A GUIDE TO THE INDUSTRIAL HERITAGE OF CENTRAL SCOTLAND

FORTH AND CLYDE

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Each gazetteer record has a letter and number that relates to the location map at the beginning of each district and index. Each record also gives a site’s name followed by a location. This is often quite general, for reasons of space, but a National Grid Reference is given to aid accurate location.
The abbreviation A, B or C after some entries refers to a site’s Listed Building status, and SCH indicates a Scheduled Ancient Monument.
Note: the inclusion of sites in the gazetteer should not imply automatic public access. When ever in doubt it is always courteous to ask permission to enter a site.

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AREA COVERED BY THE GUIDE

For geographers, geologists and perhaps even tourists, Scotland has three divisions: the Highlands, Central Lowlands and Southern Uplands. This guide, however, takes a more pragmatic view of the central area, omitting the Tay valley and the majority of Ayrshire, but including parts of the Tweed valley whose proximity to Edinburgh renders them easily accessible. The area covers the coastal areas of the Firths of Forth and Clyde, the drainage basin of the River Forth, the middle Clyde valley and the plateau between; with an extension southwards to take in the woollen district of the Southern Uplands. It is still extensive, and to avoid excessive subdivisions the guide is divided into six districts defined by contiguity rather than by reference to the single-tier local government boundaries established throughout Scotland in 1997. Divisions between the sections follow loose geographical features or cross high ground and are not definitive. Within each area, sites numbers have been sequenced as far as possible from NW to SE for easy reference on the section maps. The selection of sites is by no means exhaustive, but has been made on the basis that there is something to see from accessible places. Indications have been given where internal access is possible.

COVER ILLUSTRATIONS front: The Forth Railway Bridge, built 1882-90, (C48), see page 31.
back: The Falkirk Wheel, completed in 2002, linking the Forth and Clyde Canal and the Union Canal, (C21), see page 26.

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INTRODUCTION
THE CONTEXT OF CENTRAL SCOTLAND'S INDUSTRIAL HERITAGE

Definitions of Central Scotland invariably begin with reference to the ancient geological rift valley which lies between the Scottish Highlands and Southern Uplands. The term 'Central Lowlands' points to a simplistic contrast with the Scottish Highlands and Southern Uplands, and obscures the very varied topography which reflects a complex underlying geology. In simple terms, the slowly subsiding Central Rift Valley provided a sedimentation zone throughout the Devonian and Carboniferous periods, but a zone much disturbed by widespread volcanic activity and by faulting. Volcanic deposits, resistant to subsequent erosion, form the hill masses of the Renfrew Heights, the Pentland Hills, Ochils and Campsie Fells; whilst volcanic intrusions and the necks of former volcanoes form steep, sudden crags which have often been chosen as defensive sites.

As in other parts of the UK, the manufacture of textiles was endemic long before the rise of coal as the basic underpinning resource for industrial growth. After the Act of Union (1707, following the near-bankruptcy of Scotland resulting from failure of the Darien expedition whose intention was to colonise and profit from a Scottish colony in central America), the twin activities of textiles and fishing were regarded as potential economic saviours, to be stimulated and supported by the Boards of Trustees for Manufactures and Fisheries. But coal had been
mined in the Lothians east of Edinburgh and at Bo’ness on the Forth since at least the 13th century. Edinburgh, ‘Auld Reekie’, was named for its coal-induced smogs, and the use of coal in English domestic fireplaces is commonly thought to have been influenced by James VI’s accession, as James I, to the English throne. The mining engineer Robert Bald, amongst others, records the curious insistence of Edinburgh households on their supply of “great coles” in large lumps which were then hacked into manageable pieces. Small coals were used in limekilns and salt pans whose locations on the shores of the Clyde and Forth estuaries survive as placenames. So crucial to the national economy were coal mining and salt production that miners and salters were owned as slaves until 1799. Mining extended under the Forth at an early stage, notably at Culross in the 1660s when Sir John Bruce constructed an artificial island containing a drawing shaft from which coal could be loaded directly into boats. The idea was revived c1820 by Robert Preston, and the artificial Preston Island with its ruined engine houses and salt pans still exists. By the 17th century coal was forming a significant element of trade from the Forth estuary to Europe, and in the 19th and 20th centuries Fife in particular was a major coal exporter. Mining reached a peak in 1913, much produced by major combines such as the Fife Coal and the Lothian Coal Companies. After 1948 the National Coal Board embarked on a massive development scheme of new sinkings, most of which failed spectacularly. By 1984 there were few active pits in central Scotland and deep mining ceased in April 2002 with the closure of Longannet Colliery.

More apparent in the landscape west of Edinburgh are the waste bings of burnt red shale, the residue of the world’s first extensive oil industry. After experiments in London, James “Paraffin” Young came to Bathgate in 1851 to distill cannel coal and ‘torbanite’. Extensive oil shales were exploited across West Lothian and into Fife, the industry employing more than 10,000 workers at its peak in 1910. Ammonium sulphate fertiliser by-product enabled the shale oil industry to compete with direct oil production after 1869. Production ceased in 1962 and little remains but the bings; the Almondvale Museum, Livingston, has exhibitions of the industry. Limestone deposits have been exploited in Fife where the limekilns at Charlestown were once described as the largest in Europe, and in East Lothian near Dunbar where Scotland’s only large cement works still operates. Smaller pockets of limestone are scattered across the region, with kilns producing lime for agriculture, building and the ironworks. Some of the many igneous intrusions have been quarried for road and building stone. Rural vernacular architecture draws on bright red pantiles in the east and tiny Scottish slates in the west. Lowland agricultural improvements are expressed in large steadings, frequently with horse-gin houses and sometimes windmills or engine houses.

Domestic textile manufacture, based on wool and flax, was endemic across Scotland and fulling was being mechanised in the Borders by the late-14th century. The arrival of the new cotton fibre in the 1780s transformed the industries of the Clyde valley, although only one of the four great water-powered cotton villages, New Lanark, is there; the others were at Catrine on the River Ayr, Deanston on the Teith and at Stanley on the Tay. Linen manufacture, once widespread, was concentrated in Fife and on Tayside, lacemaking at Newmilns and Darvel in the Irvine valley. Woollens, both woven and knitted, retained their superiority in the islands and the Borders, the latter as important for machine knitwear as for cloth bearing the generic name ‘Tweed’. Another new fibre, jute, came to Dundee in the 1830s, and the city came to control the industry in Bengal as well as in Tayside. The demands of the textile industry encouraged the first large scale production of sulphuric acid by John Roebuck at Prestonpans (1749) and of bleaching powder by Charles Tennant at St Rollox, Glasgow in 1799. In the early 19th century Scotland’s chemical industry led the world.

Scotland’s iron industry has been another contributor to world fame. The Scottish Bloomeries Project has identified many highland ironmaking sites, and English ironmasters found new sources of charcoal on west coast sites in the mid c18th. Scotland’s first coke smelting works, ‘on the Coalbrookdale principle’ and at the same time Scotland’s first large joint-stock com-
pany, was the Carron Company, established by Roebuck, Garbett and Cadell in 1759 and going into blast in December 1760; in 1767 John Smeaton designed new waterwheels and blowing cylinders. Other works followed slowly at first, Wilsontown in 1779, ten by 1810; but the great period of expansion followed the introduction of J B Neilson's hot blast in 1828 which, with the suitability of local blackband ores, made Scotland a major pig iron producer with 128 furnaces providing 1.15 million tons in 1869. Of the greatest concentration around Coatbridge, hemmed in by the furnaces of Gartsherrie, Gartcosh, Summerlee and Dundivyan, and with 160 puddling furnaces on the banks of the Monkland Canal, it was written:

"To appreciate Coatbridge, it must be visited at night, when it presents a most extraordinary and startling spectacle... the flames of no fewer than fifty blast furnaces may be seen. For a half-a-mile round each group of furnaces, the country is as well illumined as during full moon, and the good folks of Coatbridge have their streets lighted without tax or trouble."

The move to steel began c1880; in 1892, 93 open-hearth furnaces produced 462,000 tons and in 1900 the output was 960,000 tons. Iron smelting ceased at Carron only in 1981, and bulk steel making with the closure of Ravenscraig in 1992.

Shipbuilding is as much a function of trade as of resources, and until the nineteenth century Scotland's trade across the North Sea was supported by many small east coast yards. East coast tradition continued in Aberdeen, Dundee, Leith and Burntisland to the mid-twentieth century, but its output was totally eclipsed by the phenomenal rise of the Clyde to world dominance. That rise began with the development of transatlantic trade in the plantation products of tobacco and cotton, took advantage from the dredging of the Clyde to Glasgow, and built its fame on the twin strengths of innovation and new materials. Henry Bell's Comet, the first practicable steamship in Europe, married a wooden hull to John Robertson's side-lever engine and Robert Napier's boiler, and in later years Napier was to receive a presentation from "officers of the Royal Navy, in grateful recognition of his assistance concerning the building and operation of steam vessels". The Clyde led developments in marine steam engine design.
with compounding, triple and quadruple expansion, for more than a century, and added a penchant for innovation in composite, iron and then steel hulls. By 1913 the Clyde was the world's largest shipbuilding centre, launching more than 750,000 tons. Furthermore, the deepened Clyde lined with shipyards encouraged the growth of myriad supporting manufactures of ships' fittings, furniture and everything required to equip the humble coasters and great floating palaces on the Atlantic run. Two great wars maintained demand, but post-war reorganisation and amalgamation failed to halt the steep decline to the four remaining yards still in operation.

If Scotland's economy was slow to develop through much of the 18th century, its transport links were similarly slow to improve. The drovers' trails from the Highlands to Falkirk's great cattle market (tryst) and south to England remained important until the coming of the railways. Despite a tax on landowners and the appointment of county overseers to direct statute labour in 1719, road improvement came slowly and turnpike Acts, often general Acts covering a county or district, were rare before the 1750s; even then, the Trusts were generally slow to complete their roads. Thomas Telford, better known for his 900 miles of Highland roads, contributed some outstanding bridges to the improvement of the network.

With the exception of the Stevenston coal canal at Saltcoats, 1770-72, the earliest canals were conceived not as carriers of coal but as linking east and west coasts. A canal linking Forth & Clyde was proposed by Charles II, a route surveyed in 1726, but only in 1768 were the various interests reconciled in a Bill based on Smeaton's second survey. The Forth & Clyde Canal opened from Grangemouth to Glasgow in 1777 and was completed to Bowling on the Clyde in 1790. 8ft deep and 40ft wide at bottom, the dimensions of its locks, 80ft x 19.5ft, were to control the dimensions of Scotland's famous coastal craft, the 'puffer', many of which were launched into the Forth and Clyde at Kirkintilloch. At Dundas Basin in Glasgow a link was made (in 1791) with the Monkland Canal, built 1770-90 to carry coal into the city from the 'Monklands', later Coatbridge and Airdrie. Such was the traffic on this canal that the lock flight at Blackhill, four staircase pairs, was hopelessly congested. A parallel flight was built in 1841,
and in 1849-50 an incline with wheeled caissons was designed by James Leslie to carry empty boats up the 96ft change of level. Leslie’s model is displayed in the Museum of Scotland. A canal from Glasgow to Ardrossan Bay, promoted by the Earl of Eglinton and reported on by Rennie and Telford, received its Act in 1806 but was completed only from Glasgow to Johnstone by 1811.

Scotland’s first railways were, as in other parts of Britain, short horse-drawn lines taking coal to coastal harbours. The 1722 Cockenzie waggonway became a defensive line in the 1745 battle of Prestonpans. On the north shore of the Forth, the Elgin Railway (1768), Halbeath Railway (1783) and Fordell Railway (c1750) brought coal to the harbours of Charlestown, Inverkeithing and St Davids. The Fordell Railway, rebuilt in 1833 with iron rails, retained its 4ft 4in gauge until closure in 1944; a curious waggon is preserved by the National Museums. The Duke of Portland’s Kilmarnock & Troon plateway, opened in 1812, saw the brief trial of a Stephenson locomotive in 1817. In 1829 the plateway was described as “built on an unimproved and objectionable principle”, but the plate rails remained until 1848 when it was absorbed by the Glasgow, Paisley, Kilmarnock & Ayr Railway. The Monkland & Kirkintilloch, opened in 1826 as a feeder to the Forth & Clyde Canal and to break the monopoly of the Monkland Canal on coal prices in Glasgow, soon found itself competing with the direct Glasgow & Garnkirk Railway, the first in Scotland to adopt the rapid engineering advances already appearing in England by 1831. From these advances, and the perceived potential of Scottish industry to provide returns to railway investors, the modern Scottish railway network was born.

With a rapidly developing infrastructure and booming staple industries, Scotland seemed set fair to justify the epithet, ‘workshop of the British Empire’. Prosperity seemed assured and confidence flourished, reflected in Glasgow’s late-19th century commercial buildings. ‘Sic transit gloria mundi!’. The 1914-18 War dealt a savage blow to Scotland’s coal exports, but demands for ships, armaments and aircraft dragged manufacturing Scotland back from the brink of outdated management and machinery. The 2nd World War rescued manufacturing again, but subsequent peace has seen the decline to near extinction of industries which carried the names of Scottish products and Scottish engineers to all corners of the world. Glasgow’s foundries and engineering workshops have all but disappeared, Johnstone’s machine toolmakers and Greenock’s sugar refineries are no more. Glasgow’s world-famous builders of railway locomotives, Neilsons, Dubs and Sharp Stewart, amalgamated in 1903 to form the North British Locomotive Company, Europe’s largest producer, but the new company was slow to embrace diesel technology and failed in 1962. The need for new industry had been foreseen in the 1930s when the Scottish Industrial Estate at Hillington began the process of providing new working premises, a process which makes industrial buildings the same countrywide. In recent years Scotland has been particularly fortunate in attracting foreign investment and modern technology; there were 62 Japanese companies operating in Scotland in 1999, mainly in the electronics and telecommunications industries of ‘Silicon Glen’ which are currently in recession.

Scotland has a long tradition of concern for industrial heritage, going back at least as far as Robert Napier’s rescue of the engine from Henry Bell’s Comet after she foundered off the west coast in 1820. John Hume’s pioneer survey of the IA of Glasgow and his work with Michael Moss are outstanding examples of concern and action. In 1977 the University of Strathclyde established the Scottish Industrial Archaeology Survey whose staff and activities were transferred in 1985 to the Royal Commission on the Ancient and Historical Monuments of Scotland, to continue the fine traditions of recording already established by Geoffrey Hay. Scotland has been fortunate in its recorders, not quite so fortunate, perhaps, in its industrial museums which have suffered massive reductions of financial support in recent years. As for the surviving heritage of industry, this Guide can give no notion of what has been lost, only a taste of what remains.
Famed as one of the great architectural cities of Europe (the city centre is a World Heritage Site), and now the revitalised capital of devolved government, Edinburgh has also been a city of some industrial significance. Scotland’s traditional trading links were across the North Sea and Leith was the country’s principal port until the accolade was wrested away by the growth of trans-Atlantic trade and the rise of the Clyde. John Rennie, born some twenty miles east of the city, made a major engineering contribution to the infrastructure of the port, some of which remains. Ships, dock machinery and locomotives led the array of engineering activities, joined in the mid-19th century by electrical engineering and the manufacture of gas meters.

