



## **Quality information**

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### **Revision History**

Revision	Revision date	Details	Name	Position		
Final	22/06/22	Review final Draft	Francis Shaw	Locality		
Second draft	18/05/22	Review First Draft	Marie Gilbert	Local group		
First draft	03/05/22	Prepare First Draft	Marie Gilbert	Local group		

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# 1. Introduction

Cossall Parish Council is in the process of preparing the Cossall Neighbourhood Plan, a document which will guide development within the village.

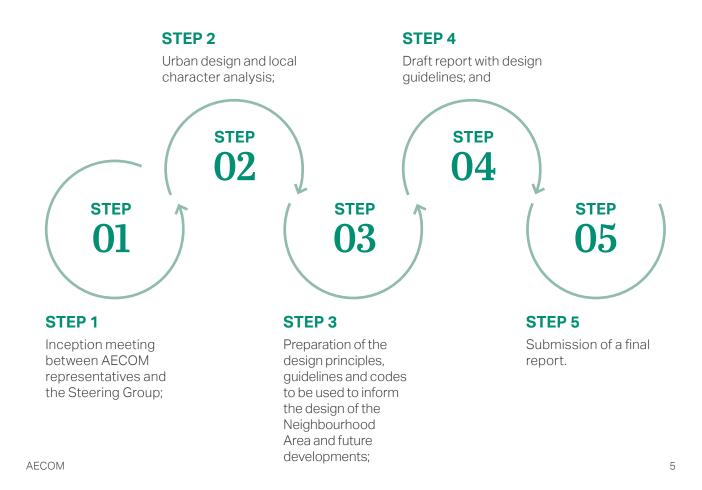
guidance to help to deliver good quality places within Cossall. Locality is a national membership network for community organisations which empowers local people to lead and influence decision-making in their area.

# 1.1 Objectives

Local communities can use neighbourhood planning as a means of changing their neighbourhoods for the better. Through Locality's support programme, Cossall Parish Council (CPC) have appointed AECOM to undertake a study of the Cossall Neighbourhood Area. AECOM has been commissioned to provide a Design Code document, which will provide urban design

### 1.2 Process

The purpose of this report is to provide design principles and codes for Cossall, which can be applied to future development within the Neighbourhood Area.



# 1.3 Area of study

Cossall is a small village and civil parish located 1 mile east of Ilkeston in Nottinghamshire, England. The parish is positioned on the south-western edge of Nottinghamshire, where it shares its western boundary with the neighbouring county of Derbyshire. Nottingham is the nearest large urban area located only 7 miles from the parish. Cossall also lies within the Borough of Broxtowe, the local planning authority being Broxtowe Borough Council.

The built form of the study area follows a linear pattern, fronting several stretches of the parish's primary routes. Cossall village and Cossall Industrial Estate constitute the principal-built areas due to the high concentration of the built form. Overall, the study area has small pockets of development which afford the parish its rural and village character. The majority of the parish is made up of arable farmland and open fields which surrounds Cossall Village and the Nottingham Canal. The Canal winds down the western half of the parish before ending abruptly just outside of the Neighbourhood Area southern boundary.



Figure 01: Traditional building next to Cossall community hall



Figure 02: Cossall Industrial Estate



# 1.4 Planning policy and guidance

# 1.4.1 National Planning Policy Framework (2021)

The National Planning Policy Framework (NPPF) outlines the Government's overarching economic, environmental and social planning policies for England. The policies within NPPF apply to the preparation of local and neighbourhood plans, and act as a framework against which decisions are made on planning applications.

The NPPF states that a key objective of the planning system is to contribute to the achievement of sustainable development, which will be achieved with reference to three overarching objectives. One of these is an environmental objective, which seeks to contribute to protect and enhance the natural, built and historic environment.

The parts of the NPPF which are of relevance to this Design Code are:

- Part 12 (Achieving well-designed places)
- Part 13 (Protecting Green Belt land)
- Part 15 (Conserving and enhancing the natural environment)

# National Design Guide (2019) & National Model Design Code (2021)

Supports the ambitions of the NPPF to utilise the planning and development process in the creation of high-quality places. and Buildings, Resources and Lifespan.

The National Model Design Code provides detailed guidance on the production of design codes, guides and policies to promote successful design. It expands on 10 characteristics of good design set out in the National Design Guide. This guide should be used as an overarching reference for new development where topics are not covered in local guidance.

#### **Environment Act (2021)**

Any new development should be designed with its contribution to the Act's aims and targets safeguarding nature, tackle climate change and providing comfortable living to the residents, achieving high levels of sustainable development.

# A Green Future: Our 25 Year Plan to Improve the Environment (2018)

Calls for an approach to agriculture, forestry, land use and fishing that puts the environment first

Any new development in Cossall should be proposed in the context of the Country's aim for the next 25 years to achieve a greener and cleaner environment and tackle climate change.

# Guidance on the law affecting Habitats Sites, protected species and SSSIs

Guidance to Planning Authorities on the need to consider the potential impacts of development on protected and priority species, and the scope to avoid or mitigate any impacts when considering site allocations or planning applications.

#### National Planning Practice Guidance Natural Environment

Paragraphs 10–35 set out responsibilities regarding protected and priority species and habitats; 'proportionate' information and assessment required on biodiversity impacts at all stages of planning development; local ecology networks and nature recovery networks; application of mitigation hierarchy, net gain metrics, and promotion of woodlands.

# Energy Efficiency (Private Rented Property) (England and Wales) Regulations 2015

Requires the Council to maintain (or bring) its tenanted non-domestic properties to a minimum energy efficiency of EPC level E by 2023. The Government may raise the minimum standard over time to EPC level C. The proposed investment will include tenanted properties and will bring any remaining sub-standard buildings well above the minimum compliance level.

#### **Future Homes Standard (FHS) 2025**

To be introduced in 2025, this standard will, "future proof new build homes with low carbon heating and world-leading levels of energy efficiency." This means that from 2025, new build homes will no longer be permitted to have fossil fuelled (e.g. gas, oil etc.) space heating and hot water generation. The hotter summers projected to result from climate change will increase the risk of overheating in new homes over their lifetime.

#### Committee on Climate Change (CCC)

The report made further recommendations for tighter low carbon standards for new build and rented properties, greater support for the uptake of low carbon heat and policy to incentivise ableto-pay energy efficiency improvements.

#### **Future Buildings Standard (FBS)**

In January 2021, MHCLG published the FBS Consultation, setting out energy and ventilation standards for non-domestic buildings, proposing changes to the Building Regulations from 2021 onwards, to be implemented in 2025. The intent is for non-domestic buildings to transition to low carbon heat sources for space heating and hot water, such that they can become zero carbon as the Grid and heat networks decarbonise.

#### **Building Regulations Part L 2021**

In late 2019 and early 2020, the Government consulted on the uplift standards to Part L, as the first step in achieving the FHS and FBS. The new standards should result in a 31% reduction against the current standards. Option 2 (fabric plus technology) will require improved fabric u-values, low temperature radiators, wastewater heat recovery and PV.

# Planning (Listed Buildings and Conservation Areas) Act 1990

This legislation sets out the principal statutory provisions that must be considered in the determination of any application affecting listed buildings and conservations. It establishes that special regard to desirability of preserving the building of its setting and the desirability of preserving or enhancing the character and appearance of a conservation area.

# The Ancient Monuments and Archaeological Areas Act 1979

This legislation imposes a requirement for Scheduled Monument Consent for any works of demolition, repair and alteration that might affect a designated Scheduled Monument.

## 1.4.2 Local Planning Policy context

Cossall is a small village and civil parish in the Broxtowe district of Nottinghamshire. The parish is under the jurisdiction of three tiers of local government including: Nottingham County Council, Broxtowe Borough Council, and Cossall Parish Council. The following planning documents were reviewed to understand the policy context which will influence this design code document.

#### **Cossall Conservation Area**

The conservation area was originally designated in 1972 to conserve and enhance the character of the village. The document outlines the reasoning for the designation as well as further detail on the heritage assets within the area. This includes Listed Buildings and Tree Preservation Orders. Cossall's clearly defined settlement pattern, street form, and hilltop setting warranted the village's conservation designation. The designation restricts development rights within the area as well as a developer's ability to propose new development. Any development should avoid the removal of front boundaries and existing landscape and where extensions are deemed acceptable, they should be constructed in material to match the existing structure. This level of protection is required to preserve the unique historic character of the area.

#### **Cossall Article 4 Direction**

As well as a Conservation Area Cossall received an Article 4 Direction which was confirmed in 1990. The direction allows a local authority to restrict Permitted Development Rights in order to control development in an area that otherwise would not require planning permission. The directions provide an extra level of protection to areas such as Cossall, whose hilltop setting was deemed an important feature worthy of further protection. The Article 4 Direction introduces control over

the development of agricultural structures in the fields to the south of the settlement, protecting key views of Cossall's hilltop location.

# Broxtowe Local Plan: Part 1 and Part 2 Aligned Core Strategies Part 1 Local Plan

Part 1 of the Local Plan has been jointly produced by Broxtowe Borough Council, Gedling Borough Council, and Nottingham City Council, this document outlines policies and principles on how the Greater Nottingham city region can achieve sustainable development between 2011 and 2028.

