Strategic Stone Study
A Building Stone Atlas of Kent

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Introduction

The indigenous Kent building stones are all of sedimentary origin, and were predominantly quarried from the Cretaceous rocks of the county. They comprise mainly sandstones and sandy limestones. Flint, chalk, tufa and conglomerate have also been used in the past as vernacular building stone. The subtropical or tropical environments in which these sediments were deposited ranged from non-marine to marginal to open marine conditions. The non-marine sediments were laid down under fluvial, deltaic and estuarine conditions, giving rise to substantial lateral and vertical variability in the resultant clastic sequences (sandstone, siltstone and mudstone). The deposits of the marginal and marine environments were predominantly calcareous in nature.

Regional tectonism in the early Tertiary led to uplift, folding and erosion of these sediments, leaving an eroded west-northwest trending anticline across the county - a feature known geologically as the Wealden Anticline. Folding of these strata was accompanied not only by faulting but also by the formation of a number of minor subsidiary folds, which has led to a locally complex structural pattern.

Geographically, Kent includes the northern part of the area referred to as ‘The Weald’, bounded to the north by the chalk lands of the North Downs. Within the Weald there are distinct, low-lying clay areas known as ‘The Low Weald’. These are separated by two areas of higher ground – a sandstone region at the centre of the anticline, known as ‘The High Weald’, and the ‘Greensand Ridge’ (mainly sandy limestone) further to the north.

The early use of the county’s stone resources by the Romans is evident, for example, in the Saxon Shore Forts at Reculver and Richborough.

In the 11C, the Norman invasion introduced new building techniques and ideas. This was followed by the construction of many large ecclesiastical buildings and castles in Kent. At this time, the lack of sufficient quantities of durable local freestone suitable for dressing and carving within the county, and the ready access by sea to the more familiar limestones from their homeland, such as Caen Stone, saw the importation of stones by the Norman builders into the south east of England for many new large building schemes e.g. the use of Caen Stone at Canterbury Cathedral.

The dissolution of the monasteries in the 16C made substantial quantities of Caen Stone available for re-use in subsequent building construction, often alongside other vernacular stones and local building materials including timber, brick, tile and recycled material from Roman structures, good examples being the walls of St Augustine’s Abbey in Canterbury and the north wall of the Church of St Mary, Northgate, Canterbury. This has resulted in an eclectic mix of construction materials in many of the historic buildings of Kent.

Kent’s building stones have generally been used within a short distance of the quarries from which they were worked, with the major exception of ‘Kentish Ragstone’, a durable sandy limestone. In addition to its widespread use locally, this building stone was transported in substantial quantities by boat along the rivers Medway and Thames to London, where it was extensively used for building in the city and in neighbouring counties from Roman times to the 19th century.
Kent Bedrock Geology Map

Kent Bedrock Geology

Derived from BGS digital geological mapping at 1:625,000 scale, British Geological Survey ©NERC. All rights reserved.
Lower Cretaceous

The oldest Kent building stones were sourced from the Lower Cretaceous succession. This is divided into two distinct lithological units. The lower unit is a thick non-marine clastic succession comprising the Wealden Group. The upper unit comprises marine sandstones and limestones of the Lower Greensand Group. Both groups contain rock units sufficiently hard and durable to have yielded building stone.

Wealden Group

The changing depositional environments have produced two distinct rock assemblages within this group, a lower sandstone-dominated sequence and an upper, clay/mudstone-dominated sequence.

The Wealden Group comprises the Ashdown, Wadhurst Clay, Tunbridge Wells Sand and Weald Clay formations. Each of these formations includes beds worked for building stone in Kent. The principal building stones of this group are the sandstones which are found in the south and west of the county. These sandstones were quarried in numerous relatively small-scale pits. Currently, however, there are no working Wealden sandstone quarries in the county and many of the old quarries are now largely unrecognisable in the landscape.