Domestic rather than industrial consumption of coal earned Edinburgh the soubriquet ‘Auld Reekie’. The majority came from the Lothian basin to the south east of the city, where mining dates back to the 12th century and in later years reached the margins of the city, continuing until the 1990s. The Water of Leith, traversing a deep valley north of the old city, provided water power for early industry. Edinburgh’s status as an administrative and university centre encouraged papermaking outside the city, printing and publishing within it; and the city became a world leader in the manufacture of paper making and printing machinery. John Roebuck established sulphuric acid production based on coastal salt boiling, and there were important pottery and glass works.

**EE1 SLATEFORD AQUEDUCT**
Slateford Rd, 3 miles SW of city centre
NT 221708  B, SCH
Access: seen from street
8 semi-circular arches carry Union Canal 75ft above the Water of Leith, built 1818-22 by Hugh Baird, modelled on Thomas Telford’s aqueduct at Chirk on the Ellesmere Canal.
Immediately E, a reinforced concrete aqueduct, 1936 over A70 Lanark Rd.

**EE2 SLATEFORD MALTINGS**
Slateford Rd, 2¹/₂ miles SW of city centre
NT 227715  B
Access: seen from street
2 blocks forming court with kilns behind, adjacent block with central arch, all 6-storey with upper 4 floors in giant segmentally arched recesses, c1900. Operated by Scottish & Newcastle Breweries, said to be largest floor-maltings in the world. Closed 1980s, converted to dwellings 1990s with grant assistance from Historic Scotland.

*left: EE1: Slateford Aqueduct
below: EE2: Slateford Maltings*
**EE3 CALEDONIAN BREWERY**
Stateford Rd, 2 miles SW of city centre
NT 231720
Access: seen from street
Very complete example of brewery complex, late-19thC/early 20thC, comprising offices, maltings with double kiln and double barley kiln, brewhouse, chimney and ancillary buildings. Main ranges in red brick with white brick dressings, partly whitewashed. Last surviving traditional Edinburgh brewery; Edinburgh was once a major brewing centre in Scotland, but by 2000 only two breweries operating.

**EE4 GRANTON GASHOLDERS**
West Granton Rd, 2½ miles NNW of city centre
NT 224771
Access: private; surrounding land under redevelopment
Three gasholders, the centre one telescopic, 1903, the others waterless German, 1933 and 1967, mark the site of Edinburgh & Granton Gas Works, established 1902 (engineer W R Herring). Out-of-town site had its own railway station which still survives. Site currently being redeveloped, and two large waterless gas holders and most surviving buildings are to be demolished.

**EE5 MADELVIC MOTOR FACTORY**
Graniton Park Ave, 2½ miles NNW of city centre
NT 233772
Access: seen from street
Red brick 2-storey office block, with chain-driven wheel emblem above the door, and 2-storey factory beyond, probably Britain’s first purpose-built motor factory. Established 1899 by the Madelvic Motor Carriage Co., which made battery-electric vehicles. From 1900 other companies made or assembled cars to 1912.
Later a torpedo factory, then weaving shops of United Wire, 1925-2001, who specialised in the production of wire cloth for a variety of industrial uses, notably the paper industry, still very important in the east of Scotland.

EE5: Madelvic motor factory

EE6 LIGHTHOUSE AND DEPOT
West Harbour Rd
NT 234774
Access: seen from street
Engineering, buoy store and testing facility for the Northern Lighthouse Board, with experimental light tower added 1884. From 1891 gas was compressed for replenishing buoys and beacons. To E, railway warehouses including 2-storey with 3 arched doorways and bracket hoists.

EE7 GRANTON HARBOUR
Lower Granton Rd
NT 237774
Access: public
Harbour enclosed by 2 breakwaters, with central pier, developed 1835-63 by the Duke of Buccleugh. In 1848 it was connected with Edinburgh by the Edinburgh, Leith & Granton Railway and by steam ferry to Burntisland, Fife; the world's first train ferry, designed by Thomas Bouch, ran from here 1850-90. West basin part-
filled. Adjacent, in Granton Square, Customs House c1838.

**EE8 BELL’S MILLS, DEAN VILLAGE**

*Dean Path. 3/4 mile W of city centre*

**NT 239740**

*Access: seen from street*

Dated 1805-1806 on wheatsheaf roundel. 4 and 5-storey, rubble-built, roundel window features, twin sluice arches. Latterly a warehouse, now converted to dwellings. Immediately downstream, a sizeable dam.

**EE9 DEAN BRIDGE**

*Edinburgh, Queensferry Rd*

**NT 242740**

*Access: public space, at road level, and by river*

4 semi-circular arches carrying roadway flanked by segmental arches on slim panelled piers carrying footpaths, by Thomas Telford 1829-31. Best seen from below on Water of Leith walkway.

**EE10 HAYMARKET STATION**

*Haymarket Terrace, West End*

**NT 240732**

*Access: public place*

John Miller, engineer, 1840, opened 1842. Italianate 2-storey entrance block with central clock, set at an angle to the 4 platforms at lower level. Original trainshed reconstructed by Scottish Railway Preservation Society at Bo’ness (C39).
**EE11 ROSEMOUNT BUILDINGS**  
Gardener’s Crescent, Fountainbridge  
NT 245730  
Access: seen from street  
Quadrangle of 96 flats for ‘artisans’, polychrome brick with corner towers, 1859, restored c1990. Adjacent, 4-roomed terraced cottages, 1853.

**EE12 LEAMINGTON LIFT BRIDGE**  
Gilmore Park, 1 mile SW of city centre  
NT 244726  
Access: public space  

**EE13 EDINBURGH MEAT MARKET**  
56-58 Fountainbridge  
NT 247729 Listed  
Access: seen from street  
3-storey meat market and former abattoir built 1884; a three-arched frontage with bulls’ heads under the pediment. Latterly a restaurant, now seeking new use.

**EE14 LOTHIAN HOUSE**  
Lothian Road, West End  
NT 247731  
Access: seen from street  
Very large building on the site of terminal of the Union Canal, a mix of shops, offices and flats, mid 1930s. Metal panels between windows depict various trades; central bay has a canal boat and horses (below) with the legend ‘On this site stood Port Hopetoun, 1822-1922’.
EE13: Edinburgh Meat Market

**EE15 STOCKBRIDGE COLONIES**  
Glenogle Rd. 1 mile NW of city centre  
NT246748  
Access: seen from streets  

**EE16 NEWHAVEN HARBOUR**  
Newhaven, Pier Place  
NT 254772  
Access: public place  
Small harbour built and rebuilt from c1812, still used by small boats; the concrete West Pier, 1876-8, has a small octagonal cast iron leading light. On the E side a fish market, converted to restaurant and museum (free admission). Traditional buildings in Newhaven village have been restored and modernised.

**EE17 LAING'S FOUNDRY**  
Beaverbank Place, Canon Mills 1 mile N of city centre  
NT 255754  
Access: private, entry by appointment  
Small iron foundry specialising in commemorative plaques and architectural ironwork, some for repairs to Edinburgh's historic buildings, some replicating the products of Scotland's famous ornamental iron founders.

**EE18 POWDERHALL REFUSE DEPOT**  
Edinburgh, 165 Broughton Rd  
NT 258755  
Access: seen from street  
Baronial style single storey symmetrical range of offices with 2-storey central and terminal pavilions, by the City Engineer, 1893. Domestic rubbish now rail-freighted to fill limestone quarries near Dunbar.

**EE19 CASTLEHILL RESERVOIR**  
Edinburgh, top of Royal Mile  
NT 253735  
Access: exhibition space and shops  
Part of Edinburgh's early, extensive water supply, an Act concerning which was passed 1621. Built on site of a smaller reservoir of c1755. Former deep reservoir now used as tartan weaving shop/exhibition area.

**EE20 WAVERLEY RAILWAY STATION**  
Edinburgh, entered from Waverley Bridge  
NT 258738  
Access: public place  
Established 1846 by the North British Railway, soon joined by the Edinburgh & Glasgow and Edinburgh, Leith & Granton Railways. Rebuilt 1892-1902. Since 2000 subject of a controversial redevelopment application which would raise the height of the roof, requiring a special Act of parliament.

**EE21 ROYAL MUSEUM**  
Chambers St, 1/2 mile S of city centre  
NT 258733  
Access: museum (free admission)  
Established 1854 as the Industrial Museum of Edinburgh, impressive galleried main hall and side wings, cast iron columns and glass roofs completed in 3 stages, 1865-89. Headquarters of the National Museums of Scotland; adjacent Museum of Scotland completed 1998. Large stationary engines and significant industrial displays.

**EE22 WAREHOUSES**  
Leith, Great Junction St  
NT 268762  
Access: View from street  
Fine classical-fronted ranges of 3-storey ware-
houses with cart entrances, c1810; part formerly housed the brewing plant of Crabbie's Green Ginger Wine.

**EE23 TRINITY HOUSE OF LEITH**  
Leith, Kirkgate  
NT 270761  
Access: view from pedestrianised street  
Built 1555 as a hospital for 'decayed mariners' by the Fraternity of Masters and Mariners of Leith, and rebuilt in classical style 1816. Leith has many buildings relating to its former maritime importance.

**EE24 DOCK WAREHOUSES**  
Leith, Commercial St  
NT270767  
Access: private, view from street  
Long 4-storey range of rubblestone warehouses by John Rennie and John Paterson, 1810, now converted to offices. Also in Commercial St, Leith Customs House, in classical style, 1812, currently a museum store.

**EE25 LEITH DOCKS**  
Leith Waterside  
NT 271768  
Access: private, but S margin open to view at several points  
Edinburgh's port in the mouth of the Water of Leith, the first docks, East and West, designed by John Rennie 1800-06 and 1810-17, now filled. New docks, Victoria 1847-51 (J M Rendel), Prince of Wales Graving Dock 1858, Albert 1869, Edinburgh 1877-81, Imperial and Alexandra 1896-8; the outer harbour enclosed with new entrance 1943. Hydraulic power station now converted to Dock Offices; by Albert Dock is an early hydraulic dockside crane.

**EE26 INCHKEITH LIGHTHOUSE**  
On Inchkeith Island in Firth of Forth  
NT 293829  
Access: private  
Lighthouse and ancillary buildings for the Commissioners of the Northern Lighthouses, 1804. First lighthouse in Britain to be fitted with a revolving optic with Fresnel lenses, 1835. Later optic displayed in the Royal Museum, Edinburgh (EE21).

**EE27 PORTOBELLO POTTERY**  
Pipe St, 3 miles E of city centre  
NT 304742  
Access: seen from street  
Pottery manufacture established c1879, all buildings demolished except 2 bottle kilns, 1906 and 1909, preserved.

**EE28 DALMORE PAPER MILL**  
On B7026 S of Auchendinny  
NT 253618  
Access: seen from B7026.  
Last remaining paper mill of several on River Esk, begun 1837. From 1860s it produced paper from esparto grass and expanded rapidly. Most of brick buildings rebuilt late-19thC. Penicuik railway ran through complex.

**EE29 BURDIEHOUSE LIME WORKS**  
Burdiehouse Mains, Burdiehouse Road.  
NT 277673  
Access: visible from A701 and A720 Edinburgh bypass. Three interconnected kilns comprising one three-draw polygonal, one single segmental and one two-draw, well built in coursed rubble and brick lined, probably early-19thC. Burdiehouse Limestone originally worked by series of quarries between Straiton and Burdiehouse Mains and S of Pentland Mains.

**EE30 BILSTON GLEN RAILWAY VIADUCT**  
Crossing Bilston Burn, S of Loanhead, Midlothian.  
NT281648  
Access: Footpath, open to the public.  
Single deep wrought iron truss on low abutments with second pair of massive abutments supporting the line at high level on either side of the truss, on North British Railway Glencorse branch, 1872, 150ft above burn. Recently restored, receiving a Saltire award for conservation.

**EE31 IRON MILL - GRAIN MILL**  
Iron Mills Park, Dalkeith.  
NT 326670  
Access: seen from public park.  
Iron milling began in Dalkeith in 1648, this water powered mill produced iron goods including clogs for miners. Complex includes iron mill, 3-storey and attic rubble building on L-plan with Gothic windows, single storey wing linked to miller's house and cart shed range. Converted to corn mill early 19thC and for residential use 1982. Substantial masonry weir upstream.

**EE32 DALKEITH WATER TOWER**  
Dalkeith, Cemetery Road (A6094).  
NT 327671  
Access: seen from road.  
Erected 1879 by recently founded Dalkeith Town Council, to provide supply of clean water for Eskbank. Designed by James Leslie, octagonal polychrome brick tower with ashlar dressings and slated timber tank housing on stone cornice at top. Sympathetically converted to house, 1989.
EE33 GLENESK VIADUCT
Off B6392 on outskirts of Dalkeith
NT 324671
Access: public cycleway
Large semicircular arch which carried Waverley route over River North Esk. Usually assumed to have been built by Grainger and Miller in 1849, but possibly earlier, for Edinburgh & Dalkeith railway. Owing to mining subsidence, masonry strengthened with steel centring. Railway closed to passengers 1969.

EE34 NEWBATTLE VIADUCT
Adjacent to A7 just north of Newtongrange.
NT 327648
Access: seen from road.
23-span viaduct with brick arch rings and coursed rubble piers braced with old rails, carrying Waverley route over River South Esk, 1849. Replaced earlier bridge for the Edinburgh and Dalkeith Railway which had stone pillars and cast-iron arches supporting timber structure over 1000ft long.

EE35 LADY VICTORIA COLLIERY
By A7 21/2 miles S of Dalkeith
NT 334637
Access: Scottish Mining Museum (admission charge)
Sunk 1890-94 by the Lothian Coal Co, single shaft (used nearby Lingerwood Colliery as 2nd shaft) with Grant Ritchie steam winding engine, boiler house with 7 Lancashire boilers and economiser, Baum washer and extensive screens over multiple rail tracks. To N., Newtongrange village, built at same time by the company to house miners.

EE36 ESPERSTON LIME KILN
c1 mile NE of Esperston Farm.
NT 345577
Three-draw kiln, 19thC, at S end of an embankment which carried narrow gauge railway serving extensive quarries. Four large kilns ½ mile E demolished 1992, despite being scheduled. Lime burning continues to E at Middleton.

EE37 DALKEITH COLLIERY WASTE TIP
On A6124 at Crossgatehall
NT 364686
Access: seen from road
Originated by Smeaton Colliery, later Dalkeith Colliery (1903-1978) before being taken over by NCB who built one of Scotland’s first central preparation plants adjacent to mine and continued tipping. Few remaining coal tips are only obvious remains of a once extensive industry in Mid and East Lothian.
EE38 COUSLAND SMIDDY
Cousland, 31 Hadlast Rd
NT 378685
Access: seen from road
Late 18thC rubble built, pantile roofed single storey structure attached to dwelling, both currently disused. Interior complete with anvils, bellows and full range of tools. Cousland Smiddy Preservation Trust hopes to repair and develop it further.

EE39 PRESTONGRANGE BRICK KILN
Prestongrange Museum, on B1348, W of Prestonparis.
NT 371736
Access: Museum, site open to the public.
Prestongrange Colliery, sunk 1829 and owned by Summerlee Iron Co. before passing to NCB, produced good quality fireclay in addition to coal, used on site to produce firebricks, tiles and pipes. Round downdraft kilns demolished when the pit closed 1962 but the Hoffman-type kiln with 24 chambers remains, forming part of the Prestongrange Industrial Museum.