### Policy 2: The Spatial Strategy

This policy stipulates development will be focused in urban centres and key settlements. Most of Broxtowe's housing provision is to be provided by areas in or adjacent to the main built areas surrounding Nottingham. Cossall is one of few settlements omitted from the policy due to its size as a small village. Such settlements should only be considered for limited infill development, therefore no specific development provision has been allocated to Cossall. However, the north of the parish area borders Awsworth's urban area. Awsworth is cited as a key settlement due to its strategic location and has therefore been allocated a development provision of up to 350 dwellings.

#### Policy 3: The Green Belt

This policy reinforces the national requirement for the integrity of the Green Belt to be maintained where possible. As per Policy 2 Cossall village, as a settlement, has been omitted from any housing allocation meaning development within the surrounding Green Belt should be safeguarded. This should apply throughout the parish area with the exception of the Cossall Industrial Estate which is the only

area outside the Green Belt designation. Alternative sites and settlements identified in Policy 2 and in Part 2 of the Local Plan should therefore be prioritised for development. Only in exceptional circumstances will the release of Green Belt be permitted for the development requirements laid out in Aligned Core Strategies and Part 2 Local Plans.

# Policy 4: Employment Provision and Economic Development

This policy sets out the opportunity for employment development within Broxtowe, which includes an allocation of 34,000 sqm for new office and research development within the borough. New employment development is vital to the growth of the local economy. With Cossall Parish containing within it the Cossall Industrial Estate, this policy is particularly relevant in the event of any expansion to the estate. The estate is the primary employment site within the parish and is therefore a major driver in the parish's economy.

#### Policy 8: Housing Size, Mix and Choice

Residential development should produce a mix of housing tenures, types, and sizes in creating high-quality, inclusive, and mixed communities. Such development should also reflect the housing need of local areas (i.e. the Cossall Parish). It is important the right mix of housing is developed to both accommodate and maintain future growth.

# Policy 10: Design and Enhancing Local Identity

All new development should make a positive contribution to the local area, through the promotion of place-making. This can be achieved via the creation of attractive, safe, inclusive, and healthy environments that reinforce valued local characteristics. Such characteristics include development that demonstrates a contextual use of materials, massing, scale, architectural style, and

detailing. Development should therefore respond, and be respectful to, the specific character features of the locality.

#### Policy 11: The Historic Environment

This policy requires that development enhances, maintains, or conserves the heritage assets of an area. Elements of the historic environment contribute to the local identity and place-making capability of an area, making them vital local assets worthy of protection. This policy should be applied alongside the Cossall Conservation Area and Cossall Article 4 Direction documentation that set out specific detail on the parish's historic environment.

#### Policy 17: Biodiversity

This policy enforces the importance of increasing biodiversity through the protection, restoration, and expansion of natural areas. Cossall has several designated and non-designated sites/ wildlife corridors worthy of protection. Development should therefore avoid damaging the integrity of these areas due to their contributions to local biodiversity. Development affecting such areas will only be permitted where there is substantiated evidence of the development's benefit outweighing the harm caused to local biodiversity. New development should also seek to incorporate new biodiversity features, as well as making improvements to existing biodiversity features wherever possible.

#### **Broxtowe Part 2 Local Plan**

Part 2 of the Local Plan is specific to Broxtowe and includes the site allocations for meeting the development requirements set out in Part 1's Aligned Core Strategy. It also provides detailed development management policies. The documents' purpose is to provide a clear localised framework to secure sustainable development throughout the borough between 2018 and 2028. All policies in this document should be read in conjunction with Part 1 of the Local Plan – Aligned Core Strategies.

#### Policy 8: Development in the Green Belt

This policy stipulates that any reference to 'towns' in the NPPF will be treated as applying to Cossall, despite it being a small village. This should be applied in tandem with Policy 3a of the Aligned Core Strategy. As per the national purpose of the Green Belt, development should avoid the merging of neighbouring towns. This is to preserve the setting and distinct character of historic settlements. Any development in Cossall should therefore seek to maintain its separation from the neighbouring settlements of Awsworth and Ilkeston.

## Policy 9: Retention of Good Quality Existing Employment Sites

As per Broxtowe Borough Council's Strategic Housing Land Availability Assessment both Cossall Industrial Estate and Robinettes Lane have been identified as viable employment sites that must therefore be retained. The policy also grants the expansion, conversion, or redevelopment of employment sites provided they produce high-quality design, landscaping, parking, and amenity in accordance with other Local Plan policies.

### **Greater Nottingham Strategic Plan**

Broxtowe Borough Council is jointly preparing the Greater Nottingham Strategic Plan alongside neighbouring councils to help guide future development, including new housing, across our combined areas until 2038. The Strategic Plan will replace the Broxtowe Aligned Core Strategy, which was adopted in 2014.

It covers housing development, employment development, the Green Belt, climate change and carbon neutrality, city and town centres, the natural environment, urban design, the historic environment, safe and healthy communities and infrastructure provision. It will significantly impact the potential growth strategy for 'fringe' areas like Cossall.

# Greater Nottingham Landscape Character Assessment

This document provides an assessment of the varied landscape within the Nottingham city-region. It contains information about the character and condition of the landscape to provide a greater understanding of what makes the different landscape character areas special and distinctive. It will be used by planning authorities to aid development, control decisions on planning applications, and to guide landscape enhancement.

Cossall Parish falls within the Babbington Rolling Farmlands landscape character area:

NC02 Babbington Rolling Farmlands

Cossall Parish falls within the Babbington Rolling Farmlands Landscape Character Area. The area has a predominantly rural character with landscape taking on an undulating to gently rolling landscape. Most fields are medium sized arable fields following a historic pattern. This is particularly evident around Cossall where fields are clustered around the settlement which are used for livestock and equine. Despite being disused, the Nottingham Canal is the areas principal watercourse,

now a well-used recreational resource with opportunities for fishing, walking, and wildlife. There are also several small brooks and ditches draining towards the canal and the River Erewash. Cossall Parish reflects the area's typical characteristic, with the historic core being a small isolated settlement which has retained its original rural settlement pattern with a distinctive centre, brick-built farmsteads, and traditional church.

### **Neighbourhood Plan**

Neighbourhood planning provides a powerful set of tools for local people to ensure that they receive the appropriate types of development for their community where the ambition of the neighbourhood is aligned with the strategic needs and priorities of the wider local area. In December 2017, Broxtowe Borough Council designated the Cossall Neighbourhood Area boundary.

The Neighbourhood Plan reflects the views of Cossall residents who are fully engaged in sharing their opinions about living in Cossall and their aspirations and vision for its future. Approximately 605 residents call this rural parish with its rich agricultural heritage, historic buildings and miles of bridleways home. They have expressed their wish to preserve its character and the surrounding countryside for future generations to enjoy. The local residents wish to conserve Cossall's identity, its distinctive local features and landscape, policies will ensure that any new development should respect the size, scale and character of the existing built environment.

A brief SWOT analysis is summarized below based on the latest community engagement (Cossall Parish Neighbourhood Plan Questionnaire, 2019):

- Strengths: rich agricultural heritage; historic buildings and miles of bridleways, rural landscape and wildlife habitat;
- Weaknesses: limited home options for the elderly and/or disabled; lack of adequate on-street parking; poor road network;
- Opportunities: additional amenities and recreational facilities to support the increase in the number of residents; new homes reflect local characters; to protect the surrounding landscape and greenbelt, the open views and green spaces; good road network to/from properties to cope with increased traffic and provide good access for emergency services vehicles; and
- Threats: poor road network conditions make the village less accessible; some poorly designed buildings may damage the local rural identity.

# 1.5 Process and Engagement

This section provides a brief chronological breakdown of the key elements and milestones used throughout the duration of the production of this document.



**Figure 04:** AECOM representative meet with the local group members

# **Inception Call with Steering Group**

An inception call with the Cossall Steering Group allowed AECOM to confirm the brief and programme of works.

### **Site Visit**

AECOM undertook a site visit with members of the local group representatives on 15th December 2021, to the Neighbourhood Area to further understand the Cossall area.

## **Specialist Input**

Consultants from AECOMs Heritage team were invited to input into the document to provide specialist support.



# 2. Neighbourhood Area Context Analysis

# 2.1 Historic growth

The report 'History of Cossall' offers a brief account of the parish. The earliest reference to the area suggests that it was inhabited during the iron age or potentially earlier. However, its documented history begins with the derivation of the Parish name, which is Saxon in origin, derived from 'a settlement established by Cotta'. At the time of the Norman invasion, Cossall consisted of a portion of land owned by the Saxon theigns Leofnoth and Wolfsi. Historically, the principal landowners in the village include Roger de Mortein, de Cossale family, and the Willoughby family. The coal activities and the building of Nottingham Canal (disused) shaped the spatial forms of the parish significantly. The original Cossall village merged along the N-shaped road around the St Catherine's Church and the Manor Farm. This area remains the historic core of the village today.