The use of building stones from the Wealden Group in Kent is evident in medieval churches, prestigious domestic properties and municipal buildings, where they have been commonly used as sandstone ashlar blocks. Elsewhere, the sandstone has been used as smaller coursed blocks or rubblestone, for example, as plinths to timber frame buildings, in bridge construction, for paving or boundary walling.

Ashdown Formation

The Wealden sandstones assigned to this formation are typically fine-grained light-coloured (off-white to orange), with distinctive rhythmic laminations in places. The principal sandstones come from the upper part of the Ashdown Formation.

These sandstones crop out in the south of the county, notably around Penshurst, where some of the material is cross-bedded and ferruginous. A ‘5ft to 20ft’ bed of ‘massive sandstone’, the ‘Top Ashdown Sandstone’, has been identified locally (Shepherd-Thorn et al). However, the non-marine depositional setting has resulted in considerable lateral variations in lithology, and these variations are reflected in the stone-types used in the buildings in the areas close to the Ashdown Formation outcrop. The parish church of St. John the Baptist in the village of Penshurst - which sits on the Ashdown sandstone - is constructed of ashlar blocks of predominantly buff sandstone, much of which is weathered pale grey.

The rhythmic, parallel laminated structure in the stone work is much in evidence, and colour variations from off-white to light orange-brown can occur within each ashlar block. Some of the off-white sandstone is notably fine-grained.
Wadhurst Clay Formation

The Ashdown Formation is overlain by a predominantly argillaceous (clay/mudstone) sequence, the Wadhurst Clay, which also contains beds of siltstone/sandstone, limestone and ironstone, which have provided building stone locally. A number of thin calcareous sandstone beds were used as local building stone in the Tenterden area. The ironstone beds which formed the basis of the famed Wealden iron industry were largely worked from the basal part of this formation, but there is no evidence that they were used to any great extent as building stones.

Tunbridge Wells Sand Formation

The overlying Tunbridge Wells Sand Formation was the primary source of Wealden sandstone in Kent, with many lithological characteristics similar to the sandstones of the Ashdown Formation. The sandstones are generally fine to medium-grained, often cross-bedded and flaggy in places.

To the west of Tunbridge Wells, the formation is divided into two sandstone units separated by a clay layer known as the Grinstead Clay. This clay layer is divided informally into upper and lower parts by the development of a thin cross-bedded, fine-grained sandstone, known as the Cuckfield Stone (named after a village in West Sussex). Numerous small building stone quarries, producing Wealden sandstone for local use, operated near Goudhurst. The variety of colours and textures can be seen in individual buildings from different phases of construction, for example in the medieval St Mary’s Church in Goudhurst, where the colour variations and laminations in some of the beds provide distinctive features. The 19th-century construction of Scotney House in the grounds of Scotney Castle used sandstone from quarries within the estate. The colour, texture and weathering patterns within the ashlar blocks are widely evident in the building’s fabric. Staplehurst church makes extensive use of Tunbridge Wells Sandstone in parts of its external fabric (St George’s Chapel, the Tower etc).
ARDINGLY SANDSTONE MEMBER

A massive, hard sandstone bed, more uniform in appearance, occurs towards the top of the Lower Tunbridge Wells Sand Formation and is known as the Ardingly Sandstone. This sandstone, which is medium-grained in the Tunbridge Wells area but finer-grained to the west, produces prominent topographic features, notably around Royal Tunbridge Wells (for example the High Rocks and Toad Rock). Quarries in the formation are known around the town, and Ardingly Sandstone is used quite widely within the centre of Tunbridge Wells.

The only quarry currently producing Wealden sandstone is located outside the county in West Sussex, at West Hoathly.
Weald Clay Formation

The uppermost formation within the Wealden Group succession of Kent, the Weald Clay Formation, contains several discontinuous beds of fossiliferous freshwater limestone. The Wealden limestones which have been most widely used are characterised with the presence of numerous fossils of a large freshwater gastropod, ‘Paludina’ – Viviparus flavorum. These limestones have been given a variety of local names including the ‘Large and Small Paludina limestones’ and occur in beds up to 30cm thick. In Kent, one of these fossiliferous limestones is widely known as the ‘Bethersden Marble’ (the term ‘marble’ being used as the stone is capable of taking a polish), and has been used extensively for decorative work, paving and building stone.

