'Greens' and the trees in West Street, North Street and South Street are seen as an integral part of Crowland. Snowden Field off Thorney Road is unique to the District providing the town with significant playing fields which exceed the minimum specified need. The lake is also an unusual feature providing recreational space for walking and fishing.

The landscaping surrounding the site is dominated by soft landscaping with an agricultural feel with soft edges to footpaths, tracks and roads. The entrance to Crowland from the north-east along James Road is clearly defined by trees bounding Crowland Garden Centre.



Landscaped area of West Street



Playing Fields



**View of Site and adjacent Crowland Garden Centre
from north-east James Road**



**View of Site from north-west showing existing dense
woodland**



**View of Site from Clout Drove showing that the existing
dense woodland obscures views**

4.0 Proposed Development

4.1 Road Pattern

As the site is limited in numbers it is felt that a cul-de-sac arrangement is the most appropriate road pattern. This generally follows existing road patterns within Crowland with several existing cul-de-sac's being apparent off Postland Road.

4.2 Architectural Form

The illustrative Site Layout that accompanies this application demonstrates that up to 6 dwellings can be accommodated on the site in an architectural form that sits well with its surroundings. Buildings around the site are limited and therefore it is felt that simple principles should be used in the composition of buildings within the proposals. It is proposed that simple linear blocks are used interspersed with gables, this provides a simple form street scene with variation and interest.

4.3 Materials

Crowland has a reasonable variation of materials with the high quality materials being mainly apparent within the town centre. The proposed site sits on the outskirts of Crowland and as such is not seen in relation to the high quality materials of the town centre but rather in relation to the mass developer housing and commercial buildings on the outskirts of the settlement. On that basis it is felt that a compromised materials palette that reflects the best materials used within Crowland, alongside a reflection of the commercial buildings around the proposed site would be a positive solution to the scheme.

Given that this would mix traditional and modern materials it is felt a modern architectural interpretation would be best suited to using these materials within the scheme.



Elevation from fields to the east into the Site



View of proposed access drive from north-west

4.4 Landscaping

Where possible the proposals aim to retain and enhance landscaping on the site. The site is surrounded on three sides by mature landscaping and it is intended that this landscaping is retained.

Detailed landscaping will be dealt with as part of the Reserved Matters application although a significant amount of new landscaping is proposed within the illustrative scheme.

4.5 Flood Risk

Flood Risk is a common consideration on sites throughout the Fens. Climate change and the updating and accuracy of flood mapping means that large areas of the Fens are now categorised within Flood Zone 3 restricting residential development in these areas. This creates conflict where flood risk meets sustainability and indeed the Districts most sustainable settlement of Spalding is within Flood Zone 3. This creates a situation where to deliver new housing in sustainable locations there has to be an acceptance that new homes will be built within Flood Zone 3.

This is the case with the proposed application site and the site specific Flood Risk Assessment for the site confirms that the occupants of the new homes will be safe for the life of the development subject to the inclusion of mitigation measures. In general terms this means that all habitable rooms should be a minimum of 1.3m above the existing ground level with all ground floor accommodation constructed in flood resistant materials.

This is not entirely unusual and different interpretations of this type of solution have been created in different areas of the country.

John Pardey Architects Hind House sits on the bank of the River Lodden near Wargrave. Their solution to flooding was to raise the house up on stilts. This is seen as a good solution where sites are not exposed and the elevated building sits well within the landscape.

Larkfleet Homes elevating house is a technological solution to the flood risk problem and does provide a positive in that the house would look very traditional and mainstream in its appearance. The home would be elevated hydraulically in times of potential flooding but could not be occupied.

Cowper Griffiths choice of solution in dealing with flood risk on the 'Arboretum' home on the north Norfolk coast was to create a home with non-habitable space on the ground floor constructed in flood resistant materials. Habitable space is kept to the first and second floor with a room in the roof type arrangement. This is seen as a highly desirable solution as it takes the best of both worlds by ensuring the occupants are safe at all times from flood water but also creates a more traditional looking home which would sit well within the Fen landscape. On that basis it is felt that this solution should form the base solution of the Design Code.