Figure 05: Historic map of Cossall (source: www.nls.uk)

## 2.2 Street Network

The existing road network contributes to the rural character of the area. There are a number of smaller routes networking across the parish, described as 'rural lanes'. This is demonstrated by Church Lane and Dead Lane, which offer the only way in and out of the parish's primary settlement of Cossall. The parish is accessed from the north via Awsworth Lane. This route provides vehicular connectivity between Cossall and the neighbouring parish of Awsworth. From the south, Cossall Road provides movement between Cossall and the neighbouring parish of Trowell before intersecting with Nottingham Road (A609). Coronation Road and Millership Way intersect at a roundabout to the west of Cossall Industrial Estate, providing ample connectivity with the nearby town of Ilkeston. As the busiest junction within the parish, this is where a majority of Cossall's traffic stems from. The Cossall Industrial Estate forms the gateway to the main A route A6096, and beyond to the M1. There is no vehicular access to the parish from the east due to Robinettes Lane being a narrow country lane.

The main village is set on a single arterial route that meanders north to south, with the village centered from this route. There are only a handful of residential/tertiary streets distributed throughout the parish. Many of which are cul-de-sacs leading to single dwellings (i.e., farmsteads). While the street network follows no prominent or distinctive pattern, the access/servicing streets of the Cossall Industrial Estate are the only routes to have produced a loosely defined grid pattern. Just outside the study area are the A610 and M1, which run to the northeast and southeast, respectively. This positioning provides Cossall with strategic connectivity for regional and national vehicular travel.

A single bus service, the 27 via Trentbarton, runs along Coronation Road and Awsworth Lane. The service runs between Larklands,

Ilkeston, Kimberley, and Swingate.
Ilkeston Railway Station is also located just outside of the parish boundary, to the west of, and directly beside, Cossall Industrial Estate. While located over the county border in Derbyshire, the station provides the parish with services between Nottingham and Leeds via East Midlands Railway and Northern. The station provides approximately hourly services to the wider areas.

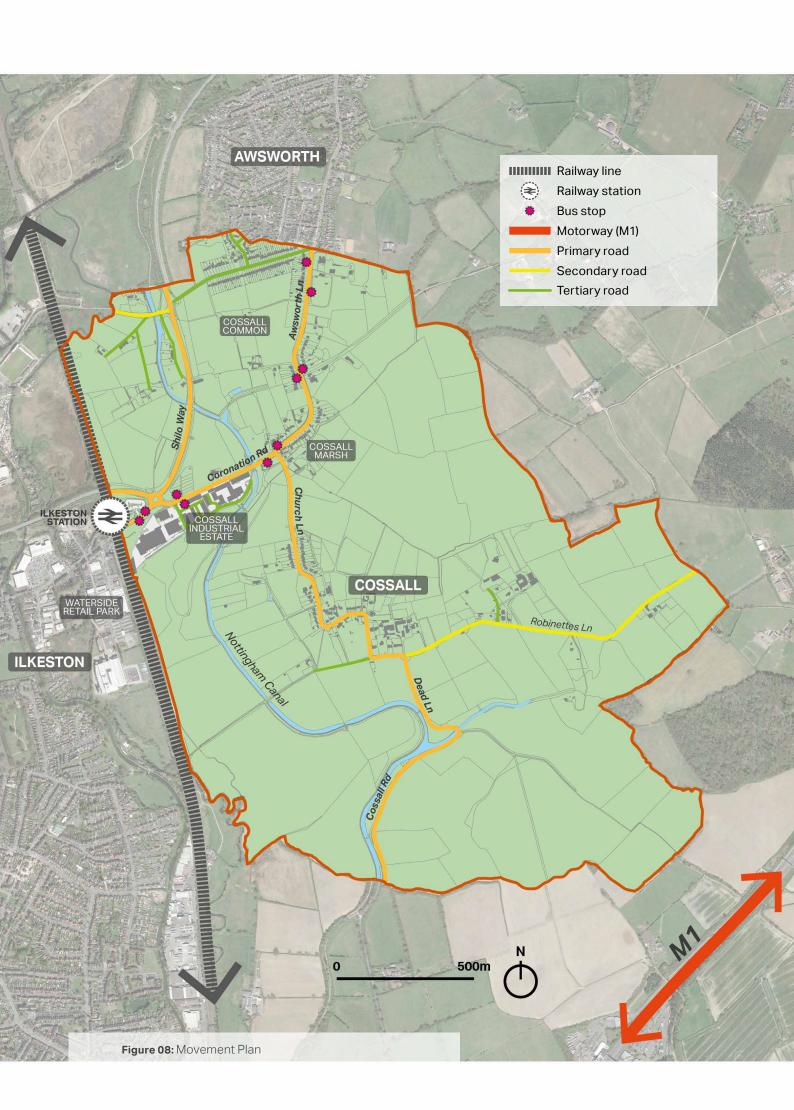


Figure 06: A typical rural lane leading to built up areas



Figure 07: A typical street within Cossall village

- New street patterns should seek to make new or imporve connections and promote active travel;
- Streets should be attractive and safe for all users; and
- Active travel measures should be encouraged.



# 2.2.1 Pedestrian, cycle and bridleway connectivity

Cossall has several Public Rights of Way (PROW) which promote and encourage pedestrian movement through the parish's open spaces. Many of these routes are providing connections between Cossall's more developed areas and the surrounding landscape. There are also several stretches of PROW running alongside and over the Nottingham Canal, a part of which encompasses the Erewash Valley Trail.

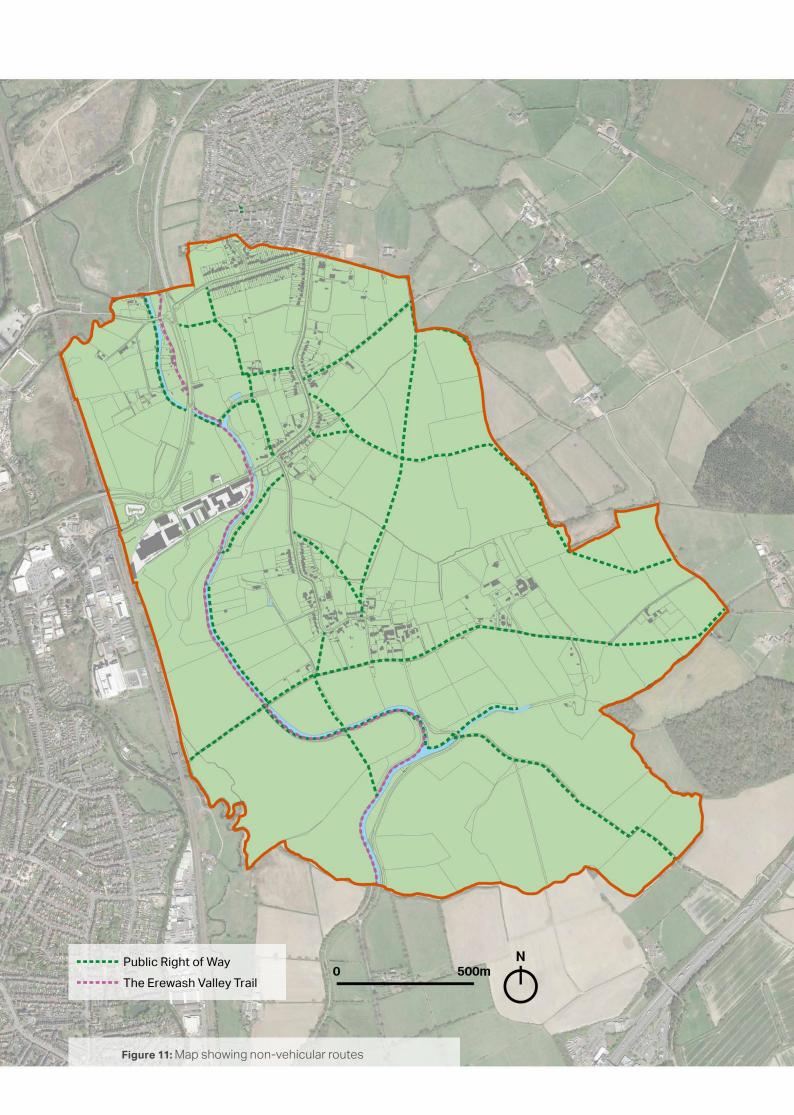
As well as PROW, there are local recreational routes which are frequented by the local community. Many of these connect to, and overlap with, the parish's PROW network. The most notable route is the Nottingham Canal towpath which runs along the entire western side of the canal, connecting with the historic core of the village, Cossall Common, and Cossall Marsh via several PROW and recreational routes. These long distance routes form part of a wider network for recreation.



Figure 09: Footpath within public open spaces



Figure 10: A public right of way crossing green fields



# 2.3 Heritage Assets

The historic core of the village contains a high concentration of heritage assets. There are a total of six listed structures, including two which are Grade II\* and the remaining four which are Grade II. Both the Willoughby Almhouses and St Catherine's Church are Grade II\* Listed.

## **Listed Buildings**

The nave and chancel of St Catherine's Church date to the 13th century with several later phases of extension and alteration over successive centuries. Much like the village it serves, the church is small and stands at a sharp bend along Church Lane. The Church is modest in scale, accessed via a lychgate which was added in 1928.