Although this building stone is named after the village of Bethersden, the limestone has been dug from various locations across the county. Some Wealden limestones have also been called ‘Winkle Stone’ because the small gastropods present are similar in character to the modern ‘periwinkle’ shell.

Wealden limestones have been used as external paving and kerbstones in the village of Biddenden, but their texture can best be seen in the flooring and internal decorative work in Canterbury Cathedral, and in churches such as St Margaret’s in Bethersden. The moulding around the rim of the Norman font of St John the Baptist in Harrietsham provides a good example of finely carved ‘Bethersden Marble’.

Good examples of the external use of Wealden Limestone, showing it to be a durable building stone, are provided by the 15C church towers at Tenterden and Biddenden, where it has been successfully used for quoins as well as for coursed walling stone. The Norman Herring Bone stonework at Staplehurst church was constructed using slabs of Small Paludina limestone.

The Dering Arms at Pluckley Station (right) provides an example of the use of ‘Bethersden Marble’ (which crops out to the south of the village), with Ragstone blocks. Potter (2002, 2004) has noted the local use of these Wealden (Viviparus) limestones in the fabrics of churches in the Romney Marsh area e.g. at Horne’s Place and Newchurch.
Lower Greensand Group

The Lower Greensand Group succession of the Weald Basin comprises the Atherfield Clay, Hythe, Sandgate and Folkestone formations. The deposits of this group include clays, sandstones and sandy limestones, which were deposited under shallow marine conditions. The sediments commonly contain the green iron-silicate mineral, glauconite, which is sometimes visible as individual grains in the sands and limestones and sometimes gives a greenish hue to the stones. Weathering of the glauconite can occur, giving rise to an orange brown coating or staining. In Kent, neither the Atherfield Clay Formation nor the Sandgate Formation appear to have rock units that were suitable for the production of building stone.

The principal building stone, from the Hythe Formation, is a hard sandy limestone, known as Kentish Ragstone, which forms the marked ridge along the northern edge of The Weald (The Greensand Ridge).

Hythe Formation

The Hythe Formation consists of interbedded layers of hard, well-cemented, sandy and glauconitic limestone (Ragstone) and softer, poorly cemented layers of argillaceous sandstone or calcareous sandstone (Hassock). However, this simple division into ‘Ragstone’ and ‘Hassock’ alone is insufficient to portray the considerable lithological variations that can occur within the formation both vertically and laterally, as a wide spectrum of stones are seen between these two end members. The individual beds of Ragstone suitable for building purposes are relatively thin, being up to 90cm in thickness generally. A measure of the considerable variation in the characteristics of the Ragstone can be seen across the county. Ragstone is a common term used to describe many building limestones across England and the term appears to have a number of different meanings.

Here, it refers to a sandy limestone, which presents an irregular, rough or ragged surface when hand cut and dressed. Sometimes the coarse shell debris also weathers out to form a rough surface.

Kentish Ragstone is typically a medium-grey limestone, occasionally with associated nodular or bedded chert layers. Variations in the proportions of quartz grains, glauconite and carbonate cement/matrix have contributed to the differing workability and weathering characteristics of the stone. Quarrymen gave numerous local names to the individual stone beds, or ‘lanes’, but these old names have now fallen into disuse. The various bed names are believed to have identified stones suitable locally for different building purposes – ashlar, rubblestone, paving etc. Although the generic term ‘Ragstone’ denotes the relative difficulty in working the material to produce dressed stone, historic examples of more high-quality dressed stone and tracery are evident throughout the county. However, Ragstone is more commonly seen as rubblestone walling, either coursed or uncoursed. It is the only Kent stone which has been widely transported for use outside the county boundaries.
Examples of the Roman use of Kentish Ragstone can be seen in the foundations of their triumphal arch at Richborough (Rutupiae 85 AD), and in the 3C, in the jambs of the city gates in Canterbury (Durovernum Cantiacorum). In the 11C and 12C, cherty Kentish Ragstone rubblestone was used extensively in both Rochester Castle and in the cathedral. It was extensively used from the 12th to 16C for church construction in London and Essex, as well as in Kent.