EE40 PRESTONGRANGE PUMPING ENGINE
Prestongrange Museum, on B1348, W of Prestonparis.
NT 373736
Access: Museum, site open to the public.
Prestongrange pit was sunk 420ft. by Matthias Dunn in 1829, and rebuilt 1872-74 by Matthew Loam of Liskeard, who sank a second shaft to the Beggar Coal and purchased the present reconditioned engine from Harveys of Hayle. Engine was “fourth-hand”, having been built originally by J E Mare & Co., Plymouth to a Hocking and Loam design. Worked at Wheal Exmouth and Adams, Christow, South Devon 1853-62, Old Wheal Neptune, Perranuthnoe, Cornwall, 1862-9 and Great Western Perranuthnoe, 1869-73. Harveys fitted new cast beam to make 12ft. stroke (10 ft in shaft) with 2 x 26" plunger lifts. In 1952 engine was operating 2, 3-hour shifts at 21/2 strokes per minute each day, 1954 last certain operation. Pit closed and site partially cleared 1962 to 1964. Preserved as centrepiece of Prestongrange Industrial Museum.

EE41 COCKENZIE POWER STATION
Cockenzie, prominent on shores of Forth estuary
NT 395754
Access: seen from adjacent B1348

EE42 COCKENZIE HARBOUR
Cockenzie, West Harbour Road
NT 399757
Access: public place.
Small harbour on Forth, rebuilt in present form by Robert Stevenson and Sons, 1835. L-plan east pier and west breakwater, both rubble built. Two boat slips leading from modern boat repair shed.

EE43 PORT SETON HARBOUR
At E end of Port Rd, Port Seton.
NT 405759
Access: public
Small harbour formed by 2 concrete-faced piers (but C18th) with angled heads, with central pier giving two basins. Still in use by fishing craft.

EE44 COCKENZIE WAGGON WAY
Runs from Cockenzie to Tranent, part beside B6371.
NT 398757
Access: seen from public place.
Scotland’s first railway, opened 1722 by York Buildings Co. from coal pits at Tranent to Cockenzie Old Harbour, c2 1/2 miles. Track can be followed beside B6371 and as footpath between hedges.

EE45 BIRSLEY BRAE COAL WORKINGS
Tranent, Birsley Road, in woodland
NT 392728
Access: seen from public place.
Tranent/Cockenzie area mined extensively since medieval times. At Birsley Brae on outskirts of Tranent, overgrown remains of several bellpits, more easily seen in winter.

EE46 LOTHIAN BRIDGE
On A68, NW of Pathhead.
NT 391645
Access: public place; best seen from minor road to W
Five-span bridge with almost semicircular arches 80ft. high and 50ft. span, commissioned by Sir John Dalrymple when he was convenor of roads for district and built by Thomas Telford, 1827-31. Flat segmental arches carry footpaths as at Dean Bridge, Edinburgh.

EE47 KILN WOOD LIME KILN
On minor road 1 mile SE of Crichton
NT 392616
Access: just visible from road
Two very substantial 3 draw kilns at right angles to each other, with range of single-storey offices/houses nearby, early 19thC; disused and ruinous.

EE48 TYNEHEAD FARM CHIMNEY
On B6367, 1 1/2 miles N of A7
NT 393593
Access: seen from road.
Well-constructed steading, 1850, had a steam-
powered threshing mill; substantial brick chimney still stands.

**EE49 MAGAZINE LIME KILN**  
Off A68, E of Hope Farm.  
NT 411627  
Access: seen from road.
Three-draw rubble kiln in good condition but disused early 19thC. North Greens limestone was quarried and mined at this site. Across road, adjacent to Hope farm, remains of substantial set of kilns, not visible from any nearby road.

**EE50 GLENKINCHIE DISTILLERY**  
On minor road, two miles W of West Saltoun  
NT 443668 Malt Barns: B  
Access: Visitor Centre open to the public.
Originally founded circa 1840, one of few lowland distilleries still in production. Brick buildings dating from 1890 when Glenkinchie Distillery Co. was formed. Several blocks of red and white brick cottages associated with distillery. Visitor centre has working model distillery made for 1936 Empire Exhibition.

**EE51 WEST SALTOUN MILL**  
Just off minor road at Milton Bridge W of West Saltoun  
NT 459667 B  
Access: seen from road.
L-shaped group of buildings, consisting of mill, granary and brick-lined kiln in stone and pantiles, early 18thC, on site of first pot-barley mill in Scotland. Machinery removed and buildings converted to housing.

**EE52 MIDDLEMAINS LIME KILN**  
Near Middle Mains cottages between West Saltoun and Samuelston  
NT 473692 B  
Access: seen from road.
Bank of 4-draw kilns in reasonable repair, rebuilt 1817-20. Saltoun Lime Works worked the excellent Long Craig and Skateraw limestones in long opencast pit.

**EE53 EAST MAINS FARM CHIMNEY**  
On minor road at Samuelston, c3 miles SW of Haddington.  
NT 486710 Farm: C  
Access: seen from road.
Square red brick chimney and associated tall, hipped-roofed boiler house, mid 19thC, served steam-driven threshing mill, typical of many once active in East Lothian and Berwickshire.

**EE54 EAST FORTUNE AIRFIELD**  
Off B 1347, 31/2 miles NE of Haddington  
NT 55 79 Part Listed, part Scheduled  
Access: part private, part museum (admission charge)
Established 1915 for Royal Naval Air Service, as defensive aeroplane and airship station; R34 began first trans-Atlantic flight here, 1919. Hospital to N and other dispersed ancillary buildings make this the UK’s most complete WW1 airfield. Active in WW2 when various buildings added. Now Museum of Flight, part of National Museums of Scotland.

**EE55 PRESTON MILL**  
Off B1407, 4 miles NE of Haddington  
NT 595778  
Access: National Trust for Scotland (admission charge)
Low rubblestone and pantile single-storey & attic mill, octagonal drying kiln with oasthouse type cowl. Early 20thC machinery restored and can be demonstrated.

**EE56 BELHAVEN BREWERY**  
Brewery Lane, 1 mile W of Dunbar  
NT 663787  
Access: seen from road.
Established 1719, rebuilt c1814, single and 2-storey pantiled buildings with 2 pyramidal-roofed malt kilns and 1884 chimney, still brewing traditional beers.
South of Scotland's central rift valley lie the southern uplands, drained eastwards in narrow valleys by the Tweed and its tributaries. The economy is predominantly rural and agricultural, but the combination of sheep farming and copious flowing water encouraged a widespread woollen textile industry, of which Galashiels, Selkirk and Hawick became the chief centres. The area's other major contributors to industrial heritage are the routes between the Central lowlands and the English border, as they meet the challenges of hilly terrain and large rivers. The closure in January 1969 of the North British Railway's 'Waverley route', from Edinburgh via Galashiels and Hawick to Carlisle, and its branches has been a major factor in the economic decline of the area.

**B1 PACKHORSE BRIDGE, STOW**  
By A7, 6 miles N of Galashiels  
Access: seen from road  
Three segmental arches of diminishing size across the Gala Water and its flood plain, built 1654-5 by the Kirk Session to allow west-bank dwellers access to the church.

**B2 CUDDY BRIG, INNERLEITHEN**  
Crossing Leithen Water N of village centre  
Access: public place  
Single-span packhorse bridge of rubble masonry, built 1701 with funds from the stipend of the local ministry which was vacant.

**B3 CAERLEE MILL, INNERLEITHEN**  
In village, NW of A72  
Access: seen from street  
Earliest woollen mill in the Borders, built 1788-90 by Alexander Brodie, 4-storey & attic, with mid-19thC extension and later weaving and knitting sheds. Powered by lade from Leithen Water, the intake surviving at NT 336385. Two 19thC turbines survive in wheelpit. Still in use, by Ballantynes Cashmere Ltd.

**B4 TRAQUAIR HOUSE BREWERY**  
11/4 miles S of Innerleithen  
Access: part of the historic house tour; admission charge  
Small, 2-roomed brewery in service, c1739, has been restored to regular production. The original boiler is still in use.

**B5 ROBERT SMAIL'S PRINTING WORKS**  
7-9 High St, Innerleithen  
Access: National Trust for Scotland, open to visitors: admission charge  
Small town printing workshop established 1867. The lade (see B3) passes beneath and contin-
ued to serve a 14ft waterwheel at Meikle's saw
mill, and another wheel at Hogg & Robertson's
Engineering (both Listed B); wheels survive but
are difficult to access.

**B6 WAVERLEY MILLS, INNERLEITHEN**

In village S of A72
NT 333365
Access seen from streets
Built 1870 as a steam-powered mill, the boiler
house (dated 1871) with cast iron roof tank and
octagonal polychrome brick chimney survive.
Carpet yarn still produced in 1920 reinforced
concrete spinning shed.

**B7 WALKERBURN VILLAGE**

On A72 8 miles W of Galashiels
NT 363372
Access: seen from public roads
Village founded by Galashiels weavers Henry
Ballantynes, with Tweedvale (1855) and
Tweedholm (1859) Mills powered by lade from
the R Tweed. Tweedvale weaving sheds (NT
358370) now converted to industrial units, later
Tweedholm buildings (NT 358372) empty; oppo-
site is a cast iron urinal c1897 by Walter
Macfarlane's Saracen Foundry. Company hous-
ing includes block of mass concrete tenements,
1876.
B8 Tweed Mill, Galashiels
By A72, 1 mile NW of town centre
NT483369
Access: seen from road
Long 3-storey & attic block with two projecting stair towers and central clock, a steam mill built 1852 for P & R Sanderson, later Kemp Blair, Dyers & Finishers. Partly converted to housing, as is adjacent 3-storey West Mill.

B9 Cornmill Fountain, Galashiels
Cornmill Square, at S end of town centre
NT 493360
Access: public place
Town’s water lade follows W side of A72 and was transformed by no less than Sir Robert Lorimer, 1912-13 into a water feature with cherubs on dolphins guarding a sluice.

B10 Valley Mill (Mid Mill), Galashiels
Paton St, off Cornmill Square
NT 494359
Access: seen from car park
Mid-19thC 4-storey block added to site established 1793, reduced to plain range when projecting central stair block and 1866 engine house demolished 1984 for addition of Tesco’s supermarket shed.

B11 Netherdale Mill, Galashiels
By riverside (Gala Water) 1⅓ miles ESE of town centre
NT 506353
Access: seen from street
4-storey block in reddish stone, 1873, formerly part of a major complex for J & W Cochrane, much of which has been demolished, now incorporated into Galashiels College of Textiles, part of Heriot-Watt University.

B12 Waverley Castle Hotel
By B road on W outskirts of Melrose
NT 532347
Access: seen from grounds and as patron
Originally the Waverley Hydropathic Institution, extensive 3-storey and basement building of mass concrete by J C Walker, 1869-71, using Charles Drake’s patent ‘Concrete Builder’, and extended 1876.

B13 Melrose Railway Station
By A6091 Melrose bypass
NT 541340
Access: seen from bypass, accessible only from town
2-storey station building in Flemish style, 1847-49 by John Miller for the North British Railway. The ‘Waverley’ route was closed January 1969, and the Melrose bypass follows the trackbed, passing the forlorn down platform, still with its
wooden canopy, at 1st floor level of the station building, converted to offices and restaurant.

**B14 GATTONSIDE CHAIN FOOTBRIDGE**
Crossing R Tweed between Gattonside and Melrose
NT 544346
Access: public footpath
Originally built 1826 with blacksmith-forged chains supported on gothic crenellated pylons, Redpath Brown & Co, massively and unsympathetically rebuilt 1991 with new deck.

**B15 LEADERFOOT VIADUCT**
By A68, crossing R Tweed
NT 563347
Access: seen from roads
Tall, slender viaduct of 19 arches, 1865 for the Berwickshire Railway which joined the North British 'Waverley' line 1/2 mile south.

**B16 DRYGRANGE BRIDGE**
On old road adjacent to A68 Tweed Bridge
NT 574347
Access: public place
4-arched masonry bridge with 100ft centre span, by Alexander Stevens 1779-80. Invisible from the box girder viaduct by Alexander Gibb & Partners, 1971-3 which now carries the A68.

**B17 KELSO BRIDGE**
Carries A699 across R Tweed
NT 728336
Access: public road
Five elliptical spans of 72ft on rounded cutwaters with Doric columns, supporting a level roadway, designed 1799 by John Rennie, built 1801-04 by Murray & Lees, cost £12,876. Single storey tollhouse in matching style at N end; lamps from London Bridge.

**B18 ROXBURGH VIADUCT**
3 miles SW of Kelso
NT 702304
Access: minor roads from A698 and A699
Curved viaduct with 6 large ashlar and 8 smaller coursed rubble arches, 1850 for the North British Railway, closed 1964. Three centre piers carry a footbridge at lower level with lenticular cast and wrought-iron trusses.

**B19 SELKIRK RIVERSIDE**
In valley on NW edge of Selkirk
NT 47 29
Access: seen from roads
Early 19th century linear industrial estate on flat Ettrick Water valley floor, exploited by Galashiels mill owners to build state-of-the-art woollen mills when all water-powered sites in Gala were occupied. Another ten mills added after 1856 arrival of the railway bringing coal for steam power. From N to S along Dunsdale Road, Dunsdale Mill (NT 474295, Listed B) 1837, and a second mill of 1863-6 with handsome beam engine house; Ettrick Mill (NT 472293, Listed A) 1836 and 1850, recently converted for business, 2-storey

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left: B15: Leaderfoot Viaduct
below: B19: Ettrick Mill, Selkirk
B20 KALEMOUTH SUSPENSION BRIDGE
Minor road off A698, 4 miles S of Kelso
NT 709274
Access: public road
Light suspension bridge over R Teviot, with iron link chains and wooden deck and parapets, supported on pyramidal stone pylons, c1830 by Captain Samuel Brown.

B21 HAWICK RIVERSIDE
Commercial Rd.
NT 50 15
Access: seen from street
Dangerfield Mill (NT 502 150, Listed A), founded 1804, is the place where the term "Tweed Cloth" originated through the misreading of "Tweet". William Watson and Sons' wool-spinning mules installed by Platt Bros in 1873, carding engines and line shafting continued in commercial use until the firm closed in 1991, and are preserved by International Knitwear Ltd. Wilton Mills (NT 502152, Listed B) with clock tower, next to Dangerfield on the same lade; machine hosiery was introduced here. Tower Mill (NT 502144, Listed A) built on an arched bridge over the River Slitrig has a large waterwheel and is to be an archives centre. Later mills in Hawick are either former tweed weaving sheds now adapted to hosiery (eg., Victoria Mill, Howlands Mill, Glebe Mill and Eastfield Mill), or hosiery works that have expanded over the years, eg Buccleuch Mills with its large hand frame shop having characteristic small windows, and Scott Mill, Buccleuch St.
From Edinburgh on the southern shores of the Forth to Glasgow in the lower Clyde valley is less than fifty miles, but the area between provides many contrasts. Direct roads climb over moorland ravaged by mining and quarrying, scorning the lowland corridor of the Carron and Kelvin valleys traversed by the Forth & Clyde Canal and the Edinburgh & Glasgow Railway. West of Bo’ness the Forth is fringed by reclaimed mudflats, the ‘kerse’; whilst the Middle Clyde has excavated a deep valley whose sides are divided by the steep gullies of tributaries. Mining has been the unifying factor, oil shale in the east but coal over most of the area, with its ancillaries of ironstone and fireclay mining and the manufacture of bricks. Open cast mining is still active on the central and western moors. The great centres of the Scottish iron industry were here, in the Monklands centred on Coatbridge, and in Kirkintilloch and Falkirk to the north; over two centuries Falkirk has had 42 foundries.