Erected in 1685, the Willoughby Almshouses of 8 almshouses provided an early form of social hosuing for "4 single poor men over 60 years of age and 4 single poor women over 55 years of age". The almshouses were built on behalf of George Willoughby, nephew of the Lord of Wollaton of the nearby Wollaton Hall. George Willoughby had a seat at Cossall Wood Hall, an ancient building with a moat. Manor Farm now sits on the site of the old hall and traces of the moat still remain.

## **Overarching Design Principles**

- A successful design should consider building materials which visually refer to and complement the local vernacular. Key local materials and architectural features include but are not limited to: Red brick; Render; Pitched slate or pantile roofs with brick chimney stacks; and Gables (some with decorative timber studding).
- The use of innovative new materials should be encouraged as long as development is sensitive to heritage assets and continues to reflect local character.
- New development should respect the scale and massing of the local historic form.
   Buildings in the study area are typically modest and domestic in scale limited to two storeys.

# Conservation area and Article 4 direction

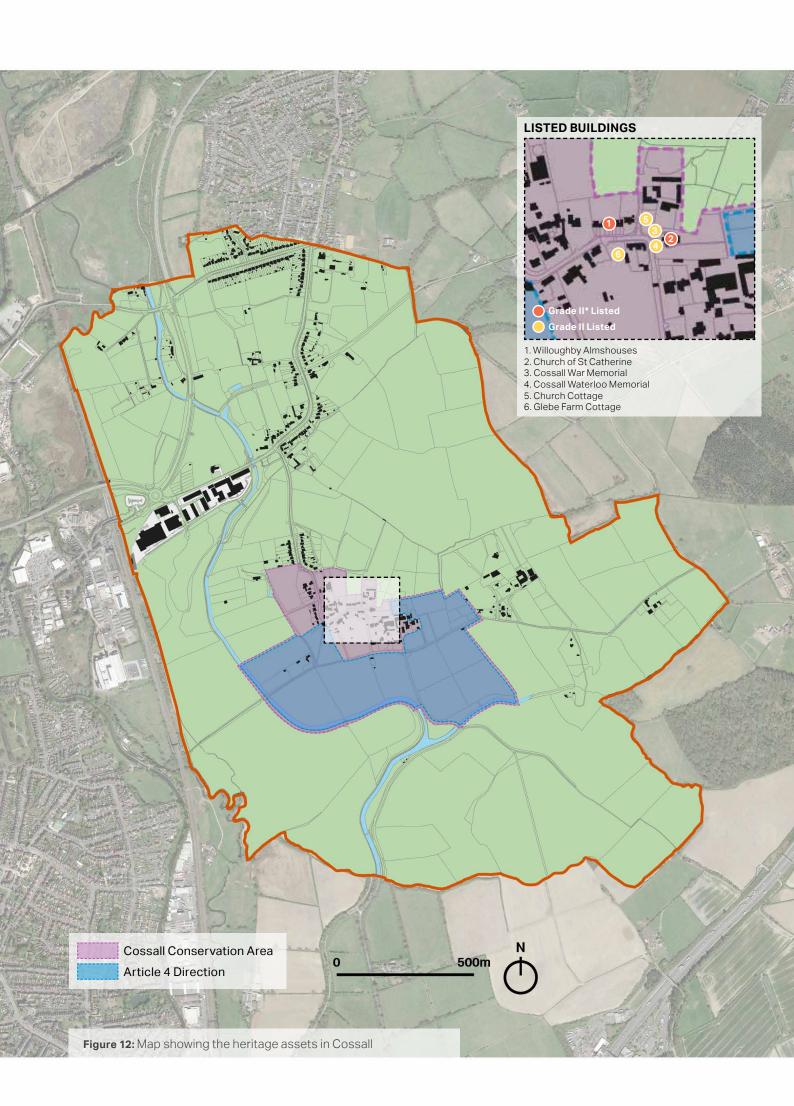
Cossall Conservation Area was originally designated in 1972 in order to conserve the village's historic character. It was created to preserve the clearly defined form of the village which groups around the hilltop. All six of the parish's listed buildings fall within the conservation area.

An Article 4 (1) Direction was created in 1996 which sought to further protect the hilltop setting of the village. In particular, the three sharp bends along Church Lane have produced a series of attractive views across the parish, giving the village a unique character worthy of protection. The direction endowed Broxtowe Council with the ability to determine planning applications for any agricultural buildings/ operations which might affect important views of Cossall from the south. The direction boundary extends from the south of the village edge and out towards the Nottingham Canal, where it follows the curtilage of the Cossall Conservation Area.

## Other Heritage Assets

Cossall has many local heritage assets, defined by Historic England as 'buildings, monuments, sites, places, areas or landscapes identified as having a degree of significance meriting consideration in planning decisions because of its heritage interest'. This Design Code aims to protect the heritage left by previous generations and retain the character of the environment and the uniqueness of the Parish. Key non-designated local heritage assets nominated for local listing are listed below:

- 1. Manor Farm
- 2. (a) Corner Cottage; (b) Ivy Cottage
- 3. Manor House
- 4. The Old School House
- 5. The Hollies
- 6. (a) Maplecot, (b) The Haven (brick part)
- 7. Foundry Houses
- 8. Bridge Farm
- 9. Old School Room



# 2.4 Environmental Designations & Open Spaces

Cossall has an abundance of green spaces which reflects the parish's rural character. While open farmland dominates much of the landscape, there are several pockets of woodland distributed throughout the parish. As such, there are several environmental designations including a Local Nature Reserve, a Local Wildlife Site, a Site of Special Scientific Interest, and multiple Tree Preservation Orders.

The Local Nature Reserve encases the six-mile-long disused Nottingham Canal, covering some 30.6 hectares including the canal towpath. The entire stretch of the canal within the Cossall Parish boundary is therefore formally designated as a valuable natural asset due to it being speciesrich and having botanical and zoological importance.

The wildlife site, Cossall Marsh Bank, is located at Cossall Marsh, to the east of the Cossall Industrial Estate. This wet grassland pasture is noted for its natural habitat value.

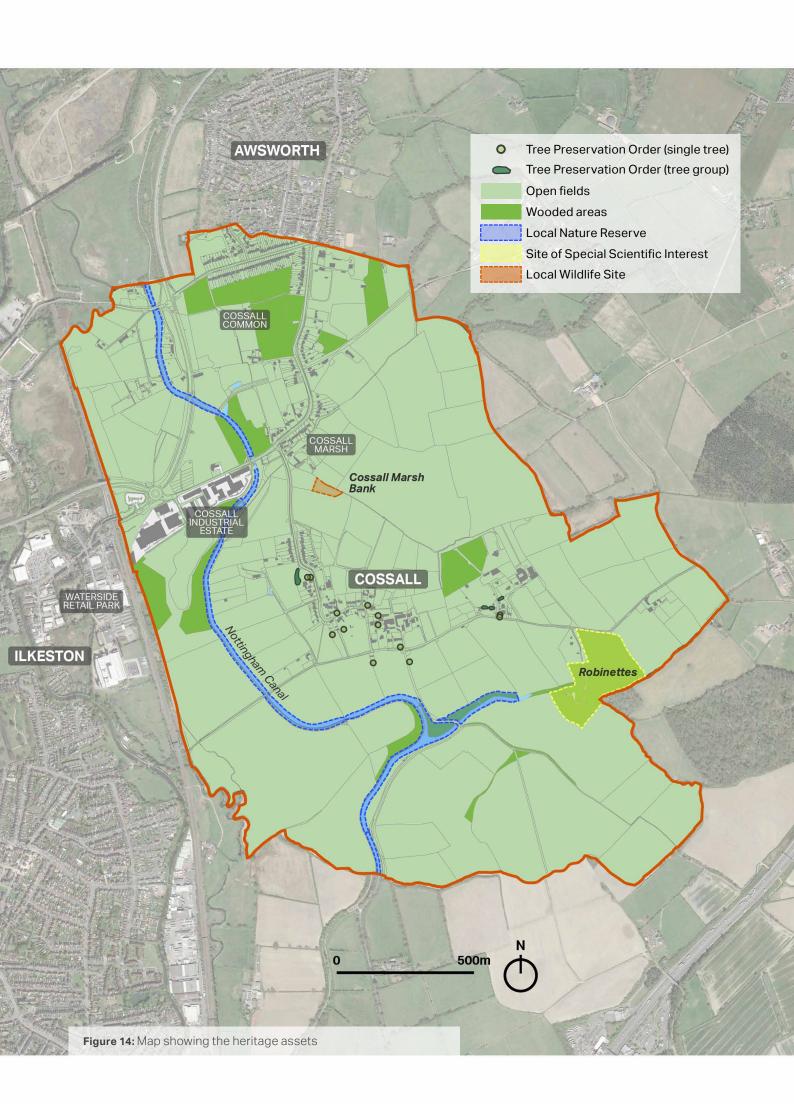
The Site of Special Scientific Interest is named Robinettes and covers 6.3 acres of woodland to the south of Robinettes Lane. The site contains one of the best examples of acidic grassland in Nottinghamshire. The area's mosaic grassland types, varying in wetness and acidity, are typical of the West Nottinghamshire Coal Measures which now support few remaining areas of unimproved grassland.

There are also several single and group Tree Preservation Orders in the parish. They are loosely concentrated in two clusters around the historic core and the Oakwood Lodge/ Grange Farm area.