The use of Ragstone went into decline during the 17C as other materials (brick, Portland or Bath stone for example), became more fashionable and readily available. Nonetheless, quarrying continued, and extraction from underground mines in the Maidstone area is well-known. By the late 20C, however, Ragstone was used very little for building purposes.

Finer-textured Ragstone (particularly greenish or dark bluish-grey varieties) has also been used in string courses, plinths and tracery work, but is sometimes less durable in such situations.

The Hythe Formation has been quarried across the county. At the eastern end of the outcrop in the Folkestone-Hythe area, the stone is generally pale grey without coarse quartz grains and is shelly in places (although darker beds occur, notably the dark green sandy limestone in the vicinity of Hythe and Sellindge). The use of well-selected and well-worked stone can be seen to provide a durable and pleasing finish even in an exposed location, as in the defensive Napoleonic retaining wall at Battery Point, along the seafront at Sandgate.
In the east of the county, Ragstone was historically taken for building stone from the foreshore outcrops, evidenced by the presence of modern marine borings in some dressed stone blocks.

The Maidstone/Borough Green area contained the greatest concentration of quarries, many of which worked beds of good quality building stone. The Ragstone from these quarries was generally medium grey with some chert and locally small brown phosphatic nodules. Further west in the county, the Hythe Beds become more distinctly sandy and the stone tends to become more greenish-brown/orange-brown in colour as it weathers. A chert band, known locally as the Sevenoaks Stone, occurs at the top of the Ragstone sequence in the vicinity of the town itself.

Around Westerham and westwards towards Surrey, the beds comprise non-calcareous sandstone. In this part of the county, not only was the stone quarried from the surface, it was also mined in the area around Hosey Common for building purposes. Hythe Formation sandstone was used at Hosey Common. In recent years, there has been a perceived shortage of suitable Ragstone for building purposes, leading to the import of substitutes from further afield. Careful selection of stone blocks based upon their petrographic characteristics, together with the use of appropriate methods of extraction and working of the stone, can be used, however, to identify suitable Ragstone resources for new work and restoration. There is currently just one working Ragstone quarry in the county, Hermitage Quarry near Maidstone. This quarry mainly produces crushed rock aggregate, but is also able to supply rubblestone and dimension stone for masonry work.
Folkestone Formation

The Folkestone Formation typically consists of medium to coarse-grained sandstone, but bands of ferruginous sandstone or ironstone occur (particularly around the Borough Green area) and cherts have been noted in the outcrops of the Sevenoaks area. The names Ightham Stone and Oldbury Stone have been given to the durable building stones won from the hard siliceous deposits within the Folkestone Formation in the vicinity of the villages of Ightham and Oldbury. Their use has given a very distinctive character to buildings in the Oldbury village area.

Ferruginous, hard sandstone bands occur at several levels within the Folkestone Formation, and these were commonly used in the past for setts, by laying the stones end-on with the bedding planes vertical e.g. at Limpsfield and Westerham.

This hard ferruginous sandstone has also been used as rubblestone (alongside Ragstone, brick and tile) in houses found in the villages of the Wrotham–Borough Green area, notably in Wrotham Heath and Trottiscliffe. Towards the eastern end of the county, from Stanford to Folkestone, a facies change resulted in the deposition of a grey, coarse-grained, glauconitic, calcareous sandstone. This has been used historically, for example at the 12C Church of St Mary and St Eanswythe in Folkestone (below).