**C1 LUGGIE AQUEDUCT**  
Kirkintilloch, off A8006 E of town centre  
NS 657739  
Access: public place  
Single masonry span carrying Forth & Clyde Canal over Luggie Water. In 1848 the Edinburgh & Glasgow Railway’s Campsie branch built through the arch and the stream was culverted.

**C2 TOWNHEAD RESERVOIR**  
Off A803 1\(\frac{1}{4}\) miles E of Kilsyth  
NS 736785  
Access: public footpaths  
One of a number of Forth and Clyde Canal reservoirs, this was filled by 1773. By 1786, over 2000 locks full of water could be taken from this reservoir alone.

**C3 GLENBOIG UNION FIRECLAY WORKS OFFICES**  
Main Street, Glenboig, 2\(\frac{1}{2}\) miles N of Coatbridge  
NS 724687  
Access: seen from road  
2-storey offices in yellow brick with red sandstone dressings and etched windows with G U F. 1905.

**C4 SUMMERLEE HERITAGE PARK**  
By A89, 7\(\frac{1}{2}\) mile W of Coatbridge centre  
NS 730654  
Access: museum (free admission)  
Industrial museum, part open-air, established 1982 on the site of the Summerlee Ironworks (founded 1836, maximum of eight hot blast furnaces, closed 1930 and demolished 1939); excavated foundations and 1830s office building remain. Reconstructed drift mine, miners’ cottages, atmospheric colliery winding engine (c1820, from Rutherglen), street tramway and enormous machine halls with varied industrial collections displayed as in a trade exhibition.

**C5 CALDERBANK IRONWORKS ETC**  
Off B802, 3 miles ESE of Coatbridge  
NS 771 628  
Access: public place,  
Calderbank Iron Co established 1797, with 6 furnaces and 60 puddling furnaces by 1841,
becoming Monklands Steel Co. Closed 1887, new steel works operated c1900 - 1930. Great variety of slags studied by Scottish Analytical Services for Art & Archaeology.

C6 MUIRKIRK IRON AND COAL FIELDS
Off A70, 16 miles SW of Lanark
NS 69 26
Access: mainly open moorland
At 695257, foundations of stillhouse and kilns of tarworks established by Archibald Cochrane, Earl of Dundonald, 1786 (later leased by J L
MacAdam); coke bye-product a factor in Muirkirk Ironworks, founded 1787 with 3 furnaces by 1796. Ironworks closed 1923, demolished 1968. Detailed survey by RCAHMS, 1991-92, recorded landscape of coal pits, limestone quarries, tramways, water leats and workers' housing.

C7 CARLUKE WINDMILL
By A721 in town centre
NS 849508
Access: seen from street
3-storey tapering tower mill with 2-storey extension and outbuildings. Some of the internal machinery conserved and in store.

C8 CARTLAND CRAGS BRIDGE
On A73 1 mile NW of Lanark
NS 869445
Access: very difficult to see
Provides gentle crossing on three 62ft masonry spans 122ft above the Mouse Water, which flows in a very deep wooded gorge. Telford, 1820-1823.

C9 NEW LANARK MILLS AND VILLAGE
In Clyde Gorge 1 mile S of Lanark
NS 880426
Access: public place (admission charge to exhibitions and themed ride)
C10 CLYDE FALLS POWER STATIONS
On R Clyde, 1 mile SW and NW of Lanark
NS 883416 and 855440
Access: seen from footpaths (private road to Stonebyres)
Two stations built under Lanarkshire Hydro-electric Power Act 1924, to use Falls of Clyde above and below New Lanark. Bonnington commissioned 1927, 11,000kW, Stonebyres 1928, 5,500kW, both 'through stations' (no reservoirs).

C11 CARMICHAEL MILL
Off A73 1 1/2 miles S of Lanark
NS 922416
Access: seen from road, entry by appointment
Mid-19thC 3-storey corn mill with wheelhouse and outbuildings, converted to dwelling but retaining internal machinery as a feature. Site also has remains of early (horizontal?) mills and ironworking; whilst a separate wheel drove long shaft under yard to adjacent farm steading. Close to Hyndford Bridge over Clyde, 1760s.

C12 SHOTTS IRONWORKS
Bt B7057, 3/4 mile E of Shotts Railway station
NS 879598
Access: open space
Shotts Ironworks established 1802, but only the L-plan rubblestone furnace bank and tall brick water tower survive.

C13 WILSONTOWN IRONWORKS
Off A706, 11 miles SSW of Bathgate
NS 95149
Access: seen from roads/open ground

C14 CARNWATH MILESTONE
Middle of village, 6 miles ENE of Lanark
NS 978464
Access: public place
Distance marker in the form of obelisk, recording distances from Edinburgh to Air (sic) and Peebles to Glasgow; the mason had difficulty with letter 'N'.

C15 BIGGAR GAS WORKS
Gas Works Lane, off A72/702 at W end of village
NT039377
Access: Historic Scotland Guardianship site, open summer afternoons (admission charge)
Traditional small town gas works, established 1839, enlarged 1914, ceased production January 1973. Retort house with 4 and 5-retort settings, exhauster house, 2 holders, exhibition in former office; live steam some summer weekends.

C16 OIL SHALE WORKS SITE AND VILLAGE, TARBRAX
Minor road off A70, 6 1/2 miles NE of Carnwath
NT 027553
Access: open land
Rows of single-storey shaleworkers' cottages, 1904 for the Tarbrax Oil Co. Oil shale mined and retorted at this bleak upland location from 1866, but bing and foundations date from 1904. Closed 1926. To N, significant remains of
Cobbinshaw 1 and 2 (NT 029567) and entrance to Cobbinshaw 5 Pit (NT 032572).

### C17 PLEAN COKE OVENS

By 'Roman road' 5½ miles NW of Falkirk

Access: seen from road in field

Part-section of one beehive oven in bank of made ground, associated with West Plean Colliery No.3 Pit.

### C18 LETHAM MOSS PEAT RAILWAY

Off minor road 4 miles N of Falkirk

Access: seen from road

Peat-carrying industrial railway from diggings on Letham Moss reaches the processing sheds; 2ft gauge, tippler for emptying high-sided trucks.

### C19 DUNMORE MODEL VILLAGE

Off A905 9 miles N of Falkirk

Access: public place

Mid-19thC stone cottages surrounding green for the Earl of Dunmore's estate workers, a mixture of Scots and Cotswold styles. Smithy with horseshoe doorway, and water supply under slated roof on Doric columns. The amazing 'Pineapple', a garden folly of 1776, is 1 mile S at NS 887884.

### C20 LARBERT VIADUCT

Over R Carron and A9 2½ miles NW of Falkirk

Access: seen from road

15 segmental arches of coursed rubble crossing, from S - N, the A9 Stirling Road, R Carron and leat for Carron Ironworks, whose curved dam of c1760 is 1/4 mile upstream.
C21 FALKIRK WHEEL
Off Tamfourhill Rd, 2 1/2 miles W of town centre
NS 853802
Access: public place (charge for boat trip and car park)
The world's only rotating boat lift, completed June 2002 to link Forth & Clyde and Union Canals, replacing 11 locks closed and filled in 1933. Designed by RMJM, the rotating parts manufactured by Butterley Company, it raises and lowers boats 80ft from a marina lock above the F&C to an aqueduct. New canal passes under the Antonine Wall and Edinburgh–Glasgow railway, then via a new staircase pair lock and 3/4 mile extension to join the Union Canal at NS 865794.

C22 FORTH & CLYDE CANAL LOCKS
Bankside to Glenfuir Road, Falkirk
NS 897814 to 868801
Access: seen from roads and towpath
Canal climbs westwards, the locks increasingly close towards Lock 16, where the Union Inn, c1820, marks former entrance to Port Downie and the bottom of 11 locks to the Union Canal, closed 1963. F&C locks repaired and canal re-opened 2001, Scotland's Millennium Link.

C23 ROSEBANK DISTILLERY
Carnelon Rd, Falkirk
NS 877804
Access: seen from street
Abandoned complex of brick buildings with tall chimney established c1817, and until recently with wooden wormtub condensers, removed without planning permission 2001. Across road and canal, 1864 warehouse with curved gable wall, now converted to restaurant.

C24 UNION CANAL TUNNEL
Falkirk Rd to Slamannan Road, Falkirk
NS 884784 to NS 881790
Access: towpath through tunnel
Scotland's only canal tunnel, 600m long through rock with towpath, mostly unlined, to avoid William Forbes' Callendar Park—though he later built a length of canal near his house. Hugh Baird, 1818-22.

C25 CARRON IRON WORKS
Off B902; 2 miles N of Falkirk
NS 881825
Access: seen from street
Site of Scotland's first integrated coke-fired smelting ironworks, founded 1759, the first furnace blown in in 1760. Much enlarged during 19thC and much demolished since; ornate gatehouse and clocktower, 1876 and once the centrepiece of a long office range fronting the site, has dated portions of furnace lintel and
steam cylinder set into walls, and specimen cannon under arch. Late 19thC buildings behind. Canal and lock which served site filled 1995, but tramway bridge of 1906 over R Carron survives, as do parts of water lade further upstream.

C26: Grahamston Gates

**C26 GRAHAMSTON GATES**
Gowan Avenue, off Grahams Road
NS 885808
Access: seen from street
Monumental iron arched gateway with flags and shields, made by Grahamston Foundry for 1886 Edinburgh International Exhibition and afterwards used as foundry main entrance. Moved 2002 to Carron. Foundry office adjacent, foundry site has been pre-cast concrete works and is now to be redeveloped.

C27: Falkirk Iron Co Offices
Grahams Rd. 1/2 mile N of Falkirk town centre
NS 888811
Access: seen from street
Falkirk ironworks established by workers from Carron, 1810; only remaining building is the office, 1930s, by J G Callendar.
C28 GRANGEMOUTH DOCKS
Parallel to R Carron estuary
NS 93 83
Access: modern dock estate private (Forth Ports), Old Dock accessible by walking
Entrance lock of the Forth & Clyde Canal into R Carron, begun 1768; the first basin site now under large modern warehouse. Old Dock 1842, acquired by Caledonian Railway 1867 and further developed with Carron Dock 1882; Western and Eastern Channels 1906 by building out on mudflats. Coal and timber were important commodities; now much related to chemicals. Alexander Hart’s shipyard built the Charlotte Dundas, William Symington’s steam tug successfully trialled on the canal in 1802-3.

C29 AIRCRAFT HANGARS
Abbotsinch Road, Grangemouth
NS 937814
Access: seen from street
Two hangars of former Central Scotland Airport, with remains of warning lights on gables, and part of terminal building/offices. B9143 road follows former runway. Opened 1939, used in the 2nd World War as a Spitfire base. Closed June 1955.

C30 GRANGEMOUTH OIL REFINERY
Bo’ness Rd, Grangemouth
NS 95 81
Access: seen from roads; visitor centre at 942814
Established 1924 by Scottish Oils, a subsidiary of Anglo-Persian Oil Co, later BP. Closed 1939-46, with Europe’s first ethylene cracker commissioned 1952. Now a huge complex with petrol and oil refining and related companies for the manufacture of various plastics.

C31 BO’NESS CANAL AQUEDUCT
Bo’ness Rd East, Grangemouth
NS 954805
Access: public road
Present road bridge across R Avon built as an aqueduct for a branch of the Forth & Clyde Canal to Bo’ness, ‘almost finished’ c1788 but abandoned 1796.

C32 BIRKHELL FIRECLAY MINE
In deep valley of R Avon, 2 1/2 miles SW of Bo’ness
NS 964789
Access: by Bo’ness & Kinneil Railway from Bo’ness, or by minor roads off A904; admission charge
Former drift mine begun by Mark Hurll for Glenboig Firebrick Works, 1911. Approach by steep former incline, exploited thick, gently sloping bed of fireclay. Surface buildings derelict, but regular underground tours in summer in conjunction with trains on the Bo’ness and Kinneil Railway.

C33 AVONBRIDGE BRICKWORKS
Candle End, off minor road 5 miles SSE of Falkirk
NS 933736
Access: abandoned track
Derelict Avon Brick Co works with loading bank, processing shed with 3 machine bases, square chimney and 30-chamber coal-fired continuous kiln in fair condition. Possibly 1876 as Redford Firebrick Works, then 1952-78.

C34 AVON AQUEDUCT
3 miles WSW of Linlithgow
NS 966758
Access: walk along towpath
Twelve-span aqueduct with 810ft long cast iron trough on masonry piers 86ft above R Avon, completed 1822. At W end is a small drydock and, beside the towpath, a milestone and an-
C37: Watt's Workshop, Kinneil

other stone marking the boundary between the 3rd and 4th stages of the journey from Edinburgh to Falkirk. 1/4-mile W at Causewayend, interchange basin with the Slamannan Railway, 1840, much overgrown.

C35 CANAL STABLES

By A706 11/2 miles SW of Linlithgow
NS 976759
Access: on canal towpath
2-storey stable block for hauling horses, with loft above. Day boats were the norm on Scottish canals.

C36 AVON RAILWAY VIADUCT

Edinburgh & Glasgow Railway, 2 miles W of Linlithgow
NS 981769
Access: seen from roads at Linlithgow Bridge
Dressed masonry, with 20 segmental arches, 3 semicircular arches at E end, by John Miller, 1842.

C37 WATT'S WORKSHOP, KINNEIL

By Kinneil House, W end of Bo'ness
NS 983805
Access: public park
Small single-room roofless stone building, reputed to have been erected as James Watt's workshop whilst perfecting his steam engine and sponsored by John Roebuck. A lightly-built cast iron cylinder from Schoolyard Pit, Bo'ness, stands outside.

C38 BANDSTAND

Glebe Park, off School Brae, Bo'ness
NS 998814
Access: public place
Octagonal cast-iron bandstand with slated roof and lacy crown, by Walter Macfarlane's Saracen Foundry, Glasgow 1902

C39 BO'NESS & KINNEIL RAILWAY

Bo'ness Station, N of town
NT 003817
Haymarket train shed: A
Access: museum and heritage railway, runs summer weekends, holidays and every day July-August; admission charge to trains
Preserved historic railway from Bo'ness to Birkhill, by the Scottish Railway Preservation Society. Bo'ness Station includes relocated Haymarket (Edinburgh) train shed (1841), and North British Rly station building from Wormit, Fife.

C40 WINDMILL

Bridgeness Rd, Bo'ness
NT 013815
Access: seen from street
Former windmill c1750, reconstructed as observatory tower for a local shipmaster, with battlemented top added 1895. Close by (NT 014813) on open ground, stone built beam engine house of unusually narrow form with large arched openings in side walls, formerly draining coal pits on the Grange estate; later rebuilt as a dovecot.
C41 JOHN ROEBUCK’S TOMB
Carriden old churchyard
NT 020813
Access: open graveyard
Burial place of Dr John Roebuck, pioneer of sulphuric acid manufacture, founding partner of Carron Company and sponsor of James Watt’s development of the steam engine, died 1794.

C42 FIVE SISTERS SHALE BING
1 mile NW of West Calder
NT 010640
Access: seen from surrounding area
Group of five conical bings, allowing mechanised tipping to be directed, according to wind direction, to whichever side would minimise dust nuisance. Associated crude oil works, 1941, now a stonemason’s yard.

C43 LIVINGSTON MILL
(ALMONDVALE)
West side of Livingston, signposted off A704
NT 033668
Access: independent museum (admission charge)
Late 18thC mill with breast-shot wheel driving 3 sets of stones, with drying kiln and threshing barn. Part of Almondvale Heritage Museum, which also has an exhibition on the oil shale industry.