**Figure 13:** Disused Nottingham Canal provides habitats for wildlife

- Field boundaries should be retained and reinforced e.g. traditional stone boundary walls or through the retention and use of traditional hedge plants species;
- New development proposals should produce a net gain in biodiversity e.g. by new habitats and wildlife corridors; and
- Gardens and site boundary treatments should be designed to allow the movement of wildlife and provide habitat for local species.



# 2.5 Green Belt and Proposed Public Open Space

The Green Belt in Cossall, washes over the built ares of the Neighbourhood Area apart from the industrial estate. It helps prevent unrestricted urban sprawl, safeguards the countryside from encroachment, and encourages the recycling of derelict urban land. Policy 8 of the Local Plan states that one function of Green Belt designation is to prevent neighbouring towns merging into one another, in so doing this preserves the setting and special character of historic settlements. Therefore proposals within the Cossall Neighbourhood Area should seek to protect or enhance the natural environment. Where applicable, they should maintain the openness of the Green Belt.

As part of the redevelopment of the former Cossall Colliery site for housing, an area to the south of Cossall industrial estate will become a public open space (see the plan opposite).

- Any development should respect local plan policies that promote the aims and objectives of the Local Plan, and seek to protect and enhance countryside;
- Development in the open countryside should be carefully considered to ensure its overall impact is assessed as beneficial and not detrimental to the landscape protection areas, is environmentally acceptable, and protects the area's landscape character; and
- Green Belt and open spaces should be protected.



Figure 15: Green Belt keeps openess of countryside

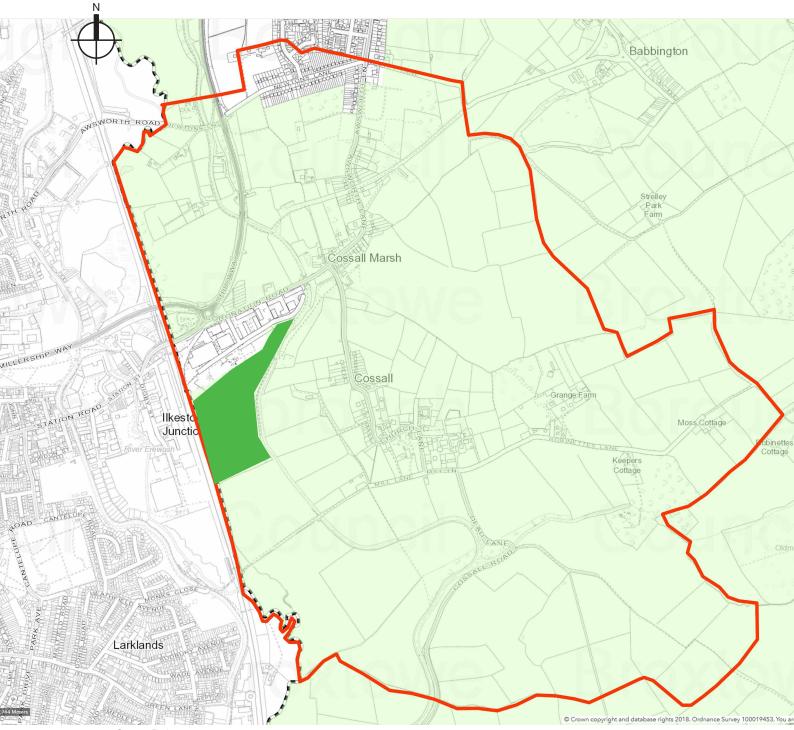


Figure 16: Green Belt



# 2.6 Topography and Flood Risk

The historic core of Cossall village is set on a hill which affords views across the Erewash Valley, the Nottingham Canal and towards the nearby settlements of Kimberley and Strelley. The hill is the highest elevation in the parish, peaking at 80m. The lowest elevation (40m) lies within the River Erewash Valley along the western edge of the parish boundary. This proximity to the river valley comes with the associated risks of being near to a low-lying watercourse. There are substantial swathes of flood zone 2 and 3 in place along the valley. A significant area of the Cossall Industrial Estate lies within flood zone 3, as well as a cluster of dwellings at the southern tip of Awsworth Lane. Besides these areas, the historic core of the village and all other significantly developed areas are not near a flood zone.

- Existing watercourses and existing drainage systems, should be taken into consideration and the drainage strategy should use and mimic natural drainage patterns as closely as possible.
- Site drainage and off-site drainage impacts should be considered early in the development planning and design process; run-off rates should be no greater than as a greenfield site; and
- Watercourses should be protected and enhanced to strengthen the natural ecosystem and contribute to flood risk management.



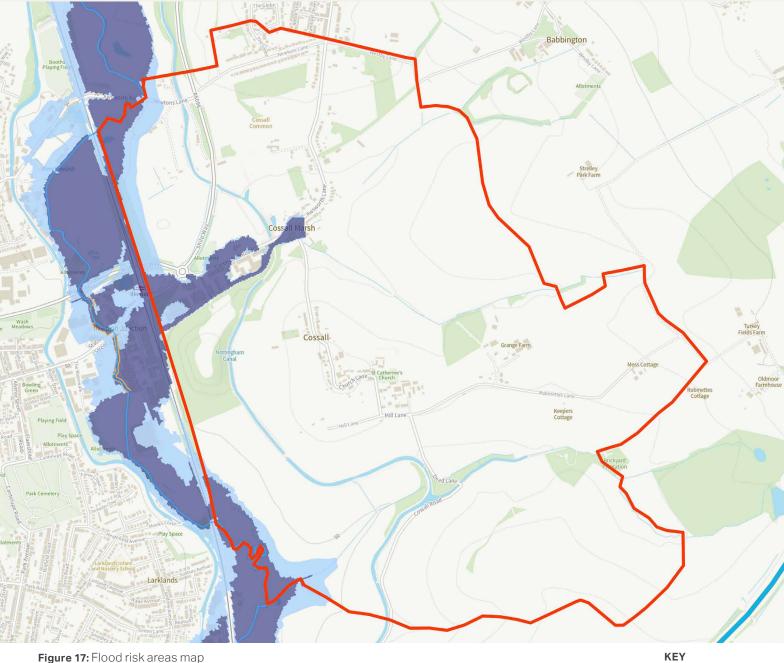
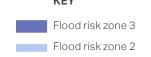


Figure 17: Flood risk areas map





# 3. Focus Areas

According to the baseline study and given the size of the Neighbourhood Area, it is proposed to divide the characteristics into two main categories: Countryside Focus Area (CFA), and Settlement Focus Areas (SFA).

# 3.1 Defining the Focus Areas

Within the settlement area of Cossall, different focus areas can be identified. These areas exhibit a certain sense of place based on their physical character, functionality, or identity. Differentiating into focus areas helps the nuances of each space to be recognised; the specific opportunities and issues for each focus area are discussed and help produce more specific guidance and design coding, which addresses these themes more pertinently.





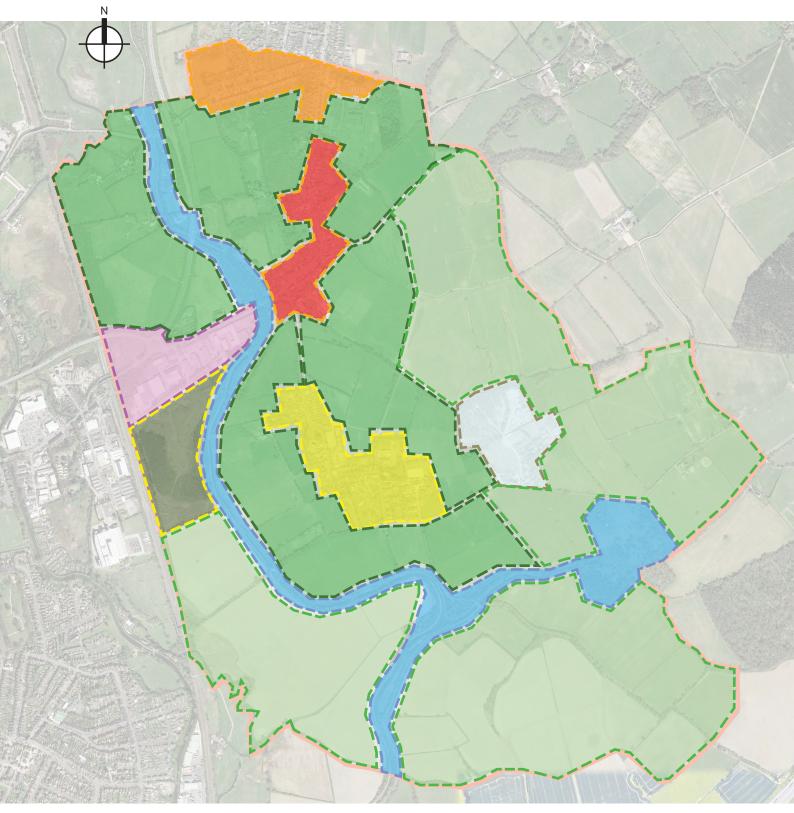


Figure 18: The Countryside and Settlement Focus Areas

## Countryside Focus Areas (CFA)

In much of the Neighbourhood Area, the countryside is of high visual quality and a combination of the impressive landscape, buildings of architectural and historical significance and areas of ecological importance.