'Hind House' - John Pardey Architects

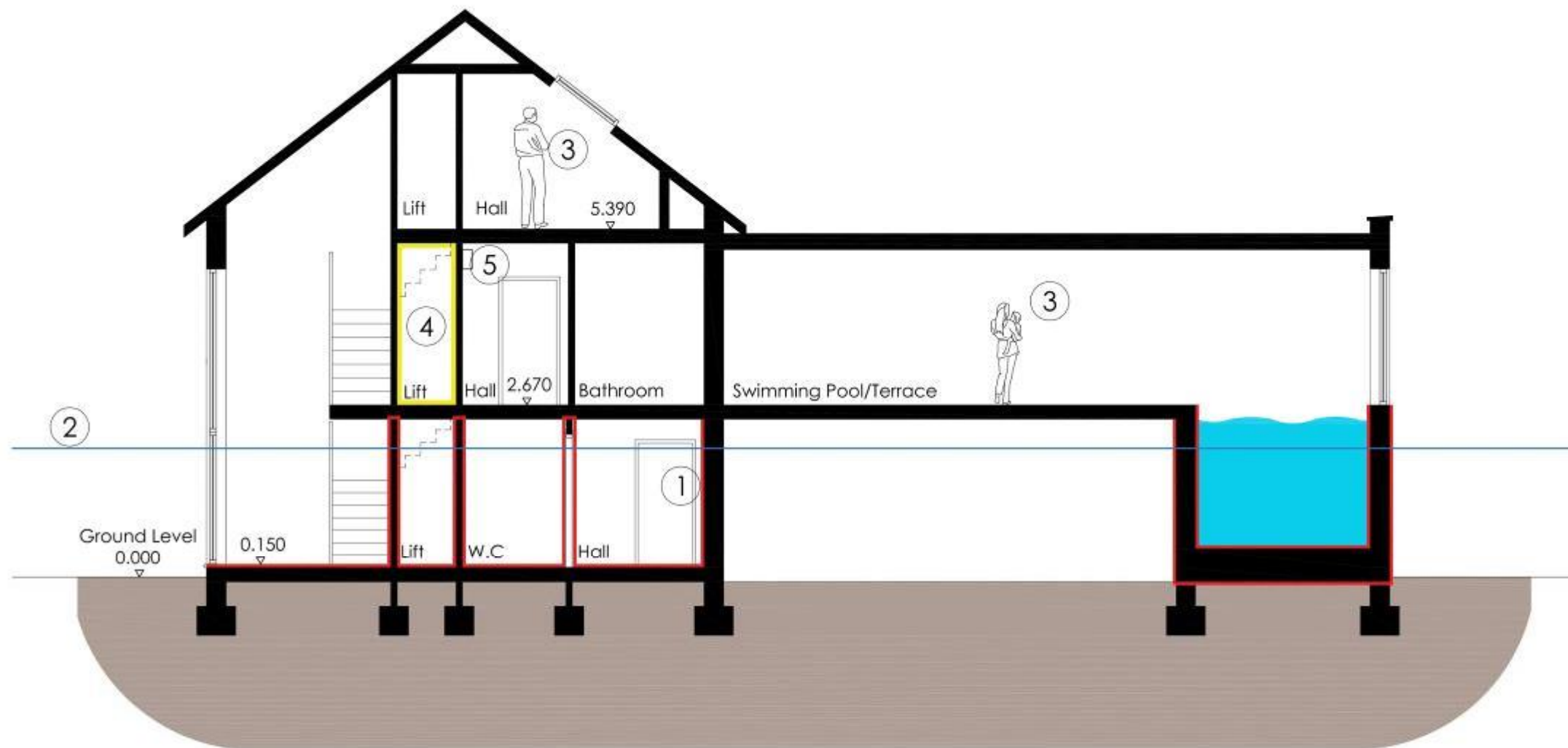




'Elevating House' - Larkfleet Homes



'Arboretum' - Cowper Griffiths



Flood Resistant Measures

- 1 - Flood Resistant Construction Materials to Ground Floor
- 2 - Potential water line in a 1:100 year storm event and climate change should the flood defences breach.
- 3 - Occupants of home safe on the first and second floor and free from danger.
- 4 - Lift safely stored at first floor during times of potential flooding.
- 5 - Isolation switches isolating all electrical & mechanical systems to the ground floor

Flood Measures
Diagram

4.6 Sustainability

The general site wide sustainability principles of the scheme are covered in detail within the Design and Access Statement. However, it is felt that it is worth demonstrating how energy efficient the proposed homes will be in relation to the mass developer housing currently under construction within the District. The best way to demonstrate this is through the use of a SAP assessment.