This lithology has been known as ‘Folkestone Stone’, although the same term has also been loosely used to describe Ragstone from the Hythe Formation which was also quarried from the Folkestone area. The Folkestone Stone from the Folkestone Formation can be distinguished by the presence of coarse sub-rounded quartz grains within the sandstone. Elsewhere in the town, high quality ashlar of the local sandstone is a prominent feature of many buildings of the late 19th century and early 20th century.
Doggers
Hard, carbonate-cemented sandstone concretions – or ‘doggers’ – occurring within the formation at Sandling Junction near Hythe were used locally for walling stone.

Selborne Group
The Selborne Group includes the Gault and the Upper Greensand formations. Blocks of concretionary sandstone from the base of the Gault were used with dressed flints in the old Fisher Gate at Sandwich. Over much of Kent, the glauconitic sandstones that normally characterise the Upper Greensand Formation are not well developed. Despite the considerable importance of this sandstone unit elsewhere in south east England as a source of building stone, there are no known sources in the Kent area.

Upper Cretaceous
Chalk – a micritic limestone of biogenic origin – dominates the Upper Cretaceous succession of Kent.

Chalk Group
The Chalk Group crops out extensively throughout the North Downs and includes horizons of relatively hard stone, but it was not widely used as an external building stone due to its poor durability. It was, however, used in medieval times as rubblestone wall cores, for internal masonry walls and as block work in vaulted ceilings, the latter including those at Westgate Tower in Canterbury, St Mary's Church in Minster, in Thanet and St Peter and St Paul’s church in Eyethorne. It was particularly useful in this latter context as it is a soft stone, easy to work into shaped blocks, and of relatively low density. Chalk has also been infrequently used externally with success, for example as ashlared chalk blocks in a former 18th-century malthouse at Boxley (above).
Flint

Nodular and tabular layers of flint (cryptocrystalline silica) are found within the Chalk. Extensive remnant flint deposits are also commonly found in the Pleistocene gravels and beach gravels of the area. Flint has been extensively used since Roman times for building in areas close to the North Downs and the coast. It forms an extremely durable building stone and it is used in various contexts either in its ‘as-found’ form of irregular nodules with a weathered white cortex, or as knapped (dressed) and coursed flints displaying a typical black vitreous finish as can be seen at Lower Hardres church (top left). It has also been used for plinths to medieval timber framed buildings in Canterbury.

Different periods of construction within one building are often revealed by changes in the patterns of flint use. St Paul’s Church, Canterbury (below left), shows this change in patterns of flint use.

The finest coursed, knapped flint work sometimes incorporates the use of galletting, with small flint slivers inserted in the mortar between the blocks which increases the strength and durability of the mortar. Flint wall construction normally necessitates the use of dressed dimension stone or brick to form quoins, and window and door surrounds. In addition to the local Kentish Ragstone, various imported Jurassic limestones have been use for this purpose, including Middle Jurassic Bath Stone, Cotswold limestones and Weldon and Clipsham stones (both Lincolnshire Limestone Formation). Flint is also extensively used for rubblestone fill in wall-cores e.g. Richborough Castle.
Tertiary

Paleogene

The Paleogene succession cropping out in Kent comprises the Thanet Sand, the Upnor, the Woolwich, the Reading, the Harwich, the London Clay and the Bagshot formations. These formations are generally soft and poorly consolidated, but do contain some harder cemented horizons which were used locally for building purposes in Kent.

Thanet Sand Formation

The 12C towers at Reculver church provide an example of use of Thanet Sandstone, a laminated fine sandstone which can still be seen as beds and doggers in the Thanet Formation cliffs and on the foreshore nearby (below).

Sometimes, the isolated blocks show evidence of their foreshore origin by virtue of the presence of marine borings. The Roman fabric of Richborough Castle includes Thanet sandstones, together with London Clay septaria, Puddingstone, Upper Greensand, Kentish Ragstone, Carrera Marble, Neidermendig lava and tufa.
Lambeth Group

The Lambeth Group, comprising the Upnor, the Woolwich and the Reading formations, is a variegated succession of variably cemented, coarse-grained, pebbly sandstones, which are occasionally glauconitic, ferruginous or calcareous in character.