#### CFA A: Raised park

A man-made raised green area next to the existing employment site, with dense mature trees;

### **CFA C: Open rural countryside**

Open countryside in rural areas, larger pattern agricultural fields;

### **CFA B: Greenfields around villages**

Smaller fields separated by hedgerows and tree belts, screen views from the villages and settlements;

#### **CFA D: Watercourse corridors**

This area is dominated by nature environments along the disused Nottingham Canal and other miniature watercourses; it presents the richness of wildlife habitats.

## Settlement Focus Areas (SFA)

Settlements within the landscape primarily consist of small, characterful villages (including some Conservation Areas) and farms.

#### SFA A: Cossall village

The original settlement of historical Cossall village; forms a part of the Conservation Area;

#### SFA B: Cossall Industrial Estate

The established employment area lies to the west of the parish; separated from the wider countryside areas by the disused Nottingham Canal and the man-made raised mound to the south;

#### SFA C: Cossall Marsh settlement

Small scale residential areas along Awsworth Lane act as a gateway to Awsworth village to the north;

#### **SFA D: Awsworth edge**

Linearly arranged semi-detached and detached residential areas along Newtons Lane and Awsworth Lane to the south of Awsworth southern fringe;

#### SFA E: Rural mixed area

A cluster of mixed-use buildings lies within the rural countryside, including residential buildings, farms, barns, and small businesses.



# 4. Design guidance & codes

A series of Design Codes have been produced to provide guidance for any future developments in Cossall Parish. This will ensure that local character is considered and local distinctiveness is enhanced and protected.

## 4.1 Introduction

Design Codes set out within this document have been significantly influenced by local precedents and also national best practice materials. Based on the understanding gained in the previous sections, feedback captured during the engagement workshop and relevant planning policy, the Design Code matrix is broken down into the following categories:

- Heritage
- Structure and Built Form
- Materials and Design
- Movement and Accessibility
- Environment and Biodiversity
- Flood Resilience
- Sustainable Design

All proposed developments need to consider the character areas in order to ensure any negative impact is avoided. The Design Codes will help developers to understand what type of development is appropriate in Cossall.

## 4.2 When to Use the Codes

The table below identifies all the codes within this document. A prefix has been created for each code to allow simple application and referencing of the design codes when writing policies for the Neighbourhood Plan. It also shows which codes are relevant to the Countryside and Settlement Focus Areas (CFA/ SFA). This allows for more nuanced application in response to the development pressures within each area. Developers should note that only very special circumstances when development can be allowed in the Green Belt.

	Heritage Assets		Village Structure and Forms						M			
Focus Areas	Listed Building	Conservation Area	Block Structure and Building Line		Heigh	ilding Building Typ hts and Materialit ofline Desig		ypologies, lity and		Vehic Primary Seconds Streets S		
 Design Code	HA		BL-F		BH-UR	BH-VR	DP.	SDB	ТВ	AM	PS	SS
Countryside focus areas		IIA	DL-F	DL-I	BI1-OK	חוו-אע	00	300	10	AIVI	1 3	33
CFA: A				•		•		•		•	•	
CFA: B		•		•		•	•	•		•	•	
CFA:C		•		•		•		•		•		
CFA:D		•								•		
Settlement focus areas												
SFA: A	•	•	•	•		•	•	•	•		•	
SFA: B			•	•	•		•			•	•	
SFA: C				•		•	•	•		•	•	
SFA: D			•	•	•	•	•	•	•	•		
SFA: E				•		•	•	•		•		

Table 1: The focus areas and design code matrix

ovement and accessibility		Green Infrastructure					
ular and Non-Vehicular Route  condary Rural Non-Vehicular		Green Infrastructure	Open Spaces	Trees, Hedgerows, Woodland	Flood Resilience	Sustainable Design	
Lanes	Movement						
RL	NVM	GI	OS	EWTH	DC-WD	LCEG	EE
•	•	•	•	•	•	•	•
•	•	•	•	•	•	•	•
•	•	•		•	•	•	•
•	•	•					
	•	•	•	•	•	•	
	•			•	•		•
	•	•	•	•	•	•	•
	•	•	•	•	•	•	•
•	•	•	•	•	•	•	•
	Non-Vehicul Rural Lanes	Non-Vehicular Route  Rural Non-Vehicular Lanes Movement	Non-Vehicular Route Green Infrastructure Lanes Movement	Non-Vehicular Route  Rural Non-Vehicular Movement  RL NVM GI OS  Open Spaces  Open Spaces	Non-Vehicular Route  Rural Non-Vehicular Movement  RL NVM GI OS EWTH  Open Spaces Hedgerows, Woodland  OS EWTH	Non-Vehicular Route  Rural Non-Vehicular Movement  RL NVM GI OS EWTH DC-WD  Open Spaces Hedgerows, Woodland  Flood Resilience  Resilience  Open Spaces Hedgerows, Woodland  OS EWTH DC-WD  OS EWTH DC-WD	Non-Vehicular Route  Green Infrastructure Spaces  Rural Non-Vehicular Movement  RL NVM GI OS EWTH DC-WD LCEG  Open Spaces  Hedgerows, Woodland  Designation of the space of th

## 4.3 Heritage Assets

Heritage assets play a central role in defining local character in Cossall. Local heritage is an important tool for successful and diverse place-making and presents opportunities for future development to enhance local identity.

#### **Listed Buildings**

There are a number of listed buildings in Cossall, the majority of which are grade II. These designations reflect the high status, local and national significance of the assets. Future development should aim to respect and enhance the settings of listed buildings in order to retain their positive contribution to the streetscape.

#### **Conservation Areas**

The Cossall Conservation Areas is designated as a result of their special interest. Development within these areas must be sensitively managed in order to preserve the legibility of the historic and architectural merit of these areas.

#### Non-designated heritage assets

In addition to listed buildings there are a number of non-designated historic buildings, boundary treatments and street furniture which contribute positively to local character.

## Design Code: Heritage Assets (HA)

- All new development must be respectful of the scale and massing of the historic built form.
- The uniformity of rooflines is of particular importance, and new development should not negatively impact visual uniformity.
- Poor-quality designs that do not successfully assimilate with the historic built form or 'pastiche' should be refused.
- Removal of green spaces and verges within the study area and mature foliage and trees within conservation areas should be avoided.
- New development should seek to incorporate elements of the local vernacular that may have previously been overlooked, such as fenestration proportions.



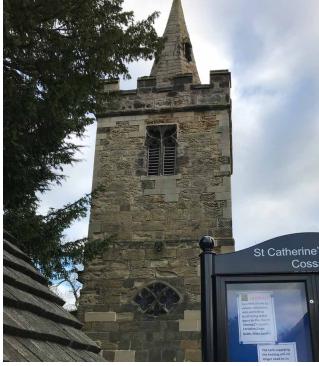






Figure 19: Examples of local historic buildings

# 4.4 Village Structure and Forms

#### **Block Structure and Building Line**

Building lines play a key role in defining the layout and the character of an area. There is a mix of semi-detached and detached housing typologies in Cossall. These lower density housing typologies contribute to the variety of building lines in Neighbourhood Area.

In Cossall, some properties with long back gardens form linear patterns of ribbon developments along streets, such as Awsworth Lane and Church Lane. These back gardens act as buffer zones between the built-up areas and the countryside. Therefore, backland developments next to back gardens should be avoided.

Any development should ensure buildings are aligned along the street with their main facade and entrance facing it, where this is in keeping with local character. Building ancillary to domestic properties such as garages may be placed gable end to the road in keeping with historic outbuildings seen throughout the area. In Cossall there are two types of building lines that can be found throughout the area:

### Formal building lines (BL-F)

- Formal building lines can be applied within the medium density development in the north of Cossall or the area where the housing typology is generally uniform;
- The layout of developments shall be permeable in order to provide legible connections through the area and beyond.

#### Informal building lines (BL-I)

- Informal building lines can be applied within lower density developments, such as the historic core and Cossall Marsh;
- Developments with informal building lines are usually characterised by larger plots, generously-sized gardens, or with greater provision of open space;
- The alignment of new building lines should respond to the context of surrounding landscape;
- Properties should provide gardens in the front and rear; and
- This type of building line can be suitably applied where the development face the open countryside, or open space or the edge of development.

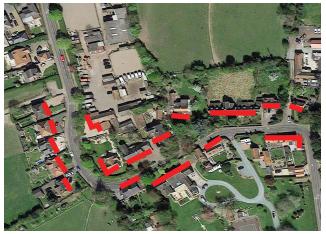


Figure 21: Informal building lines examples within Cossall



Figure 20: Linked building lines examples within Cossall

#### **Building Heights and Roofline**

A comfortable variation in the size and scale of buildings - from single storey bungalows to 2.5-storey properties - can enhance local character. It provides variety and difference, as opposed to homogeneity. Houses within Cossall are mainly 1-2.5 storeys high, with a majority of 2 storey family houses. New development should be sympathetic in height and scale to its surrounding context. There are two types of building rooflines throughout Cossall that can be identified:

#### Type 1 (Uniform roofline)

Buildings with uniform skyline can be found throughout residential areas within Cossall Parish due to general street types, building heights and minimal building articulation.