C44 OIL SHALE WORKERS’ HOUSING, WINCHBURGH
On B9080, 5½ miles E of Linlithgow
NT 0874
Access: seen from streets
Mining village of single-storey red brick rows, built by Oakbank Oil Company from 1901 and now renovated. At E end of the village a bridge carries B9080 over trackbed of Scotland’s first electric railway, running from the mines to the refinery.

C45 ALMOND AQUEDUCT
Union Canal, 9 miles W of Edinburgh
NT 105706
Access: minor roads and canal towpath
Originally planned as single arch, altered to 5 cast iron trough spans on masonry piers 76ft above R Almond on advice from Telford; completed 1822.
**C46 ALMOND VIADUCT**
Newbridge, 9 miles W of Edinburgh
NT 109723
Access: best seen from A89
Edinburgh & Glasgow Railway carried on 36 masonry arches, now strengthened with old rails, across valley of R Almond, with skew arch over A89.

**C47 FORTH ROAD BRIDGE**
South Queensferry, on the A90
NT 125795
Access: public road
Proposals for a road crossing of the Forth, by tunnel or bridge, go back at least to the early 19th century but present suspension bridge designed by Freeman, Fox and Partners, completed 1964 replacing the Queen’s Ferry. Main span 3300ft; main contractors included Sir William Arrol and Co, Glasgow.

**C48 FORTH RAILWAY BRIDGE**
South Queensferry off the A90, on the A924
NT 135794
Access: seen from roads
Famous cantilever railway bridge built 1882-1890 for the Forth Bridge Railway Company, a consortium set up by the North British, North Eastern, Great Northern and Midland Railways. Designed by John Fowler and Benjamin Baker, built by Tancred, Arrol and Co; total length 8300ft in 3 double cantilevers and dramatically high approach girders. Two main spans each 1700ft long. A superb bridge, one of the wonders of Victorian times.
North of the Firth of Forth lies the Kingdom of Fife, physically close but isolated until recent times, except by passage across the waters. Stirling is the classic 'lowest bridging point' of medieval times; and whilst rail bridges were built downstream during the 19thC (Falkirk to Alloa 1885, Forth Bridge 1890) not until 1934 did the Kincardine Bridge provide a new road route into the county. Jetties and small harbours sent out cross-river ferries and many served the Edinburgh-Stirling steamboats and developed their own North Sea trade.

The topography again presents a varied agricultural landscape, exploited in places for road, building stone and limestone, the latter often from underground chambers. The long-established linen and woollen industries based on local fibres and water power just about survive, but the evidence of their past significance is widespread and occasionally spectacular. Again, coal underlies much of the district. The last act of underground coal mining in Scotland was played here in 2002 and the marks of mining's more prosperous times are still widespread.

**FN1 LOCH KATRINE (RESERVOIR)**

End of A82
NN495073 (access point)
Access: Scottish Water; car park and walks
Glasgow Corporation's 1856-60 scheme took water via 26 mile long aqueduct via 77 separate tunnels with numerous shafts, arched conduits mostly covered but visible at various river and road crossings, to Mugdock Reservoirs, NS 560755, for distribution. Loch level raised and parallel aqueduct 1885-1900, including raising and capture of Loch Arklet. Scotland's last screw steamer SS Sir Walter Scott, supplied by Denny Bros., via Loch Lomond and assembled at Stronachlochar, 1900; carries tourists in the summer.

**FN2 SLATE QUARRIES, ABERFOYLE**

Duke's Pass, 11/2 miles N of Aberfoyle
NN 505030
Access: footpaths
Waste heaps mark site of quarry on W side of Creag Innich; line of a tramway interrupted by trial pits, winds S and descends to Aberfoyle by steep incline at NN 516015.

**FN3 DEANSTON MILLS AND VILLAGE**

Off A84, 7 1/2 miles NW of Stirling
NN 715015
Access: seen from street
One of the four great Scottish cotton mills; established 1785 with massive lade and 4 huge waterwheels; the low wheelhouse survives as a boiler house with short square chimney. Late 19thC 5-storey L-plan mill and minor buildings. Converted to distillery, 1960s with modern extensions in dark brick. Teith Road has 2-storey & attic and colony-style houses c1875, early C19th cottages above.

**FN4 MURRAYSHALL AND CRAIGEND LIMESTONEWORKS**

2 miles W of Stirling
NS 770920, 771910, 762005
Access: seen from tracks and footpaths
Banks of 6, 3 and 4 kilns all adjacent to different workings of the Murrayshall Limestone at the base of steep cliffs formed by a dolerite sill.

**FN5 HAYFORD MILLS**

Cambusbarron, 1 1/2 miles W of Stirling
NS 775927
Access: seen from street
Large complex of 2, 3 and 6-storey blocks of polychrome brick and single-storey stone weaving sheds, founded c1860, making 'wincey' right: FN5: Hayford Mills
cotton warp, woollen weft), all under conversion to housing.

**FN6 BRIDGE OF ALLEN MILL**
By A9, at NW end of village.
NS 788976
Access: seen from street
Small L-plan corn mill with crow-step gables, drying kiln and skeleton iron low-breast wheel outside, over now dry lade; converted to offices.

**FN7 STIRLING BRIDGES**
On A9 and railway, 1 mile N of Stirling centre
NS 798944
Access: public place
Once the lowest bridging point; R Forth still tidal.
Earliest bridge (Listed A, Scheduled Ancient Monument) late 15thC, 4 arches. E arch rebuilt after destruction in 1745 rebellion; now footpath.
New bridge with 5 segmental spans, Robert Stevenson 1831-2. Adjacent railway bridge for the Scottish Central Railway (Caledonian from 1865). 1848; original wooden span replaced by lattice steel.

**FN8 STIRLING RAILWAY STATION**
Station Road
NS 798936
Access: public place
Earlier station rebuilt 1913-15 with two island platforms, spacious concourse and gently curved stairs to bridge. Large Middle Signal Box and semaphore signals now designated under Railway Heritage Act.

**FN9 ROYAL GEORGE MILL, BANNOCKBURN**
By A9 in village, 2 miles S of Stirling
NS 809950
Access: seen from road
Tall 3-storey, attic & basement rubblestone mill in deep valley with top floor at road level. Wheelhouse on gable, 1822.

**FN10 ELMBANK MILLS, MENSTRIE**
Off A91 3/4 miles W of Alloa
NS 846967
Access: seen from street
Established 1864 by G Drummond as a gas-powered mill, long 2-storey block with domestic style façade and ornate clock, now a Business Centre.

**FN11 CAMBUS CAST IRON BRIDGE**
Off A907, 2 miles W of Alloa
NS 853940
Access: seen from end of minor road
Early 19thC cast iron bridge with 5 cruciform-pattern ribs and diminishing-circle spandrel fillers. Adjacent distillery site founded 1806; part of still-house survived 1906 fire. Now a very large whisky bond.
FN12 GLENOCHIL DISTILLERY
S of A91, 3 miles NW of Alloa
NS 858968
Access: seen from street
Two mid 19thC(?) stone buildings of former distillery survive in a United Distillers & Vintners whisky bond store.

FN13 WOOLLEN MILLS, ALVA
3 miles N of Alloa
NS 891969, 886975, 878971
Access: mill shop/seen from street/visitor centre
At Ochilvale Mills, 2-storey polychrome brick double range fronted by single-storey office and weaving shed, now Hodgson Knitware; Strude Mill (Listed B), imposing 6-storey & attic stone spinning mill with central pediment and bellcote, converted to flats. Glentana Mill, polychrome brick powerloom shed 1874 extended 1887, now visitor centre. Small mill buildings survive, derelict, by Alva Burn, NS 885974.

FN14 WOOLLEN MILLS, TILLCOULTRY
3 miles NE of Alloa
NS 922964, 914968, 914974
Access: retail warehouse/seen from streets
Of many mills in village, elements of three survive: Devondale Mills a mid to late-c.19th tweed mill including 3-storey triple-hipped roof mill, from 1920 a paper coating mill, now Sterling furniture store; J & D Patons (Listed B), a 34-
bay 3-storey & attic block, 1836 and a 3-storey late-19th office both converted to housing; and Clock Mill, small 3 storey & attic water-powered mill, 1824, now a Business Centre. Upstream and downstream of Clock Mill, various fragments of other mills, all on leat supplied by wooden dam which survives in Mill Glen, 913980.

**FN15 DEVON COLLIERY ENGINE HOUSE**
Off A908 and minor road, 2 miles N of Alloa

Access: public place (country park)

Massive ashlar engine house containing heavy cast iron beam of a Cornish engine by Neilson & Co, Glasgow, 1865. Show pit of Alloa Coal Co, but nothing else remains. House restored c1995 as information and countryside ranger centre. Adjacent, Devon Ironworks was reputed to have two furnaces excavated in solid rock.

**FN16 AUCHINBAIRD WINDMILL**
Off A906 1½ miles NE of Alloa town centre

Access: seen from road

Small vaulted non-tapered tower mill for mine drainage, possibly early 18th, later a doocot and gaining castellated parapet.

**FN17 GLASS CONE**
United Glass Co, Glasshouse Loan

Access: top only seen from works entrance; permission required to visit

Round brick cone, 60ft high on octagonal stone base with eight arches, c1825. Site supposed to be the oldest glass-making site in Europe still in use; an older cone demolished 1972.

**FN18 WAGGONWAY**
Mar St to Carron St, Alloa town centre

Access: parts form footpath through town

Lower section of Earl of Mar's 'waggon road', 1768, bringing coal from the New Sauchie area to Alloa Harbour. Overbridges survive at NS 884927 and 886929. Later extended to Devon Colliery (FN43) and Sheriffyards Colliery, NS 927946.

**FN19 MACLAYS THISTLE BREWERY**
East Vennel, Alloa

Access: seen from street

Prominent group of mainly polychrome brick
buildings on site established 1830. 6-storey brewery, 1870 with coppers and cast iron mash tun by Abercrombies, Alloa. Office 1897, co-operative c1898, cask store and tun room 1902 or earlier. Brewing ceased 2001, site seeking new use in 2002. Alloa had 8 breweries in 1900.

**FN20 KILNCRAIGS MILLS (PATON & BALDWINS)**
Auld Brig Rd, SE Alloa

Access: seen from street


**FN21 SITE OF PUMPING WHEEL, NEW SAUCHIE**
Off A908 ½ mile NE of Alloa town centre

Access: public/private

Round structure, c2ft high, a capped colliery pumping shaft. In an adjacent private garden, the outline of a waterwheel pit, 3ft wide which housed an overshot pumping wheel c26ft diameter, driving twin rocking beams supported on a stone column.

**FN22 KENNETPANS**
On shore, 2 miles NW of Kincardine

Access: minor roads S of Clackmannan

Named from salt-panning, massive ruins of gin distillery established by Steins c1770 next to a small harbour excavated in the soft river bank. Close by, a row of 20 single-storey miners' cottages, c1800 for miners at Kennet Colliery, restored c1982.

**FN23 KILBAGIE PAPER MILLS**
Off A, 2 miles N of Kincardine

Access: seen from road; private

Developed pre-1776 as a gin distillery by Steins (who ordered a rotative engine from Boulton & Watt in 1785), producing 3,000 tons pa of spirit, but killed by differential taxation by 1790. Linked by canal to Kennetpans, now Canal Burn; later by tramroad. Converted to paper mill by 1874, with tall brick water tower. Recently sold by Inveresk Group.

**FN24 KINCARDINE ON FORTH BRIDGE**
A876 over River Forth

Access: pedestrian footpaths on either side of the bridge

Lattice steel multi-spanned viaduct on concrete piers, leading to 364ft swing bridge. Alexander Gibb & Ptnrs 1932-36. Control room above road and power room in central pier retain original fittings, hydraulic and electrical equipment; but bridge now fixed. Ferry slipways on N side.

**FN25 LONGANNET MINE**
By Longannet Power Station

Access: seen from roads

Coal reached surface here from Scotland's last deep coal mine, working faces 4 miles north, accessed from Castlebridge (NS 940926) and Solsgirth (NS 983946) where surface installations remain. New driveage began 1999 under Forth, but mine closed after flooding in April 2002.

**FN26 LONGANNET POWER STATION**
North shore of Forth, 2 miles SE of Kincardine

Access: visitor centre and tours by arrangement


**FN27 PRESTON ISLAND**
1 mile off (SE of) Culross


Re-enactment of Sir James Bruce's early-17th scheme, artificial island once ½-mile offshore with three mineshafts, ruins of two engine houses and salt pans, developed for Sir Robert Preston c1800; now marooned in a sea of Longannet's fly ash.

NF27: Preston Island
FN28 CHARLESTOWN LIMEKILNS & HARBOUR
5 miles W of Forth bridges
NT 067836
Access: public place; local society provides tours.
Bank of 14 tall kilns built against sea cliffs, begun 1777 and described as ‘the most extensive in the country, perhaps in Europe’, 1790s. Served by the Elgin Railway from 1794, itself re-routed c1810 to base of kilns. 1st harbour a curved pier, with rectangular quay for coal hoists on W side; the whole enclosed late-c19th by outer piers much damaged by later ship-breaking. Limeburning ceased 1937, salt extraction ceased 1946.

FN29 CHARLESTOWN VILLAGE AND SCOTTISH LIME CENTRE
Off A985 4 miles W of Forth Bridge
NT065835
Access: seen from street
Scotland’s earliest industrial village, established by 5th Earl of Elgin, 1756 to house miners and limeburners. Terraces houses laid out on plan of letters C E with central drying green, single-storey 2 rooms & kitchen, complete by 1770. Plan survives, though houses extended, some with extra storey. Granary with shop and school established 1770s. Scottish Lime Centre provides training in uses of lime mortars and researches lime burning in new kiln completed 2001.

FN30 LINEN MILLS, DUNFERMLINE
Foundry St and Pilmuir St
NT 090878
Access: seen from street
Formerly 3 separate linen damask works, a complex including St Margaret’s (Listed B, working - access by appointment); Pilmuir Works, Listed A, 1883-1901; incorporating earlier buildings of 1816 and 1847; and Victoria Works (Castleblair Ltd), Listed B, 1876; extended to N late 19th century. Complex of single-storey weaving, lapping, calendaring, sewing and embroidery sheds, 2-storey offices and warehouses.

FN31 ST LEONARDS LINEN WORKS
Bothwell St, Dunfermline
NT 097867
Access: seen from street
Centre of linen weaving from at least 15thC, 3000 handlooms in 1845; Andrew Carnegie was born here into a handloom weaving family, 1835. St Leonard’s Works established 1851 by Erskine Beveridge; 3-storey Italianate warehouse & offices, c1860, converted to housing 1984; damask-weaving ceased 1990.

FN32 ROSYTH NAVAL BASE
2 miles W of Forth Bridges
NT 10 82
Access: private, seen from road and shores
Admiralty Dockyard developed from 1903, now Babcock contracting for naval work, other parts developed as industrial estate. Two giant cantilever cranes by Sir William Arrol dismantled 1990s, leaving smaller Stothert & Pitt crane. Huge investment to service nuclear submarines, then work transferred to Plymouth Devonport in 1990s. Fast ferry to Zeebrugge opened June 2002.
FN33 ROSYTH GARDEN VILLAGE  
Off A90 - M90 junction 1  
NT 11 83  
Access: public place  
Planned from 1903 on Ebenezer Howard principles to house naval workers, with cottage-style houses best seen along Queensferry Road (B981).