Upnor Formation

This formation principally comprises fine to medium-grained, variegated glauconitic sands with blackened flint pebbles. Close to the boundary with the overlying Woolwich Formation is a hard, ferruginous sandstone, the Winterbourne Ironstone, which has had a limited use locally for building stone e.g. Boughton church (Potter 1999).

Woolwich & Reading Formations

Sarsen Stone

Isolated occurrences of a hard, quartz-cemented sandstone known as Sarsen Stone provided a local source of building material in the Medway area. These sandstones represent only the remnants of a much more extensive, largely un-cemented sandstone unit that covered much of the area during the Paleogene. Examples of their use can be seen in the Kit’s Coty and Whitehorse megaliths, near Aylesford.

Thames Group

London Clay Formation

This formation comprises a succession of sandy and silty, glauconitic mudstones and clays, within which occur large tabular and spheroidal calcareous concretions - Septarian Nodules (or Concretions).

Septarian Nodules

These calcareous nodules are developed within the lower part of the London Clay Formation, and were principally quarried as a raw material for the manufacture of cement (Roman cement), often from foreshore outcrops. They are sometimes seen in the fabric of buildings built close to the coast e.g. at Richborough Castle and the parish Church at Herne in East Kent, where they have been used with a variety of local stone types.

Bracklesham Group

Bagshot Formation

In Kent, this formation exists only as a small outcrop on the Isle of Sheppey, where it principally comprises pale coloured and variegated, loose sands with flint gravels. No hard indurated bands are evident in the succession and it is unlikely, therefore, that the formation was a significant source of local building stone.
Pleistocene

Tufa

Tufa is a freshwater carbonate deposit formed around springs. During the Pleistocene, the development of these tufa deposits appears to have been extensive. There are a number of locations in Kent, commonly associated with springs at the margin of the Hythe Formation or Chalk Group outcrops, where tufa deposits are still forming. Many older deposits have been quarried away, however, having served as sources of lime or occasionally building stone.

They are characterised by their hard and durable nature when lithified, and their highly porous structure and therefore low density, makes them ideal for use as wallstones and for vaulting in churches. It is believed that supplies of tufa for building were exhausted by late Norman times.

Blocks of pale-coloured, porous tufaceous limestone can be seen forming the quoins and dressings of the walls in the 12C tower of St Leonard’s at West Malling (below). Locally derived tufa blocks were also used extensively in the construction of the Roman Lighthouse (Pharos) at Dover.

A number of churches in the Romney Marsh area have some tufa blocks in their fabric (e.g. at Lympne, West Hythe, Appledore and New Romney, some having been reused from the Roman Fort at Lympne; Potter 2002, 2004), as have several Norman churches in the Maidstone area.
Ferricrete
In the Stour Valley, beds of locally-developed pebbly conglomerate from the river terraces were occasionally worked and used as a local building stone. Where these are iron-cemented, the term ‘ferricrete’ is adopted. Ferricrete walling can be seen for example in the 14C construction of the Stour Valley churches of All Saints in Westbere and Holy Cross Church in Hoath.

Coarse-grained, ferruginous cemented gravel blocks and quoin stones have also been described in the fabric of two churches at Appledore and Kenardington in the Romney Marsh area (Potter 2002, 2004).

Weathered Flint, Beach Cobbles & Ship’s Ballast
Many of the flint cobbles used in buildings in Kent show the brown weathered coatings of flints sourced from the Tertiary and later deposits. Beach Cobbles are occasionally seen in smaller buildings along the coast whilst sandstone boulders from the Hythe Formation have been recorded in several churches in the Romney Marsh area (Potter 2002, 2004). A variety of more exotic stones (igneous and metamorphic) are also seen in the fabric of the churches in the area, and these are likely to have been derived from off-loaded ship’s ballast (Potter 2002, 2004).