#### Type 2 (Varied roofline)

Buildings of various heights can be found throughout the parish. The undulating topography also contributes to varied roofscapes. Such variety positively contributes to the character of Cossall.

### **Uniform Roofline (BH-UR)**

- Uniform roofline can be applied in the areas where urban settings/ higher density can be encouraged.
- Uniform roofline can be applied in areas when the development rhythmically uses several uniform housing typologies.
- 3 or 4 buildings with the same roof height can form the uniform roofline.
- Roofing materials, eaves, pitch, verge details, chimney stacks, or other features visible above the ridge line should be carefully considered to create uniform roofline that reflects the surrounding context of the site.

### Varied Roofline (BH-VR)

- Buildings with various heights can be found in Cossall's Historic Core and other areas that are heavily influenced by the slope and view to the open countryside. Such variety positively contributes to the character of Cossall.
- This roofline can be applied in the area where the development meets the countryside's edge to retain its rural character and where the site is influenced by its presence on the slope.
- Roofing materials, eaves, pitch, verge details, chimney stacks, or other features visible above
  the ridge line should be carefully considered. These features may be diverse to create a varied
  roofline, while still respecting local character.



Figure 23: Uniform rooflines example within Cossall



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Figure 22: Varied rooflines example within Cossall

#### **Building Typology**

A variety of approaches to housing typologies and layout of buildings should be explored to make the best use of land and create high quality, comfortable and attractive homes.

New development should enhance Cossall's character by achieving more interesting, varied and high-quality design and built form.

Depending on the housing needs, terraced, semi-detached and detached are acceptable. Design principles and precedents for each type are provided in this section.





### **Detached Building (DB)**

- Variable frontages, provided through more informal building placements between plots;
- Building massing to be more varied with greater use of hipped roof styles and projecting gables to create varied streetscapes;
- Building orientation is not required to conform to any joint relationship with adjacent properties; however frontages should positively address the street; and
- Variation permitted to the ridge and roof lines. Individual buildings should accommodate any topographical changes between units.

**Figure 24:** Examples of detached properties





Figure 25: Examples of semi-detached properties



### Semi-detached Building (SDB)

- Consistency with a capitalisation of 2 Storeys, with 2.5 storey for key building locations;
- Setbacks are consistent, with only a small variation between buildings to provide a more formal street composition; and
- **Buildings should strongly relate to the** street, although a varied frontage is acceptable.





## Terraced Buildings (TB)

- Mainly 2 Storeys, with 3 storey for prominent or identified key buildings. Street scale needs to be considered. Wider primary routes should have larger scale buildings.
- Typically simple pitched roof volumes. Projecting elements should be considered on key buildings to help demarcate corners.
- Consistent setbacks to provide well defined street compositions.
- Consistent ridge and eaves lines.

Figure 26: Examples of terraced properties



## 4.5 Materials and Design

Without being too prescriptive about the adopted material palette, developments should complement the existing residential character of the local area, and reflect the character of Cossall Parish. Cossall's existing local character and material palette is generally predominated by stone, and brick, with slate and tile roofs. These materials should be used as a design cue for any new development. Development should adopt high quality, natural materials which sit well within the attractive natural landscape and which help to reinforce notions of the town where possible.

## Design Codes: Architecture and Materials (AM)

- It is very important that proposed developments are well evaluated to achieve a high quality of design, sympathetic to the existing built fabric in the surrounding Focus Areas and reinforcing local distinctiveness;
- Material selections should be made based on an understanding of the immediate context and the wider Cossall Parish built environment. Where proposals affect heritage assets, either directly or due to proximity, it is recommended that advice is obtained from a Conservation Architect at an early stage of design development;
- Any development which adopts traditional vernacular features found in Cossall must have an integrity of heritage detail;
- The materials listed in this document should not be considered prescriptive; and
- Designs need to be sensitive and complementary to their surroundings, but this does not require merely replicating existing styles and imitating architectural details. It is recommended that contemporary architectural solutions are considered.

Figure 27: Examples of materials used in Cossall



## 4.6 Movement and Accessibility

A well-designed street hierarchy and streetscape are key elements of successful places. The relationship between streets and the adjacent buildings strongly influences the safety, appearance and movement function of development. New development should accommodate traffic flow and allow for access by service vehicles, but it should also contribute positively to the character of Cossall.

New developments should be designed to positively contribute to the movement around the parish, making it more efficient and legible. In order to do this, a clear street hierarchy should be established in new developments. Streets in the hierarchy must be distinctive from one another in order to heighten legibility.

Furthermore, this design code aims to guide any future development to contribute to sustainable connectivity, particularly walking and cycling as a means of local movement measures.

## Design Code: Primary Streets (PS)

The Primary Streets are important features defining the village's layout and linking it with the surroundings. They act as the principal movement corridors connecting Cossall and forming the gateways into the neighbouring parishes. They will connect to the Secondary Streets within the study area. These routes are anticipated to carry the highest amount of movement across Cossall parish. They should be designed to be as attractive as possible, with quality public landscaping and street furniture, and a positive relationship to public and private spaces. Buildings should generally have long setbacks and front onto this route with an active and enlivened facade.

## Design Code: Secondary Streets (SS)

- The Secondary Streets circulate traffic around Cossall, providing access to different neighbourhoods and so linking them with the surroundings.
- The Secondary Routes accommodate medium density development. These routes are important in the movement hierarchy and should have wide street spines and pavements on both sides.
- Carriageways should be designed to safely accommodate both vehicles and cyclists. Reallocation of space to support this is encouraged where possible.

### Design Code: Rural Lanes (RL)

- Rural Lanes are commonly found in the uplands of the Neighbourhood Area.
   These lanes have an informal character and provide access to more isolated parts.
- They are narrow, supported with little highway infrastructure, and of varying quality. These lanes play an essential role in offering countryside connections.

## Design Code: Non-vehicular Movement (NVM)

- The quality and safety of walking and cycling environments wthin Cossall Parish should be enhanced:
- Any proposed routes should provide a permeable and connected pattern, creating different travel options, particularly for pedestrians. Integration between transport modes should be improved; and
- Better Information systems, such as finger posts, should be provided at appropriate locations.

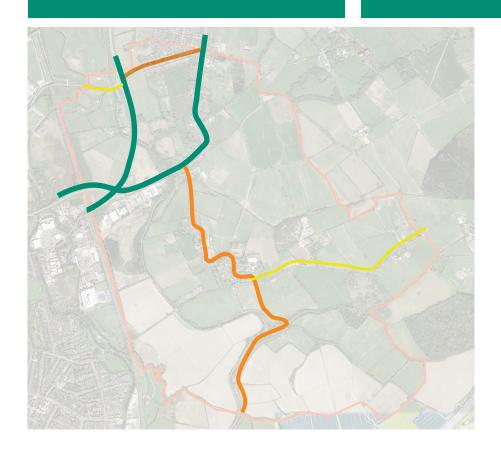


Figure 28: Vehicular routes in Cossall



### 4.7 Green Infrastructure

Cossall has a wealth of both statutory and non-statutory Environmental Designations. This comprises the network of green spaces, water bodies, biodiversity habitats and other natural elements. All of these places need to be well maintained to ensure they continue to meet the needs of the local people. The Green Belt and Countryside surround Cossall settlements.

In addition, there are several Local environmental designations, including that which encases the six-mile-long disused Nottingham Canal (Local Nature Reserve) and Cossall Marsh Bank (Local Wildlife Site), within proximity of Cossall built-up areas, which need to be carefully considered and respected by any new development.

## Design Code: Green Infrastructure(GI)

- Any development should enhance biodiversity and landscape characteristics wherever possible. This will involve restoring and increasing the total area of natural habitats and landscape features, and provision of a clear landscaping scheme to demonstrate how new development will create positive green linkages and contribute to these assets.
- New developments should strengthen biodiversity and the natural environment. Biodiversity Net Gain (BNG) should be adopted as a requirement for all relevant development.
- New development proposals should aim for the creation of new habitats and wildlife corridors; e.g. by aligning back and front gardens, and new areas of woodland, stone walls/hedgerows, grassland or wetland habitats. Gardens and boundary treatments should be designed to allow the movement of wildlife and provide habitat for local species. Signs and safe crossing points for wildlife such as amphibians, ducks and hedgehogs should be considered as part of proposals.



A small open space near Cossall Marsh



**Figure 30:** Linear green spaces along Nottingham Canal

#### **Open Spaces**

Cossall has a number of open spaces and significant green gaps (Figure 33). These various types of green spaces often play an essential role in the character of that particular settlement and separating villages regarding setting and local amenity. It is important that these areas are identified, and development is resisted, in order to conserve settlement character.

Any development should consider these open spaces as an integral aspect of the development's layout. Where possible, any existing open spaces should be retained and enhanced, and developments should contribute to the enhancement of open spaces in Cossall Parish. Any new development needs to complement and provide an appropriate level and quality of open spaces.

### **Design Code: Open Spaces (OS)**

Developments adjoining public open spaces should arrange main building façades and entrances to face the open space. This will enhance the character of the space, which will help create a sense of place, improve natural surveillance, and foster social interaction.

