



- 8) HEW 2547                      NH 7854 6772                      Cromarty Harbour.  
Designed by John Smeaton, built 1781 to 1785, a north pier and a detached breakwater parallel to the shore. By 1839 a south pier had been built. About 1994 a timber structure connected the breakwater to the south pier, now replaced by a Bailey bridge.
- 9) HEW 0601      The Highland Railway.
- 10) HEW 0132                      NH 7755 9822                      Fleet Mound  
Designed and constructed under Telford's general direction 1813 – 16 for the Marquis of Stafford ( later the 1<sup>st</sup> Duke of Sutherland ) husband of the Countess-Marchioness (Countess of Sutherland ) to bypass the difficult passage of the Little Ferry, some three miles downstream. About 1000 yards long across the tidal mud-flats of Loch Fleet, 60 yards wide at the base and 23 feet high. At the north end where the embankment crosses the River Fleet a bridge of 4 arches each of 12 ft span was built, increased to 6 arches in 1834. On the seaward face of each arch two timber tidal flap gates were constructed which prevented sea water passing upstream at high tide and allowed river water to flow out at low tide, and so about 400 acres of land were reclaimed for agriculture. A system of chains, pulleys and winches was devised to lift the flap gates when needed, and the system was modernised in 2004.
- 11) HEW 2551                      NH 5789 9527                      Oykell Viaduct.  
Built 1867, engineers were Joseph Mitchell and Murdoch Paterson, 230 ft span wrought-iron lattice girder viaduct with the deck on the top of the trusses. Built for the Sutherland Railway Company over the tidal estuary of the River. Now with pedestrian walkway attached to the west side.
- 12) HEW 2550                      NH 6092 9154                      Bonar Bridge.  
This is the 3<sup>rd</sup> bridge on this site, a segmental steel tied arch of 340 ft span and 64 ft rise, designed by Crouch & Hogg, across the tidal narrows of the Kyle of Sutherland. The first bridge was of 3 arches the main one being Telford's prefabricated cast-iron lattice spandrel arch of 150 ft span, designed in 1810 and erected in 1812. There were 2 further masonry arches of 60 ft and of 50 ft spans to complete the crossing. The first bridge was destroyed in a flood in January 1892 and was replaced by a bridge of 3 bowstring steel girders of spans of 70 ft, 105 ft, and 140 ft, designed by Crouch and Hogg, and opened in July 1893. In 1973 the second bridge was replaced by the current one.
- 13) HEW 0258                      ND 0259 1538                      Helmsdale Bridge.  
Telford bridge of 1810 – 11 over the Helmsdale River in twin segmental masonry arches of 70 ft span.

- 14) HEW 2545                      NH 5585 5888                      Dingwall Canal  
Built 1815 – 17 by the Highland Roads Commission to connect the River Peffery, the town and the Great North Road with the Cromarty Firth, used by vessels up to 9 ft draught.    Suffered from silting problems and finally abandoned completely in 1884.
- 15) HEW 2543                      NH 5399 5572                      Conon Railway Bridge.  
Built 1862 by the Highland Railway Company, designed and built by Joseph Mitchell. Five masonry arches of 73 ft span built on a skew of 45\* to the river.  
  
Telford two-storey toll-house immediately downstream on the north side, 1830
- 16) HEW 1759                      NH 6485 4660                      Clachnaharry Swing-bridge.  
Current bridge built 1909 to the same design as the original designed by Joseph Mitchell in 1862.    It carries the railway over the canal on a skew of 65\*.    Two hog-backed wrought-iron plate girders 126 ft long pivoting on a platform built out from the east bank to give a span of 78 ft with a balancing arm of 48 ft.    Painted white to limit temperature effects.  
Note the distinctive clack-clack when travelling over.
- 17) HEW 0084 / 02                      NH 6525 4559                      Muirton Locks  
Flight of 4 locks each 180 ft long by 40 ft wide lowers the canal 32ft from Dochfour Reach to the Muirton Basin.