FN34 FERRY SLIPWAY, NORTH QUEENSFERRY  
End of B981, below N end of Forth Bridges  
NT 131803  
Access: public place  
As name suggests, N end of the principal Forth ferry. At the Town Pier, by John Rennie 1810-18 extended 1828, a hexagonal stone lighthouse with copper-domed lantern. To W the Railway Pier, 1877, used by vehicle ferries to 1964.

FN35 RAIL APPROACHES TO FORTH BRIDGE  
Inverkeithing to N Queensferry station  
NT 131828 to 132808  
Access: view from A90 and B981  
The railway, 1888-90, climbs steeply over huge truss viaducts and through a tunnel in dark basalt to reach the Admiralty-required height of the Forth Bridge. N Queensferry station, 1890, has wooden lap-boarded buildings and stands immediately at the end of the bridge approach viaduct.

FN36 HALBEATH TRAMWAY BRIDGE  
Just S of Inverkeithing railway station  
NT 132832  
Access: seen from station  
Semicircular arch over the former Halbeath Railway (1783) which brought coal to Inverkeithing Harbour, surviving as part of the overbridge across the N Queensferry branch 1877 and the Forth Bridge approach 1890.

FN37 FORDELL RAILWAY  
Fordell Colliery to St David’s harbour  
NT 159889 to 147824  
Access: part lanes and footpaths  
Colliery waggonway established c1752, relaid 1833 with iron rails to 4ft 4in gauge ensuring its independence to closure in 1944. Route mostly clear as earthworks and lanes, the pier submerged in a tasteless marina.
FN38 MARY PIT, LOCHORE MEADOWS
Lochore Meadows Country Park, N of Cowdenbeath
NT 170965
Access: public place
Reinforced concrete pithead gear of Lochore Colliery, Mary Pit, opened 1904 by the Fife Coal Company, closed 1966. Adjacent, a former colliery locomotive with steel access steps welded on.

FN39 LEVEN CUT
R Leven from Loch Leven to Leven
NT 170993 to Leven
Access: seen from roads
16-mile long water management scheme, 1828-32, with sluice house at Loch Leven (NT 170993) and 5 further sluices to control water feeding 40 waterwheels for flax, corn and sawmills and bleachfields. Still used by Tullis Russell DRG and Smith Anderson paper mills, Markinch and Rothes for turbines and process water.

FN40 WOODSIDE HOTEL, ABERDOUR
High St, A 921
NT 186853
Access: open to patrons
Small hotel with chateau-style features and inside, panelled room rescued from the liner Olympic, broken at Ward’s shipbreakers’ yard, Inverkeithing, 1937.

FN41 NEWBIGGING LIMESTONE MINE
1 mile W of Burntisland, N of A921
NT 211862
Access: private
Underground mines worked Burdiehouse Limestone from c1742, from 1760s supplying Carron Iron Co who bought the mine in 1808. Waggonway 1817 to Carron Harbour where a small pier survives. This waggonway replaced 1896 by new mine entrance and new incline to loading bank on Forth Bridge connecting line. Other quarries, Kilmundy and Grange, to E.

FN42 BURNTISLAND ALUMINIUM WORKS
West end of Burntisland
NT 226863
Access: seen from road
British Aluminium Co, established 1917 to import and refine bauxite into alumina (aluminium oxide) prior to smelting at Foyers, Kinlochleven and Fort William. Nondescript brick buildings, but a notable wooden cooling tower. Only Fort William smelter operating, 2002.

FN43 BURNTISLAND DOCKS
W end of High St, Burntisland
NT 232854
Access: private (permission from Forth Ports), seen from road
Long-established harbour before 1847 when it became the northern landing of the Edinburgh & Northern Railway’s cross-estuary ferries; the world’s first train ferry designed by Thomas Bouch operated hence to Granton, 1850-90. First wet dock built 1873-76 jointly by town Council and the North British Railway, with 3 Armstrong hydraulic hoists, ‘the first in Scotland’. 2nd dock completed 1902. Trade continues in bauxite ore transferred by lighter from ships lying offshore.

FN44 BURNTISLAND RAILWAY STATION AND VIADUCT
Forth Place, off Harbour Place, Burntisland
NT 233855
Access: public place
Former Edinburgh, Perth & Dundee Railway terminus, 1847 where ferry passengers joined trains to Tayport. 2-storey building with colonnade, train shed long demolished. Present platforms on new connection to Forth Bridge, 1890; line curves sharply over low lattice viaduct to avoid West Dock.

FN45 WEST BRIDGE MILL
Pratt St, 1 mile S of Kirkcaldy town centre
NT 277902
Access: seen from streets
Founded 1806, rebuilt 1856 for J & W Hendry, flax spinners. 4-storey fireproof iron-framed mill with ‘gothic’ cast iron roof trusses and integral double beam engine house with tripartite windows. Converted 1995-6 to a Foyer, providing training and accommodation for young unemployed.
FN45: West Bridge Mill

FN46 COLLIERY ENGINE HOUSE, THORNTON
Immediately N of railway station
NT 292973
Access: by footpath from station car park
Small stone-built beam engine house with buttressed bob wall and shadow of boiler house on south side.

FN47 TRAMWAY ELECTRIC POWER STATION
Victoria Road, 7 miles NE of town centre
NT 282924
Access: seen from street
Tall single storey power room and office, 1903 for Kirkcaldy Corporation Tramways which linked with Wemyss & District Tramway Co and served coastal villages as far as Leven.

FN48 COAL WYND FLAX MILLS
N end of promenade, Kirkcaldy
NT 283919
Access: seen from streets
Steeply sloping site with brass & iron foundry and three flax spinning mills: North Mill pre-1809, now the Zion Praise Centre, has Y-shaped columns and a bellcote; Old Mill (William Kirk's), 1828; and the fireproof Swan Bros Mill, 1862 with beam engine house where the entablature of a 150HP St Rollox engine survives. All depended on water pumped from a nearby colliery, the site now lock-up garages, and closed with the mine.

FN50: Nairns South Linoleum Works, Kirkcaldy

FN49 NAIRNS NORTH LINOLEUM WORKS, KIRKCALDY
Dens Rd, 1 mile NE of town centre
NT 285928
Access: seen from street
Large 5-storey brick range c1890 with segmental and arched windows, drying tower and 8-storey reinforced concrete-framed mixing tower 1926-28, one of only 2 linoleum factories remaining in Europe.

FN50 NAIRNS SOUTH LINOLEUM WORKS, KIRKCALDY
Victoria Road, 1 mile NE of town centre
NT 285926
Access: seen from street
Prominent stone-built 1870s mill and 1883 extension with very tall windows, where linoleum was initially block printed. Derelict and decayed. Michael Nairn began the manufacture of lino-
ileum in 1877, giving Kirkcaldy its 'queer-like smell'.

**FN51 ST MARY'S CANVAS WORKS**
High St, by harbour
NT 285922
Access: seen from road
Single storey ornate frontage of 1869 with prominent inscription M NAIRN hides a modern warehouse an extreme example of facadism. Adjacent 1914 block, now Fife Colleges. The site wove jute backing for linoleum.

**FN52 VICTORIA LINEN WORKS**
Sinclairstown, by A921/McKenzie St
NT 292933
Access: seen from street
2-storey office block with attached cottages, fronting single storey weaving sheds, where Peter Greig & Co still produce various linen weaves on rapier looms.

**FN53 DYSART HARBOUR**
NE end of Kirkcaldy
NT 302927
Access: public place
Harbour commenced c1615, present piers complete by 1703. Inner wet dock excavated from former sandstone quarry, c1824-31, with warehouse on E quay. Ships were built on the patent slip, installed c1841. Note coursing of stones laid with vertical axes. To E is Panhaa, site of salt pans.

**FN54 FRANCIS COLLIERY HEADGEAR**
Overlooking coast 3 miles NE of Kirkcaldy
NT 310940
Access: seen from road
Lone headstock marks the site of Frances Colliery, established mid-19thC, one of the Wemyss pits named for members of the family, acquired by Fife Coal Co, 1925. Mined under Firth of Forth. Care and maintenance from 1984, buildings demolished 1999. Electric winder by Robeys of Lincoln stored at Scottish Mining Museum (EE35)
FN55 COALTOWN OF WEMYSS
On A955, 4 miles NE of Kirkcaldy
NT 325959
Access: public area
Village established 1890s by Wemyss estate for its miners, with harled and slated single-storey rows, some with crow-step gables, others with romantic porches, now a conservation area.

FN56 WEST WEMYSS
On coast 4 miles NE of Kirkcaldy
NT 325947
Access minor road off A995
Coastal village, but a burgh since 1511, a centre for salt-boiling and later a coal-exporting port. Pier built c1650, the inner harbour mid-19thC, mostly filled in late-1980s. Coal brought by tramway through a tunnel at the head of the small bay, where two mines were sunk from the shore.

FN57 MINER’S MONUMENT, EAST WEMYSS
By A965 at W end of village
NT 335965
Access: public place
Miniature pit headgear commemorating the death of nine miners in the underground fire which closed Michael Pit, Scotland’s largest mine, 1967. The fire led to introduction of self-rescuers in all NCB mines. Next to Randolph Place, two rows of single storey miners’ cottages with semicircular ends.

FN58 KILMUX ENGINE HOUSE
By A916 2 miles NE of Kennoway
NO 363043
Access: view from road
Substantial colliery pumping engine house with prominent arched beam opening in N gable probably 1835.

below: FN55: Coaltown of Wemyss

FN59 RANDOLPH WEMYSS MEMORIAL HOSPITAL
Wellesley Road, Denbeath, Methil
NT 364987
Access: seen from street
Provided by Wemyss family, 1909, for the treatment of miners, the central turret has a clock with hands in the form of miner’s pick and shovel. Adjacent, rows of 2-storey colonies with outside stairs.

FN60 RIG YARD, BUCKHAVEN
E of Wellesley Road, 2½ miles SW of Leven
NT 365985
Access: private, seen from street
Area part-formed by mine spoil from Wellesley (Denbeath) Colliery (closed 1967), now Kvaerner’s oil-rig construction and repair yard but not working in June 2002.

FN61 METHIL DOCKS
Lower Methil, 1 mile S of Leven
NT 377997
Access: private (permission from Forth Ports), seen from shore road
Coal-exporting harbour recorded on this site 1660, but first of the present docks built 1883-87 by the Earl of Wemyss. Sold to the North British Railway 1889, which built a second dock 1897-1900 and a third 1908-13. In 1913 1,700 ships used the port. Eleven Armstrong hydraulic hoists loaded 2-3 million tons of coal per year to 1940. All dismantled 1970s and No 3 Dock part-filled, 1979.

FN62 LEVEN POWER STATION
On built-up land at mouth of R Leven,
NO 382003
Access: seen from A955 at Leven
Built 1959, a striking reinforced concrete building with large coal gantries and prominent chimney, designed to burn washed slurry. Two 30MW generators. Maintained since 2000 in reserve.
Beyond the Glasgow conurbation the Clyde continues north-westward, still narrow until it passes beneath the Erskine Bridge, and even then the navigable channel is constrained by training banks as far as the precipitous Dumbarton Rock. Then the estuary widens, meeting the Gare Loch, Loch Long and the Holy Loch as it turns south to the lower Firth of Clyde. Greenock, Port Glasgow and Dumbarton vied to be the Clyde’s chief port before the river was dredged and straightened to Glasgow from the late 18th century. Clyde shipbuilding developed here before the later yards established sites upriver, but access to deep, wide water was not a sufficient advantage in the mid-20th century and only two small yards survive. William Denny & Brothers of Dumbarton, founded 1844, were leading innovators (the first steel hull 1879, the first turbine-powered liner 1901, the first all-welded ship 1934), but closed in 1962. The Clyde also provided a highway for commuting and leisure, its fast paddle steamers linking seaside villas and resorts to Glasgow’s suburban railway system; in 1892 it was possible to travel from the city centre to Brodick, Arran, in 80 minutes.
Waverley, the world’s last sea-going paddle steamer, operates from some of the Clyde’s piers. On the north bank the five-mile river Leven drains Loch Lomond and once provided water for dye works specialising in ‘Turkey Red’. Southwards the Renfrew Heights restricted industrial development to their coastal and inland fringes, but provided reservoirs for the supply of water to the industries on the coastal strip. Southwards again are the low lying valleys of the rivers Garnock and Irvine, mined for coal since the 16th century and centred on the important engineering town of Kilmarnock.

FC1: Maid of the Loch at Balloch Pier

**FC1 BALLOCH PIER AND SLIPWAY**
Balloch, S end of Loch Lomond.
NS 386825
Access: public place
Stone pier, 1850, rail served until 1988, now a base for Maid of the Loch, Lomond’s last paddle steamer built 1953, ceased sailings 1981 and now being restored by the Loch Lomond Steamship Co. Adjacent is the patent slip with much-modified timber carriage, on which the Maid was assembled, powered by a twin-cylinder horizontal steam engine, still operable by compressed air, in a characteristic railway building.

**FC2 ARGYLL MOTOR WORKS**
Alexandria, North Main St
NS 390807
Access: public access to shops and car park
Imposing ‘palace’ built 1905 to expand the production of Argyll cars, built in Glasgow from 1899. Argyll Motors Ltd failed in 1914. Used as a torpedo factory, then long derelict, it was converted to a retail outlet in the late 1990s, the workshops at the rear demolished.


**FC 3 CRAIGENDORAN PIER**
E end of Helensburgh, 5 miles W of Dumbarton

NS 308813
Access: view from railway station
Decaying wooden stumps of a rail-ferry interchange, 1882, the North British Railway's bid to compete with other railway companies for Clyde ferry traffic. Helensburgh Pier had shallow water and no direct rail access, making it difficult to coal the ships. Closed 1972.

**FC 4 DENNY SHIP TEST TANK**
Dumbarton, Castle St
NS 402748
Access: Museum (Admission charge)
Last surviving part of William Denny & Brothers shipyard, a long low brick structure with office frontage, 1882-3. Essentially a huge tank of water, it is now a Scottish Maritime Museum site, but still in regular use by Glasgow/Strathclyde Universities' Department of Marine Engineering. Outside, a side-lever marine engine by Robert Napier for the paddle steamer Leven, 1824.

**FC 5 HENRY BELL MEMORIAL**
Off A82, 2½ miles E of Dumbarton
NS 437735
Access: on private land; permission from Esso, Southampton
Stone obelisk on a promontory, commemorating the establishment of the Clyde's first steamboat, Comet, by Helensburgh hotel proprietor Henry Bell in 1812. There are two other memorials, a polished red granite obelisk on the seafront at Helensburgh, NS 293823, and a seated statue at Rhu churchyard, NS 267840, the latter placed by Robert Napier, shipbuilder.

**FC 4: William Froude plaque, Denny Tank**

**FC 6 BOWLING CANAL BASIN**
Off A814, 3 miles E of Dumbarton
NS 449734
Access: minor road and footpaths from Bowling village
Western end of the Forth & Clyde Canal, completed here 1790. The basin remained in use throughout the canal's closure from 1961 to 2001. Disused lattice girder swing bridge carried the Caledonian Railway's North Clyde line, 1896. The adjacent tidal basin was used to berth railway-owned paddle steamers in winter.

**FC 6: Bascule bridge at Bowling canal basin**
FC7 ERSKINE BRIDGE
A898, crossing R Clyde
NS 462724
Access: visible from wide area; walkway on E side.
Cable-stayed, box-girder bridge, by Freeman Fox & Partners 1967-71 replacing the Erskine Ferry, the lowest vehicle ferry on the river.