The Standard Assessment Procedure (SAP) is adopted by Government as the UK methodology for calculating the energy performance of dwellings. The calculation is based on the energy balance taking into account a range of factors that contribute to energy efficiency:

- Materials used for construction of the dwelling
- Thermal insulation of the building fabric
- Ventilation characteristics of the dwelling and ventilation equipment
- Efficiency and control of the heating system(s)
- Solar gains through openings of the dwelling
- The fuel used to provide space and water heating, ventilation and lighting
- Energy for space cooling, if applicable
- Renewable energy technologies

The calculation is independent of factors related to the individual characteristics of the household occupying the dwelling when the rating is calculated.

The SAP rating is based on the energy costs associated with space heating, water heating, ventilation and lighting, less cost savings from energy generation technologies. It is adjusted for floor area so that it is essentially independent of dwelling size for a given built form. The SAP rating is expressed on a scale of 1 to 100, the higher the number the lower the running costs.

A SAP calculation has been prepared for the Plot 6 illustrative home using a traditional developer construction specification (based on current experience) to meet Building Regulations together with a further SAP calculation based on the proposed specification for this project. A synopsis of the calculations is provided below.

The key highlights of the calculation in relation to the A-rated home and its comparison with a typical developer constructed home is as follows:

1. Typical Home Dwelling Fabric Energy Efficiency
45.2kWh/m²/year

Proposed Home Dwelling Fabric Energy Efficiency
43.2kWh/m²/year - **4.5% IMPROVEMENT**
2. Typical Home Carbon Dioxide Emission Rate 12.54kg/m²/year

Proposed Home Carbon Dioxide Emission Rate
0.31kg/m²/year - **97.5% IMPROVEMENT ON CARBON EMISSIONS**

Based on the model SAP calculations produced the proposals can be seen as providing new homes that are significantly more sustainable than a new home which currently meets Building Regulations. In fact the new homes would produce around carbon dioxide equal to only **one third** of a bag of sugar per year. Where as a typical home built to Building Regulations is producing around **twelve** bags of sugar. Therefore these new homes must be seen as a highly sustainable solution to new housing.

5.0 Design Code Requirements for Reserved Matters Planning Applications

5.1 Introduction

Design Codes can be a useful tool for delivering high quality, co-ordinated development of sites. The use of Design Codes to help deliver quality development is underpinned by the NPPF:

‘ Local plans and neighbourhood plans should develop robust and comprehensive policies that set out the quality of the development that will be expected for that area.’

The advice from Government has been consistent over the past six years; specifically that design coding has a place in supporting the creation of high quality development.

Design Codes are generally for use on large sites where a consistent approach to delivery of the scheme is required. The principle remains the same but on a much smaller scale for the proposed application site. The purpose of this Design Code is to ensure that future Reserved Matters applications are consistent with the aims of the outline planning application of a high quality, sustainable scheme which ensures that the home occupants are free from the danger of flood water.

The remaining areas of this section deal with the design parameters to which the detailed design of each home must adhere.

5.2 Monitoring & Enforcement

Monitoring and enforcement is crucial to the long term success of Design Codes. Without the appropriate enforcement, the effectiveness of codes can be significantly undermined. Government advice outlines that monitoring and enforcement can be undertaken by both Local

Authorities and private stakeholders. Where the Local Authority takes on this role it is mainly through exercising normal planning controls.

Monitoring of compliance to a code will be provided by ensuring that Reserved Matters approvals and discharges of relevant conditions are in accordance with the code or are clearly justified in terms of any key areas of non-compliance and that there is always a statement to this effect attached to any such approvals. On site monitoring will be focused around ensuring that development is being constructed in accordance with the Reserved Matters and discharge of conditions approvals.

It is felt given the size and complexity of the scheme that the Local Authority is best equipped to monitor and enforce the Design Code.

Creating a ‘Sense of Place and Quality’

5.3 Road Layout

Given the shape and size of the site a cul-de-sac type road arrangement is proposed as the most appropriate solution.

5.4 Frontages

Frontage character typology is seen as a crucial aspect of the street scene within the scheme. Where possible all plots should adhere to the following criteria:

- Set back from the road, staggered where possible;
- All plots should be detached of varying sizes;
- Frontages may include garages, hedges and fences such as estate rail fencing. Solid walls and fences are

felt to be intrusive within the street scene and therefore inappropriate;

- Distance between each house frontage and street should vary between adjacent plots.