Imported Stones
There has been widespread use of building stones imported from France, notably the Caen Stone. This was much used by the Normans, for example in Canterbury for the construction of the Cathedral and St Augustine’s Abbey. Stone was imported also from the Boulonnais, and from the area of Poitiers.
Ashlar: Stone masonry comprising blocks with carefully worked beds and joints, finely jointed (generally under 6mm) and set in horizontal courses. Stones within each course are of the same height, though successive courses may be of different heights. ‘Ashlar’ is often wrongly used as a synonym for facing stone.

Calcareaous: A rock which contains significant (10-50%) calcium carbonate principally in the form of a cement or matrix.

Carbonate: A general term used for sedimentary rocks consisting of 50 per cent or more of either calcite (calcium carbonate) or dolomite (magnesium carbonate).

Cement: The materials which bind the grains and/or fossil components together to form a rock.

Chalk: A very fine-grained white limestone composed principally of microscopic skeletal remnants known as coccoliths.

Conglomerate: A sedimentary rock made up of rounded pebbles (>2mm), cobbles and boulders of rock in a finer-grained matrix.

Dressings: To say a building is constructed of brick with stone dressings means that worked stone frames the corners and openings of the structure.

Facies: A term describing the principal characteristics of a sedimentary rock that help describe its mode of genesis e.g. dune sandstone facies, marine mudstone facies.

Ferruginous: Containing iron minerals usually in the form of an iron oxide which gives the rock a ‘rusty’ stain.

Flaggy: A finely laminated, sedimentary rock that splits into thin sheets when exposed to weathering.

Flint (or Chert): Hard, resistant beds or nodules composed of cryptocrystalline silica. The use of the term flint is restricted to nodules and beds that occur only in Chalk (Upper Cretaceous) rocks.

Fossiliferous: Bearing or containing fossils.

Freestone: Term used by masons to describe a rock that can be cut and shaped in any direction without splitting or failing.

Interbedded: Occurs when beds (layers or rock) of a particular lithology lie between or alternate with beds of a different lithology. For example, sedimentary rocks may be interbedded if there were sea level variations in their sedimentary depositional environment.

Ironstone: Sedimentary rock which is composed of more than 50% iron-bearing minerals.

Limestone: A sedimentary rock consisting mainly of calcium carbonate (CaCO₃) grains such as ooids, shell and coral fragments and lime mud. Often highly fossiliferous.

Lithology: The description of a rock based on its mineralogical composition and grain-size e.g. sandstone, limestone, mudstone etc.

Mudstone: A fine-grained sedimentary rock composed of a mixture of clay and silt-sized particles.

Outcrop: Area where a rock unit is exposed at the ground surface.

Phosphatic: Containing phosphate minerals, either dispersed as cements or in the form of nodules.

Quartz: The crystalline form of silica - silicon dioxide SiO₂.

Quoin: The external angle of a building. The dressed alternate header and stretcher stones at the corners of buildings.

Rubble: Rough, undressed or roughly dressed building stones typically laid uncoursed (random rubble) or brought to courses at intervals. In squared rubble, the stones are dressed roughly square, and typically laid in courses (coursed squared rubble).

Sandstone: A sedimentary rock composed of sand-sized grains (i.e. generally visible to the eye, but less than 2 mm in size).

Sedimentary rock: A rock that is commonly formed by the binding together (lithification) of sediment particles (e.g. sandstone, siltstone, mudstone, limestone).

Siliceous: A rock which has a significant silica content (non-granular) usually in the form of an intergranular cement e.g. siliceous limestone, siliceous sandstone.

Siltstone: A sedimentary rock composed of silt-sized grains (i.e. only just visible to the eye).

Tracery: An architectural term used primarily to describe the stonework elements that support the glass in a Gothic window. The term probably derives from the ‘tracing floors’ on which the complex patterns of late Gothic windows were laid out.

Tufa: A thin, surficial, soft (when fresh), spongy, incrustation around the mouth of springs, seams and streams carrying calcium carbonate in solution. (Often enveloping plant material).
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Further Reading