FC8 PIGGERY, ERSKINE HOSPITAL
By hospital access road from sliproad to Erskine Bridge
NS 453723
Access: view from grounds - follow signs to MacEwen Conference Centre
Imposing farmstead with clock tower, 1850, with hexagonal piggery with turret, part of the hospital complex, recently restored as a Conference Centre. The hospital grounds contain groups of small cottages for war veterans, c1945.

FC9 TIMBER PONDS
Langbank, south side of river
NS 395731 (area)
Access: seen from M8
Lines of stakes protrude from the water, marking discrete areas of shallow water where timber for shipbuilding was seasoned.

FC10 FERGUSON 'CASTLE' SHIPYARD
Port Glasgow, by A8
NS 327746
Access: view from road
Founded c1870 by Blackwood & Gordon on a cramped site, still building Caledonian MacBrayne ferries and support ships for the offshore oil industry. Nearby, a Glen & Ross (Glasgow) steam hammer, No 872 of 1885, forms a monument.

FC11 GOUROCK ROPE WORKS
Port Glasgow, by A8
NS 326744
Access: view from road
Large, derelict 7-storey brick building, built c1860 as a sugar refinery, later incorporated with the adjacent 1797 2-storey ropery which has now been demolished.
FC12 COMET REPLICA
Port Glasgow, by A8
NS 319747
Access: view from street (security fence)
Replica built 1962 and recently repaired, of Henry Bell’s Comet, Europe’s first commercially successful steamship, launched 1812 to ply between Glasgow and Helensburgh.

FC13 SCOTT LITHGOW’S SHIPYARDS
By A8, 2 miles E of Greenock
NS 317748 (Kingston Yard)
Access: seen from road
Much-reduced group of shipyards stretching from Port Glasgow to Greenock, responsible for building a wide range of civilian and military vessels, latterly restricted to piecemeal offshore oil contract work, and largely derelict. Kingston yard was dominated by 225-ton-capacity ‘Goliath’ travelling crane (350ft span, 240ft high), by Sir William Arrol & Co, 1971, demolished 1997 by explosives.

FC14 JAMES WATT DOCK
Greenock, by A8 close to town centre
NS 298755
Access: view from car park next to dock entrance
Rectangular basin with single flap gate, 1879-86. On the N side, small hydraulic power station, accumulator tower and stump of chimney; beyond is Garvel Dry Dock, 1871. On S side a giant cantilever 150 ton crane by Sir William Arrol & Co, 1917, and large 2 & 3-storey range of warehouses with cast iron framed interior, 700ft long, for raw sugar, 1886. Derelict, seeking a new use following closure of Scotland’s last sugar-cane refinery nearby at Westburn (Tate & Lyle), 1997.

FC15 GREENOCK DOCK BASINS
Off A8 near Greenock town centre
NS 283761
Access: public area
Two basins open to the river, East India Harbour by John Rennie 1805, with two dry docks (one retaining its granite barrel runs) on W side. The classical Customs House, 1818, echoes Greenock’s aspiration as a seaport, and in front a cast iron column outside supports a clock, lantern and bell. E of the harbour, Victoria Harbour by Joseph Locke, 1846-50.

FC16 STATUE OF JAMES WATT
Greenock, by A8 close to town centre
NS 281762
Access: public place
Bronze statue of Watt on a red sandstone plinth in an angle of Greenock’s Municipal Buildings, inscribed ‘This memorial building is erected on the site of his birthplace’.

FC11: Gourock Rope Works
FC17 GREENOCK CUT
From Loch Thom, along hillside south of Greenock; accessible from minor road off A78 to Cornalees Bridge and from Papermill Road, Overton, Greenock.
NS 247721 to NS 266748
Access: public park and footpath
A series of 'cuts' built 1825-28 by Robert Thom supplied water from Loch Thom and further south to the Long Dam at Overton, whence two channels fell 300ft and provided water power whose cost balanced horsepower and height above the harbour. A shorter parallel cut provided water for domestic use.

FC18 THE CLOCH LIGHTHOUSE
On A770, 1 1/2 miles W of Gourock.
NS 2037
Access: view from road
Low circular tower with keepers' houses, designed by James Clarkson with lantern and oil light by Thomas Smith, 1797. It marked the N end of the standard speed trial course for ships built on the Clyde.

FC19 INVERKIP POWER STATION
On A78, 6 1/2 miles SW of Greenock
NS 197710
Access: seen from road
Oil-fired power station with prominent concrete chimney, built early 1970s to exploit cheap oil, but just prior to the oil crisis. Too expensive for routine generation, used for emergency back-up and as a source of spares for other power stations.

FC20 WEMYSS BAY PIER AND RAILWAY STATION
On A78. 8 miles SW of Greenock
NS 193685
Access: public place
Ferry landing pier for Rothesay (Bute), the station was reconstructed in 1903-4 by the Caledonian Railway, with long curved platforms and a spectacular glass-roofed booking hall. 'Recent 'restoration' work has removed some of the canopies.

FC21 TRAM DEPOT
Port Bannatyne, on A844 2 miles NNW of Rothesay, Bute
NS 080670
Access: seen from street
4-track brick shed, 1902 with attached offices of stone which served horse-drawn trams from Rothesay, then electric trams 1902 to 1936; now used by buses. The route of the 1905 reserved track extension to Ettrick Bay, NS 035664, parallels the A844.
FC22 CAST IRON ARCHITECTURAL FEATURES
Rothesay sea front and gardens, Bute
NS 087647
Access: public place
1874 cabmens' shelter, and Winter Gardens with pagodas and a domed hall, 1923-4, both built from materials supplied by Walter Macfarlane's Saracen Foundry, Glasgow. Two promenade houses have elaborate bays with cast mullions, one with roof turret and iron coronet.

FC23 GENTLEMEN'S TOILET
Rothesay, Bute, by the pier
NS 088648
Access: public (admission charge for tour)
Polychrome glazed brick by J & M Craig Ltd, Kilmarnock, the interior a splendid temple of Victorian sanitary art in glazed brick and polished pipework, sanitary ware by Doulton of Lambeth and Paisley.

FC24 SALT PAN, ASCOG
By A844, on small promontory behind Ascog church.
NS 108634
Access: track to N of church
Semicircular end with chimney of a salt boiling house, probably mid-18thC, the seaward end of which has succumbed to coastal erosion. Remains of stone pier, 1832.

FC25 WATER SUPPLY CHANNELS
Bute, various locations from Scalpsie Bay via Loch Fad to Rothesay
NS 053685, 092590, 099609
Access: seen from roads and footpaths
Robert Thom owned a cotton mill in Rothesay and developed an elaborate network of artificial channels, intercepting streams in many parts of the island to increase available water power. Mill demolished but some Cotton Mill Society cottages have been restored.

FC26 LITTLE CUMBRAE LIGHTHOUSE
W side of Little Cumbrae Island
NS 137515
Access: nature reserve; only visible from sea
Built 1793 by Robert Stevenson, lit by oil, replacing 1757 tower built by trustees and lit by a coal fire at summit of island. Marked S end of Clyde trial course.

FC27 HUNTERSTON ORE TERMINAL
By A78 7 miles N of Ardrossan
NS 20 53
Access: seen from private road to power stations
Pier and quays with cranes and conveyors, built 1970s to import iron ores for Ravenscraig Steel Works, now importing coal. Prominent enclosed conveyor links the storage areas to the Ardrossan-Largs railway.

FC28 HUNTERSTON NUCLEAR POWER STATIONS
Off A78 19 miles SW of Greenock
NS 182512
Access: private road to visitor centre (currently closed) at B station
Hunterston A was Scotland's first civilian nuclear station, its two Magnox reactors (unique in that they were fuelled from below) commissioned 1964 and decommissioned 1990. Enclosed in a glass-screened building by Basil Spence. Adjacent the 'B' station, Scotland's first advanced gas-cooled reactor station, commissioned 1975.

FC29 ARDROSSAN HARBOUR
Ardrossan, off A78 at west end
NS 225422
Access: seen from streets, public access to Arran ferry.
Harbour developed from 1806 by the Earls of Eglinton but the existing basin and dock 1886-91. Surviving features include a hydraulic power station, c1892, now a chandlery. Grid-planned town also developed from 1806.

FC30 AUCHENHARVIE COLLIERIES ENGINE HOUSE
Stevenston, on open ground S of A738
NS 257414
Access: public open space
Ruins of rubblestone building, supposed to have housed one of the first Newcomen engines in Scotland, 1719. Robert Reid Cunninghame’s main Stevenston coal canal, cut 1770-72, ran close by.

FC31 LINTHOUSE ENGINE SHOP
Gottries Road, W of Irvine town centre
NS 315384
Access: public, Scottish Maritime Museum (admission charge)
Originally built 1872 at Alexander Stephen &
Sons' Govan yard, two parallel machine halls and aisles with cast-iron webbed section stanchions supporting travelling crane gantries and timber roof spans; now an exhibition area and accessible store for the museum’s collections.

**FC32 LAIGH MILTON MILL VIADUCT**

Nr Gatehead, off A759, 3 miles W of Kilmarnock town centre.

Access: public; footpath from Laigh Milton Mill
Four span viaduct carrying the 1812 Kilmarnock & Troon Railway across the R Irvine, bypassed 1848. Restored late 1990s. The world’s first railway viaduct?

**FC33 BLACKSYKE ENGINE HOUSE**

Off B7038 on Riccarton Golf Course, 2 miles SW of Kilmarnock.

Access: public place
Ruined engine house, for an engine whose parts were supplied by the Carron Company in 1781 to drain Caprington Colliery’s Ell seam; the pumping shaft collapsed in 1828. Later architectural embellishments.

**FC34 CALEDONIA ENGINEERING WORKS**

Kilmarnock, West Langlands Street
NS 424382
Access: view from street
General and railway engineering company founded 1847 by Andrew Barclay. Imposing range of offices and workshops, vacated 2001 when Hunslet-Barclay’s remaining work was concentrated in modern buildings. Adjacent in N Hamilton St, a terrace of tenements in glazed white brick with curved outside stairs at the rear, 1883.

**FC35 LACE FACTORY, DARVEL**

West Donington Street, N of A71
NS 565376
Access: entry by arrangement
Late 19th brick factory of no architectural merit, but with five 430 inch wide Jacquard lace looms making theatre scrims and baby blankets; a preparation room has wood battened beaming machine and two lace bobbin winders. Darvel and neighbouring Newmilns specialised in lace manufacture and several small factories survive. Europe’s last press-cut jacquard card maker ceased work October 2001.
Glasgow, at the historic lowest bridging point of the Clyde, has no early claim to urban fame, but by the late 19th century it had become 'the second city of the British Empire'. Emerging from its sleepy medievalism, its merchants traded and grew rich on the products of the New World, first on tobacco and later on sugar and cotton. Until the late 18th century the limitations of a shallow and meandering Clyde stunted the town's growth to the advantage of Greenock, Port Glasgow and Dumbarton. The next key to growth was the straightening and training of the river, begun at the end of the 1700s, which allowed ships of increasing size to reach the Broomielaw, and upriver shipyards were established from 1818, by which time the first steam vessels were navigating the river. Soon the combination of trade, coal and iron and engineering innovation was driving the growth of one of the world's greatest industrial centres. For the next century Clyde-built ships carried Glasgow goods and Scottish engineers to every part of the world. But success sometimes breeds overconfidence, and in the 20th century the region's industrial might was sustained chiefly by the needs of war. When decline came in the 1950s and 60s it was sudden and catastrophic, and many scars remain to be healed.

G1 JOHNSTON OLD MILL
Johnstone, foot of High St
NS 423633
Access: seen from street
Six-storey rubblestone mill, the 'Old End' probably 1787, founded 1782 as a cotton spinning mill and later acquired by William Paton, rope and cord maker. Scotland’s only Arkwright-type mill in use, making shoe and boot laces. Remains of the linked lades of six mills nearby.

G2 INDIA TYRE FACTORY
By A8, 3 miles W of Renfrew
NS 474686
Access: seen from road
Administration block of former airship construction factory, in flamboyant Art Deco style by Wallis Gilbert, 1930. 1950s extensions at both ends in similar style, adapted to new office use 2001, with rear extension reflecting historical links with Beardmore's airship manufacture from 1916. Close by are Beardmore Cottages.

G3 SAUCEL MILL, PAISLEY (NOW WATERMILL HOTEL)
Bladda Lane, next to A737 inner ring road
NS 485 363
Access: seen from street
Former water-powered grain mill, rebuilt in 1968 and converted into a hotel.

G4 ANCHOR THREAD WORKS, PAISLEY
NS 486636
Access: seen from street
Huge cotton thread mill complex belonging to Clark family (later merged with Coats, who owned equally large but now demolished Ferguslie Mills on W side of town), latterly Coats Viyella group closed early 1990s. Surviving components include Mile End Mill (1898), No.1 Embroidery Mill (1840, now Abbey Mills Busi-
ness Centre), and Domestic Finishing Mill, 1884 closed 1984, and possibly to be converted and refurbished with the assistance of the Phoenix Trust.

**G5 ROLLER BASCULE BRIDGE**
Carrying A8, Inchinnan Rd, over White Cart River
NS 493678
Access: public road
Scherzer roller bridge over navigable channel of the White Cart river, completed 1923 to increase the width to 90ft for access to shipyards upstream.

**G6 JOHN BROWN SHIPYARD,**
Glasgow Rd. Clydebank
NS 497697
Access: seen from footpath S side of river
Founded 1870 by J & G Thomson, acquired by John Brown 1899. Some of the largest, most famous ships built here including Queen Mary 1936, Queen Elizabeth 1938, Queen Elizabeth II 1967, launched across river into mouth of R Cart. Latterly an oil rig construction yard, now disused. Earliest Arrol giant cantilever crane, 1907, survives but most of the remaining cranes and some buildings demolished in 2002.

**G7 RENFREW FERRY**
Across R Clyde, end of A741
NS 511665
Access: public (charge for use)
Last of the cross-river ferries, now pedestrian except that small emergency vehicles can be carried. Adjacent to W, the twin-cylinder side-lever condensing engine of the Clyde Navigation Trust's 1854 tug Clyde is preserved on the river bank.

**G8 HILLINGTON INDUSTRIAL ESTATE**
South of M8, 5 miles W of city centre
NS 515655
Access: seen from roads
Trading estate, established 1937 with well-laid out geometrical road pattern named after prominent Scots, and generally small industrial build-
ings, many with front offices to a standard modernist style. A flagpole commemorates the visit of King George VI to ‘The Scottish Industrial Estate’ in September 1938. Some buildings cleared, others refurbished but many original features remain.

G9 YARROW SHIPBUILDING YARD
South Street, Scotstoun
NS 523677
Access: seen from SW side of river
NE river bank was lined with shipyards. Alfred Yarrow & Co yard built 1906, continues in much rebuilt form as BAE Systems, with modern covered slips building to Admiralty contracts.

G10 BRITISH LUMA LIGHTBULB FACTORY
Shieldhall Rd, N of M8/A8, 4'/2 miles of city centre.
NS 532654
Access: seen from street
Last remaining building of the Scottish Co-operative Wholesale Society’s 12 acre Shieldhall manufacturing estate. Art deco building by Cornelius Armour, built 1938. Electric light bulbs were tested in the glazed tower, open to view. Converted to dwellings 1995-6 with inserted floor and new matching blocks to rear.
G11 NORTH BRITISH DIESEL ENGINE WORKS
739 South St, Whiteinch, 4 miles W of city centre
NS 533668
Access: seen from street
Very large steel-framed brick building, built 1913-14 for Barclay, Curle & Co, Shipbuilders. The flattened mansard roof resembles Behrens AEG factory in Berlin, but is structurally different. Adjacent a giant cantilever crane, Arrol 1920.