5.5 Rear Private Gardens

It is felt that rear private gardens should be designed to the choice of the occupants, however the minimum must be Included in each plot:

- Provision of a minimum 5000 litre rainwater harvesting tank;
- Provision of a Kitchen garden to enable the occupants to grow their own fruit and vegetables if they wish;
- Provision of a compost bin of at least 900 litres;
- Provision of a garden/ tool shed with a minimum of 1m² floor area for the purpose of tool storage.

5.6 Building Scale

Building scale is crucial within the generally flat landscape of the Fens. Landscaping is limited and views across open fields are prevalent. This is the case on this site and views into the site from the east are considered to be of importance. Having said that flood risk is a key driver within the scheme and this should be taken into account when considering the detailed design of each home.

On that basis it is considered that 2 or 2.5 storey homes are most appropriate.

5.7 Architectural Detailing

Given the location of the site in relation to the town centre of Crowland and the analysis that has been carried out as part of this report it is felt that all new homes within the scheme should be designed in a modern context. The success of any modern architecture is generally thought to be in the architectural detailing which is generally very simple in origin.

On that basis it is proposed that all homes are designed in a modern context which take into account the nearby commercial buildings but in the context of a home.

5.8 Materials Palette

The aim of this section is to encourage a thoughtful selection of materials for the buildings to maintain a high quality of design. The materials palette is designed to ensure that the scheme has a distinctive character that draws inspiration from the vernacular architecture of Crowland and the sites immediate surroundings.

It is of high importance that the scheme should be a place that ages well with carefully detailed and durable exterior finishes that will look as good in 10, 20 and 30 years time as they do when new. To achieve this it is important to consider the long term maintenance regimes from the outset and select materials appropriately.

Proposed Materials

Walls



Black timber/ boarding



Timber & Zinc Cladding



Black profiled steel



Coloured Render

Roof



Slate



Weathered Zinc



Profiled Steel Sheet



Stained/ Charred Timber

Windows/ Doors



Grey Aluminium



Black Aluminium



Oak/ Coloured Front Door



Grey/Black Garage Doors



Proposed Materials UPDATE

Rainwater Goods



Black & Zinc Rainwater Pipes



Roads & Drives



Block Paving



Loose Gravel



Resin Bound Gravel

Boundary Treatments



Estate Rail Fencing



Hedges



Willow Woven Panels



Screen Fences



Modern Batten Fence

5.9 Flood Risk Measures

A key imperative of the scheme is to ensure that the occupants of the new homes within the scheme are safe at all times from the risk of flood water. The following measures are proposed to ensure this:

- All habitable rooms within each home should be a minimum of 1.3m above the existing ground level of the site. Habitable rooms are a– Living Room, Study, Kitchen, Dining Room, Bathroom, Bedroom.
- Flood resistant materials should be used in any construction below 1.3m above the current ground level;
- Electrical or mechanical systems should be located 1.3m above the current ground level or be able to be isolated easily should there be a warning of flooding.

5.10 Sustainability Measures

Sustainability is key to the proposed scheme to ensure that the homes use as little energy in their use as possible and therefore the following measures are proposed:

- Each home should achieve a minimum EPC A Rating with a SAP rating of 100 or above (2012 SAP edition);
- Each home should generate some of its own electricity where possible in achieving the above EPC rating and should store that energy on site in for use in peak times;
- Each home must incorporate at least two permanent electric car charging point;
- Water consumption within each home should be restricted to 80 litres per person per day.

The purpose of these measures is to set a minimum standard of energy efficiency but also allow self-builders the flexibility to look at alternative solutions to those illustrated.

6.0 Conclusions

This proposal for 6 self/ custom-build eco homes addresses a clear need within the District and this combined with an aspiration to create high quality sustainable homes within the scheme with a clearly defined Design Code is exceptional for the District. The architecture within the proposals is of a high level responding directly to the site, its proposed occupants and their need for modern energy efficient buildings.

The proposals aim to offer a design solution for new homes within the flood risk areas of the Fens. Scale and form within the flat landscape of the Fens is crucial and this scheme demonstrates that flood risk can successfully be dealt with through a considered design solutions.

Careful consideration has also been given to the sustainability of the scheme and the proposed homes are designed to significantly save energy as well as being located in a highly sustainable location. Responding to the aspirations of the NPPF in delivering homes which respond to local need and the current and future requirements of Climate Change.

It is therefore felt that this scheme is exceptional for the District and will make a significant contribution to housing need and in particular serviced plots designed for self-builders.

Given the exceptional nature of the proposed application and the Councils lack of allocated land for self/custom build homes it is felt that the application should and could be approved without delay.

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