

**Scott Wilson Scotland: A History**

**Volume 6**

**The SWK Today Years 1972-1995**

Transcribed and edited from 'SWK Today'

**JP McCafferty**



Significant or notable projects, people and events are highlighted as follows for ease of reference:-

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## Background

Scott Wilson, through all its various name changes, published the following in-house magazines and newsletters containing, among other things and in varying degrees over the years, news and information about people, projects, events, corporate issues, births, marriages and deaths:-

**Pontifact** 1-36 [Christmas 1960-Summer 1977] [printed]

**SWKP / SWK Today** 1-54 [Nov 1972-Oct 1995] [printed]

**SWK News / ScottLight** 1-476 [July 1995-Dec 2004] [printed]

**Exchange** [July 2004-Spring 2010] [printed]

**Communiqué** [June 2005-Dec 2005] [electronic] [Scotland & Ireland]

**Benchmark** 1-6 [Oct 2007-July 2009] [electronic] [Scotland & Ireland]

**Interchange** 1-251 [Jan 2005-Dec 2009] [electronic]

**SW1** 1-19 [Dec 2009-Sept 2010] [Global]

## SWK Today

Articles from SWK Today [Nov 1972-Oct 1995] relevant to the history of Scott Wilson in Scotland are recorded below. These form a history of the events that staff or management chose to submit for publication and are not, therefore, a complete history of events but, rather, snippets of information that provide a flavour of events at the time and give clues as to what might be found elsewhere in papers, job description sheets and other records.

Significant or notable projects, people and events are highlighted as follows for ease of reference:-

**Projects/Disciplines** **People** **Issue/Date** **Actions**

The original three-column format and font have generally been replaced with a standard A4 width and Aerial [10] font.

Scans of the entire known collection of Scott Wilson Newsletters, including SWK Today, are included for interest and reference in Doc 15 Appendix 3.

**JP McCafferty** [**See P83, 90 photograph Spacing**][**Check Heads 2 eg P20 No11**]

SWK Today 1-Nov 1972.....

# SWKP TODAY

No.1 NOVEMBER 1972

The firm now has in hand over sixty projects, each worth more than £1 million, but its expansion has so outstripped its internal communications that many of our staff are unaware of work outside their own sphere of activity. It is the objective of this first edition to supply some of this information by giving a complete list of major current jobs with a brief description of a selected few at home and abroad. Future issues will probably be briefer.

Job No.	TITLE	CLIENT	Year of Completion	Estimated Construction Cost
6014	Glasgow Comprehensive Highway Study	City of Glasgow Corporation	-	5.5
63040/2	Tomhead Interchange, Stage II, Glasgow	City of Glasgow Corporation	1976	3
64206	Rendal Link, Westmorland	Department of the Environment	1974	2.9
64210	Belfast-Castledawson M22, N. Ireland	Ministry of Development N. Ireland Government	1975	10.1
6567 65810 (5671)	Hong Kong Cross Harbour Tunnel	The Hong Kong Cross Harbour Tunnel Co. Ltd.	1972	79
66700	Lagos-Ibadan Expressway, Nigeria	Nigerian Federal Ministry of Works & Housing	1974	23
66705	Apapa Road & Ikorodu Causeway, Nigeria	Federal Military Government of Nigeria	1973	14
67042	M62 Motorway	Department of the Environment	1975	15.4
67073	Strathclyde Motorway Stage I, Scotland	City of Glasgow Corporation	1976	14.7
67710	Northern States Roads Study, Nigeria	International Bank for Reconstruction & Development	1972	-
68036	Deeside Parkway	Department of the Environment	1974	8.5
68071	Lincoln West Relief Road	Corporation of Lincoln	?	3
69008	Mutrah Sea Road, Oman	Sultanate of Oman	1973	1.3
69009	Branston Street Bypass, Motherwell, Scotland	Motherwell Town Council	1974	1
69123	Essex Northern Bypass	Department of the Environment	1974	1.9
69703	Lagos-Ibadan-Ilorin Reconstruction, Nigeria	Nigerian Federal Ministry of Works & Housing	1974	5.8
70009	Karachi Nale Road Bridge, W. Pakistan	Karachi Port Trust	1972	-
70091	Stafford Inner Relief Road	Borough of Stafford	?	1.5
70153	Ayr Motorway, Stage I, Scotland	City of Glasgow Corporation	1976	2.5
70705	Truck Terminal, Apapa, Nigeria	Nigerian Federal Ministry of Works & Housing	1973	1.5
70710	Basa-Gombi-Jumbe Road, Nigeria	Nigerian Federal Ministry of Works & Housing	?	6.0
71020	Road Construction, Substitution of Labour for Equipment, India	International Bank for Roads and Development	1972	-
71135	Arbury Road, London	Department of the Environment	1970	5.1
71178	Southey Southern Bypass, Lincolnshire	Department of the Environment	1977	1.6
71708	Shalling of Trunk Road, Lagos, Nigeria	Nigerian Federal Ministry of Works and Housing	?	4.0
71713	Ibadan Bypass, Nigeria	Nigerian Federal Ministry of Works and Housing	?	4.0
71805	Tuen-Mun Castle Peak Road, Hong Kong	Government of Hong Kong	1975	11
71806	Thailand Powder Roads	Government of Thailand	?	11
72006	Malawi IBM Road Study	Government of Malawi	1973	-
72081	A16, Whigg-Riby Road, Lincolnshire	Department of the Environment	1976	10.5
72087	Bristol Southwington Feasibility Study	Department of the Environment	1974	-
	Tea Roads, Kenya	Ministry of Works	1974	6.5