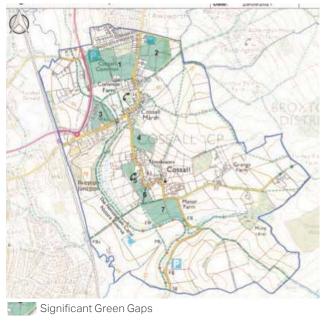
- Open spaces should offer a variety
   of uses related to the surrounding
   activities and buildings. Where play
   areas are required, these should not be
   isolated, and should be located within
   short walking distances of housing and
   should promote natural surveillance
   with buildings overlooking them.
- The Design Codes will seek to protect those areas of open space as allocated on the Local Plan Proposals Map, and defined in the Council's Open Space Audit.
- Proposals for new open space or improved open space, especially in areas with a deficiency of provision, will be encouraged.



**Figure 32:** Open spaces along Nottingham Canal



Figure 31: Disused Nottingham Canal



**Figure 33:** Significant Green Gaps (source: Parish online CPC OS map, 2021)

#### Woodland, Trees and Hedgerow.

Woodland, trees and hedgerows have a significant contribution to both the built and rural environment of Cossall Parish. Some groups of trees and hedgerows in Cossall can be seen as a natural village boundary on the east and west of the town. Their visual amenity helps define the character of the borough. Development should seek to enhance and protect networks of high quality trees, hedgerow and woodland.

Development should seek to preserve and enhance trees and tree groups where appropriate. Selected existing trees along the parcel edges are to be retained to create a maturity of the place and define boundaries. Planting of trees is encouraged to help strengthen borders and to help maintain the strong edges of any development.

Furthermore, the loss of higher quality and more valuable trees within the site which would fail to enhance the green infrastructure and biodiversity should be minimised.

This Design Code acknowledges that many residents value the woodlands around Cossall as well as local wildlife sites and other open areas. The Design Code stresses the importance of green areas and aims to support the ways and means by which local residents can connect more with the natural environment, even in the settlement core.

## Design Codes: Woodland, Trees and Hedgerows (WTH)

- Developments should be designed to retain trees, particularly those of landscape and biodiversity importance, with a view to increasing tree cover.
- According to the Hedgerow Regulation 1997, any good quality hedgerows classified as important should be protected and enhanced where necessary. This is known as 'Important Hedgerow'.
- The spacing of development should reflect the rural character and allow for long distance views of the countryside from the public realm. Trees and landscaping should be incorporated in the design.
- The rural character of the area should be preserved and enhanced through the retention of grass verges, hedgerows and trees and new plantings to improve biodiversity.
- Species choice should be predominantly native but not completely; a 2:1 ratio would be appropriate to help build a tree population that supports UK wildlife but is also capable of responding to new disease and climate threats.
- Species like great crested newts, water voles, badgers, bats, nesting birds and their habitat are protected and must be considered by any development.

- Whilst it is not expected that all trees be retained on development sites (as trees can grow with defects that make their retention undesirable), any new development should put great thought into tree retention and planting as part of proposals.
- The loss of better quality / higher valuable trees within the site which would fail to enhance the green infrastructure and biodiversity should be minimised.
- Tree planting should be considered everywhere across Cossall Parish to connect residents with the natural environment.
- New domestic and commercial lighting should be designed to minimise light pollution.



Figure 34: Woodlands in Cossall



**Figure 35:** Vegetations around the disused Nottingham Canal

### 4.8 Flood Resilience

Cossall has a small number of residential properties within Flood Zone 3 which have a high risk of flooding. The community is therefore very aware of the impact development can have on flood risk to both the wider area and their own properties.

New development should seek to avoid Flood Zone 3 where possible, in particular avoiding areas of functional floodplain. The Sequential and Exception Tests should be utilised to locate the development as required by NPPF. Proposals should not increase flood risk to either the development site or elsewhere. Consideration should be given, in developing designs, to manage surface water run-off in such a way that slows run-off down and serves to contribute to reducing flood risk to properties downstream as well as at the development site.

Due to the settlement areas' susceptibility to flooding, it would be preferable for developments to limit surface water discharge rates below the Greenfield runoff rates. This may not be practical in all situations, and the Greenfield rate should be considered a maximum.

Where possible, developments should look to implement Sustainable Urban Drainage Systems (SuDS) to manage drainage requirements. These would preferentially use natural processes to provide green areas, allowing residents to connect more with nature.

## Design Code- Water and Drainage (DC-WD)

- SuDS should be integrated into developments to help address surface water run-off. These should be designed in accordance with The SuDS Manual, CIRIA.
- Drainage should be considered early in the development planning and design process, along with other key considerations.
- Existing watercourses, existing surface water flow routes across the site, and existing drainage systems, must be taken into consideration and the drainage strategy should mimic natural drainage patterns as closely as possible.
- Adoption of permeable paving solutions instead of tarmac is encouraged. Gardens and soft landscaping should be maximised to reduce the overall area of impermeable hard surfacing that might increase surface water volumes and increase local flood risk. Further, green space can be used for natural flood protection e.g. permeable landscaping, swales etc.
- Boundary treatments within the flood zone are encouraged to be designed with high water resistance materials and/or effective seals to minimise water penetration, provided these treatments are in keeping with the local character.
- Proposals should take a proactive approach to incorporating flood resilience into building design through internal layout. Where appropriate the Flood Resilient Construction of New Buildings Guidance (Ministry of Housing, Communities & Local Government, 2007) should be adopted.

- New housing should demonstrate how rainwater and greywater will be stored and reused to reduce demand on mains supplies. Rainwater harvesting helps to capture and store rainwater for irrigation and cleaning. Efforts should be made to conceal the units, or install them with attractive materials, cladding and finishings. Greywater recycling reduces pressure on local utilities by enabling the occupier to re-use water from showers and washing machines in WCs.
- The installation of water butts within new residential developments is encouraged to collect rainwater from roofs and reduce the overall rainwater runoff impact of any development.
- Buildings should incorporate domestic water saving measures such as aerated taps, thermostatic mixer valves, lowflow showers, dual flush WCs and waterefficient white goods.

## 4.9 Sustainable Design

The Local Plan encourages creating buildings and spaces with reduced environmental impact, offering people opportunities to live lower carbon lifestyles. Buildings should be suitable for future adaptation, conversion or expansion. The sustainable design and construction of new buildings and extensions to existing buildings have an essential role in reducing running costs, improving energy efficiency, and reducing greenhouse gas emissions.

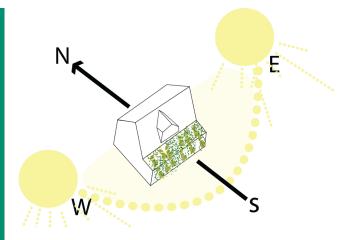
Integration of sustainability should be considered from the concept stage, with consideration of passive solar heating, cooling and energy efficient strategies. The energy hierarchy should be adopted through implementation of passive environmental design principles (considering how the site layout can optimise beneficial solar gain and reduce energy demands e.g. insulation, while reducing the risk of overheating), then specification of energy efficient building services before the incorporation of renewable energy sources.

## Design Codes (LCEG): Low Carbon Energy Generation

- The National Grid is decarbonising as cleaner, greener energy is used to generate electricity, supporting a move away from fossil-fuel heating to electricitybased systems. Additional sources of low carbon energy should be included in the design where suitable.
- Where possible, buildings with complementary energy profiles should be clustered together such that a communal low carbon energy source (e.g. an ambient loop network) can be used to supply multiple buildings that might require energy at different times of day or night. This can be used to reduce peak loads. Further, waste heat generated from one building could then be used to heat another.
- Depending on local water bodies in close proximity to the development, water source heat pumps may be a suitable source of heating and cooling. In a large development these may contribute to a District Heating Network (DHN) or for a large commercial building they may be used directly. They can be designed to use either static or flowing bodies of water but require detailed environmental assessments to be carried out as part of the design process.
- Biomass boilers might be suitable in buildings with a predictable heat load, as the heat output cannot be easily modulated to match load changes instantly. Biomass should only be specified on sites where there is a local sustainable source of wood chips or pellets that can be readily stored nearby and there is space for storage and easy transport access for deliveries.

## Design Codes (EE): Energy Efficiency

- Active measures may include the specification of energy efficient building services and controls to facilitate efficient operation.
- Development should follow the set policies in Local Plans or adopted design codes for higher energy efficiency standards where applicable.







**Figure 36:** Precedent images - Examples of energy efficiency design



## 5. Next Steps

This document provides a series of design principles, Design Codes and recommendations for the Cossall Neighbourhood Area. The document is based on high-level reviews regarding the context, constraints, history, and characteristics of the built-up areas and surrounding countryside. The reviews suggest that any future development should be in line with the local characteristics and the existing context. The Design Code provided within the document will guide future developments in Cossall to respect the area, conserve and improve the existing character, heritage, links, and townscape features.

Cossall Parish Council is recommended to use this document to embed design policies within the Neighbourhood Plan to achieve the objectives set out in this document. Developers should also observe this document to understand the design quality expected within the Neighbourhood Area.

#### **About AECOM**

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