G12 FAIRFIELD (BAE SYSTEMS) SHIPYARD
Glasgow, Govan Rd, 1/4 mile E of S approach to Clyde
NS 548660
Access: seen from street
Established 1863 by Randolph & Elder, with tall engine building works with tiers of galleries, 1874, giant cantilever crane by Sir William Arrol & Co 1917, and ornate red sandstone offices, 1889, with entrance flanked by statues of a mariner and a shipwright.

G13 BISHOP MILLS
206 Old Dumbarton Rd, by R Kelvin
NS 562662
Access: seen from street
4-storey rubble stone building with sculpted wheatsheaves on the gables, rebuilt c1853 for William Wilson. Converted to private housing.

G14 PARTICK SEWAGE PUMPING STATION
35 Dumbarton Rd, by Kelvin Hall
NS 564664
Access: seen from street
Red sandstone building in baronial style, 1904, originally with three vertical triple expansion steam pumping engines by Duncan Stewart and Co., Glasgow, replaced c1960 by electric pumps. Still in use.

G15 KELVIN HALL (GLASGOW TRANSPORT MUSEUM)
Bunhouse Lane. 2 miles W of city centre
NS 565653
Access: public place (no charge for admission)
Glasgow's transport collections housed in part of Kelvin Halls, with important collections of
Scottish-built motor vehicles, representative locomotives of Scottish railways and many models of Clyde-built ships.

G16 GOVAN GRAVING DOCKS
Stag St, off Govan Rd, W of Princes Dock
NS 561655
Access: seen from street
Three graving docks built for the Clyde Navigation Trust by James Deas, 1869-75, 1883-6 and 1894-8 (N to S). Ruinous line of pump-houses, hydraulic accumulator towers and mechanics' workshops by the R Clyde.

G17 SS GLENLEE
Yorkhill Quay, 1 mile W of Kingston Bridge
NS 563657
Access: open to visitors (admission charge)

G18 CLYDE HARBOUR TUNNELS
Tunnel St, by Finnieston crane
NS 571 651
Access: public area
North Rotunda, entrance to the Harbour Tunnels (two vehicular, one pedestrian) completed 1896; S Rotunda visible across the river. The circular brick, iron framed, domed structures housed hydraulic lifts.

G19 FINNIESTON CRANE
(STOBCROSS NO.7)
Glasgow, Stobcross Rd at entrance to SECC
NS 571651
175 ton giant cantilever electric crane not built by Sir William Arrol & Co, but by Cowans Sheldon, 1931. Famous for lifting export locomotives aboard ship, now a cherished landmark.

G20 KINNING PARK SEWAGE WORKS
100 Seaward St, S of Kingston Bridge
NS 575645
Access: seen from street
Tall single-storey brick-built steam pumping station, built 1909-10 for Glasgow Corporation by the engineers A & A Home Morton.

G21 GLASGOW & DISTRICT SUBWAY DEPOT
175 Scotland St, S of Kingston Bridge
NS 580642
Access: seen from street
Arts & Crafts style facade of power station for world's only cable-hauled underground passenger railway, 1896 to 1935 when the railway was electrified.

G22 TOBACCO WAREHOUSE
Nos 41-45 James Watt St, off Broomielaw W of Central Station
NS 583652
Access: seen from street
2-storey stone warehouse with 3-storey central pediment, by John Baird 1854, 3 further storeys added 1910-11, reinforced concrete internal structure. Across road, 4-storey stone warehouses with recessed openings linking windows of middle floors. Nos 68-72 built 1847-8 and 44-54 in 1861. James Watt's house was in this street.

G23 PAINT WAREHOUSE
106 Tradeston St, S of R Clyde
NS 583645
Access: seen from street
4-storey sandstone block of 1866 by H & D Barclay, with a 4-storey Venetian gothic corner block added 1900 by W J McGibbon, for Blacklock, McArthur & Co, paint manufacturers.
G24 PARK’S BODY WORKS
44 Kilbirnie St, S of Kingston Bridge
NS 582639
Access: seen from street
3-storey reinforced concrete factory designed by R Henderson and built 1913 for William Park, vehicle body builder. A vehicle lift took vehicles to storage on the roof. Now a vehicle repairer’s workshop.

G25 PRINTING WORKS
50 Darnley St, Pollockshields
NS 580634
Access: seen from street
Elaborately decorated inside and out 3-storey building in Glasgow Art-Nouveau style with gesticulating statues and dragon swallowing water from gutters, 1901 by Gordon & Dobson for Millar & Lang, Art Publishers.

G26 TRAM DEPOT & WORKSHOPS
Albert Drive, Pollockshields
NS 581633
Access: accessible (closed Mondays)
Built 1894-1912 for Glasgow Corporation Tramways Dept. Ramp led to 1st floor stables. Was Transport Museum, now an Exhibition and Performing Arts Centre, with meeting rooms upstairs.

G27 ST ANDREW’S POWER STATION
245 Pollokshaws Rd, nr St Andrew’s Cross
NS 585635
Access: seen from street
Built 1899 for Glasgow Corporation Electricity Dept., single-storey brick building now a printing works.

G28 GLASGOW CENTRAL RAILWAY STATION
Gordon St, city centre
NS 587653
Access: public; entrances in Hope St, Union St
Established 1879 when the Caledonian Railway extended its line from Bridge St over the Clyde. Enlarged 1899-1905 with elliptical roof trusses. Concourse renovated 1980s, losing its famous destination boards. Iron vehicle entrance porch in Gordon St (c.1879), and Argyle St bridge with its iron and glass screen (1899-1906), still impressive.

G29 GARDNER’S WAREHOUSE
36 Jamaica St, by Central Station
NS 588652
4-storey sales warehouse with wrought and cast prefabricated frame designed by R McConnel, with cast iron and glass elevations to street. 1855-6. Close by No 60-66 has a cast iron and glass façade, 1856-7.

G30 DAILY RECORD PRINTING WORKS
St Vincent Lane, city centre
NS 588654
Access: seen from street
Notable ‘modern movement’ glazed brick buildings of 1900, designed by Charles Rennie Mackintosh.
G31 GLASGOW SUBWAY STATION
St Enoch Square, city centre
NS 589650
Access: public place
St Enoch Station, red sandstone in Jacobean style, 1895, is the most ornate feature of the double-track underground railway forming a continuous loop under the western part of the city and including Govan south of the river, opened 1896. 4ft gauge in narrow circular tunnels, at first cable hauled, then electrified in 1935.

G32 STATUE OF JAMES WATT
Glasgow, George Square, city centre
NS 591653
Access: public square
Designed by Sir Francis Chantrey, erected 1832.

G33 CLYDE BRIDGES
By Central Station eastwards
Access: public places
King George V Bridge (NS 586648) Listed B, 3-span reinforced concrete continuous beam bridge, with mock arch faces of Dalbeattie granite, built 1924-8; Caledonian Railway Bridge (NS 585649) Listed B, first bridge of 1878 demolished but granite piers remain. Present bridge 1905 by D Matheson & Sir J W Barry, long steel lattice girders on granite piers, carrying 13 tracks; Glasgow Bridge (NS 587647) Listed B, 7-arch granite-faced bridge by Blyth & Westland, 1898-99, using facings and balustrades from Telford's 1833 bridge, widened by 20ft and founded on steel caissons 100ft below water level; Portland Street Suspension Bridge (NS 589647) Listed A, classical masonry pylons support flat link chains and a light lattice deck spanning 126m. Original pylons split and were rebuilt; deck lowered
G33: City Union Railway Bridge

in 1871 rebuild; Victoria Bridge (NS 592645)
Listed B, built on site of Glasgow’s first bridge, 5-arch sandstone bridge encased in granite with balustraded parapets, by James Walker 1851-54; City Union Railway Bridge (NS 594648)
Listed B, carried Glasgow & South Western Railway’s tracks to St Enoch Station (demolished). Five spandrel-braced arches of riveted steel, by Sir William Arrol & Co, on crenellated sandstone piers and abutments, 1897-99; Albert Bridge (NS 594644) Listed B, 3-arch bridge with 6 wrought iron and 2 cast iron ribs per span, cast iron spandrels and parapets with gothic tracery and coats of arms, 1870-71.

G34 QUEEN STREET STATION
Off George Square, city centre
NS 592655
Access: public place
Terminus of Edinburgh & Glasgow Railway, 1842, with overall wrought iron roof, 1878-80, but much rebuilt. Trains arrive and depart via a tunnel with 1 in 42 gradient to Cowlairs, cable-assisted until 1908.

G35 PORT DUNDAS/NORTH SPEIRS WHARF
N of junction 16 on M8
NS 597666
mostly: A, canal: SCH
Access: seen from street and canal side
Final terminus of a branch canal from the Forth & Clyde, 1791; the Monkland Canal also extended here 1790, but infilled 1960s. Fine ranges of warehouses, mills and sugar refineries converted to housing.

G36 GLASGOW CITY CHAMBERS
George Square, city centre
NS 595654
Access: seen from street and on official business
Grandiose municipal chambers with rich marble & mosaic interiors, external friezes depicting various trades of the city, by William Young, 1883-8

G37 BRIGGAIT FISH MARKET
Clyde St/Bridge Gate, S of city centre
NS 593647
Access: seen from streets
Former fishmarket with wrought iron galleries and roof, Clarke & Bell 1873, envelops steeple of old Merchants’ Hall, 1665. Entrances with columns surmounted by sea-horses. Restored 1988 but since disused.
G38 FRUITMARKET
Candleriggs/Albion St, SE of city centre
NS 596652
Access: seen from street
‘Bazaar’ established as covered market, 1817, becoming exclusively a fruitmarket, 1883. The Old Fruitmarket, N of City Hall, by Robertson & Lister, Victoria Foundry, with cast iron arched roof and side galleries, probably 1852-54 and inspired by Crystal Palace. Used as jazz venue. Closed 2001. S of City hall rebuilt 1907 with steel roof, now ‘Merchant Square’.

G39 RAILWAY WAREHOUSES
105-169 Bell St, nr Glasgow Cross
NS 598650
Access: seen from street
Massive 6-storey warehouse built 1882-3 for the Glasgow & South Western Railway on sweep-
ing curve, interior with cast iron columns and beams supporting concrete jack arches. Adapted for private housing.

**G40 DUKE ST COTTON MILL**

100 Duke St, E side of city centre

NS 603651

Access: seen from street


**G41 THE PEOPLES’ PALACE**

Glasgow Green, 1 mile SE of city centre

NS 600643

Access: museum and tearooms

Red sandstone civic building with exhibitions and 'winter gardens' at rear, a superb airy iron and glass conservatory, recently restored. Across the Green, an inscribed granite boulder commemorates Watt’s conception of the separate condenser whilst walking there one Sunday morning in May 1765.

**G42 ST ANDREW’S SUSPENSION BRIDGE**

Glasgow Green

NS 600640

Access: public footbridge

Flat link chains between fluted, Corinthian cast iron pylons support a light truss deck. Built 1853-55 by Neil Robson to replace ferry used by workers; restored 1997.

**G43 TEMPLETON’S CARPET FACTORY**

The Green, 1 mile E of city centre

NS 603641

Access: seen from Glasgow green

Polychrome brick building, four storey plus attic block in Venetian style by William Leiper, known locally as the 'Doge’s Palace' completed 1892. Buildings of various dates formerly occupied by James Templeton and Co.; now a business centre.

**G44 BARROWFIELD WEAVING FACTORY**

105 French St, Dalmarnock

NS 608632

Access: seen from street

Two-storey polychrome brick block and two further blocks, built from 1889 for John Brown & Son, power loom muslin manufacturers.

**G45 LOCKS AND AQUEDUCT, MARYHILL**

Bantaskine Street, off A81 Maryhill Rd

NS 563690

Access: walk along towpath

Flight of five locks by Robert Whitworth, 1787-90, leading down to the Kelvin Aqueduct, four 50ft spans with spandrels arched in plan across the R Kelvin, the largest in Britain when completed 1790, 400ft long and 70ft high. Restored 2000.
G46 POLLOCKSHAWS VIADUCT
By Pollockshaws Rd near Pollock Park
NS 560613
Access: seen from street
Stone-built viaduct with five segmental arches, two skewed over White Cart R, built c1847 by Neil Robson for the Glasgow, Barrhead and Neilston Direct Railway. Adjacent station at Pollockshaws West, with 2-storey brick and sandstone building on the up platform, is now the oldest in Glasgow.

G47 MAXWELL PARK RAILWAY STATION
Terregles Ave/Fothergillay Rd,
NS 567628
Access: public place
Wooden construction, built c1894 for Cathcart District Railway. Booking hall approached by footbridges from street level, with other offices at platform level below.

G48 SENTINEL WORKS
Jessie St, Polmadie, 2 miles S of city centre
NS 597625
Access: seen from street
Built 1903-14 for Alley & McLellan, engineers and the original builders of the Sentinel steam lorry. Includes a 4-storey early reinforced concrete block of pattern shop and offices by Archibald Leitch, 1903.

G49 STEAM HAMMER
85 Dunn St, Dalmarnock
NS 613636
Access: public place
A large steam hammer marks the site of Sir William Arrol's Dalmarnock Ironworks, built 1889-1911 and now mostly demolished.

G50 CARSTAIRS ST MILL
Carstairs St, Dalmarnock
NS 611628
Access: seen from street
Massive brick 5-storey, 11 by 28-bay mill designed by Joseph Stott, Oldham and built 1884-89 for Glasgow Cotton Spinners Co Ltd. Now used as storage. A second huge mill has been demolished.

THE SCOTTISH INDUSTRIAL HERITAGE SOCIETY

The Scottish Industrial Heritage Society was formed in 1984 by the amalgamation of the Scottish Society for Industrial Archaeology and the Scottish Society for the Preservation of Historic Machinery. SSIA was founded in 1973.

SSPHM was founded in 1971 and its members ranged across Scotland, keeping records of a wide range of machinery and equipment as it reached the end of economic life, and when necessary providing the expertise to dismantle and transport it into safe storage. By their labours many irreplaceable historic items were rescued and transferred, in 1984, to the collections of the industrial museums and the Royal Scottish Museum.

SIHS has members throughout Scotland, and organises a programme of visits, events and conferences which are publicised through regular Bulletins. The Scottish Industrial Heritage Review, appearing once or twice per year, provides opportunities for members to publish original work in a series of short articles. Further details may be obtained from the Hon. Secretary, Dr E C Salthouse, 'Shieldaig', Hume, KELSO, TD5 7TR
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ASSOCIATION FOR INDUSTRIAL ARCHAEOLOGY

This book is published to mark the AIA's 2002 Conference in Edinburgh. The AIA was established in 1973 to promote the study of industrial archaeology and encourage improved standards of recording, research, conservation and publication. It aims to support individuals and groups involved in the study and recording of past industrial activity and the preservation of industrial monuments, to represent the interests of industrial archaeology at national level, to hold conferences and seminars, and to publish the results of research. The Association is a voluntary one. It publishes the *Industrial Archaeology Review* which is sent twice yearly to all members, who also receive the quarterly *Industrial Archaeology News*. Further details may be obtained from the AIA Liaison Officer, AIA Office, c/o School of Archaeological Studies, University of Leicester, Leicester LE1 7RH.

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