STRUCTURES

Job No.	TITLE	CLIENT	Year of Completion	Estimated Construction Cost
17046	New Charing Cross Hospital, Fulton.	Charing Cross Hospital Board.	1977	20
67089	Winstanbury Square Garage, London.	London Borough of Camden	1972	2
68054	Carsons House, London.	Sun Life Assurance of Canada	1972	1
18061	B.E.L. Engineering Base, Phase III (for description see Pontifact No 25)	British European Airways	1972	3.2
70071	New Office Block, Bishopsgate.	Spring Brothers, Banque Belge	1977	7
70075	Deakwood House, London.	City of London Real Property Co Ltd.	1974	4
70150	Hatherwell Commercial Centre	Keale House Development	1978	3
71079	Royal Military College, Sandhurst, Phase II	Department of the Environment	1977	1
71100	Nunmouth County Offices	Nunmouth County Council	1975	4.5
71120	Sultan's Armed Forces, Hsail, Oman Phase II Development	Department of Defence Sultanate of Oman	1975	5
71155	London House, London	City of London Real Property Co Ltd	1975	3
72006	Waring & Gillow Development	Amalgamated Investment & Property Co. Ltd.	?	?
73016	Coutts Bank, London WC2	Coutts & Co.		6.5
73072	Merino Development		?	10
73073	Artillery Mansions Development	Land Securities Investment Trust Ltd	?	5
73077	Grand Buildings, Trafalgar Square		?	30
73122	Orchard Square Development, Singapore	Orchard Square Development Corporation (Pte.) Ltd	?	40

AIRPORTS

Job No.	TITLE	CLIENT	Year of Completion	Estimated Construction Cost
66000	Brunei Airport	Government of Brunei	1972	6
69045	Lai Tak Runway Extension, Hong Kong.	Government of Hong Kong	1973	10
70662	Nanyuki Airport, Kenya	Government of Kenya	1973	2
71148	Mombasa Airport, Kenya	Government of Kenya	1974	7.6
72017	Kota Kinabalu Airport, Sabah	Government of Malaysia	1976	9.7

**6014 - Glasgow Comprehensive Highway Study**

Since the completion of the Highway Plan for Glasgow in 1965, we have been engaged in a continuing exercise on forward motorway planning. At the moment, the principal workload is the preparation of preliminary designs for the 1975-80 Road Programme which includes 26km of motorway and expressway at a total cost of the order of £51.5 million, and for the south and east flanks of the Inner Ring Road at a total value of approximately £45 million. An increasingly important aspect of this type of planning is the Public Participation Programme in which the general public are informed of the Authority's proposals.

**SWKP Today 4-Aug 1974.....**

**Oil from Troubled Waters: North Sea Oil Projects [Williams]**

We asked **GMJ Williams** to describe our involvement in North Sea oil projects. He writes:

Without doubt, the North Sea will be one of the largest fields for the construction industry during the next decade. Capital expenditure connected with oil production will run at the rate of at least £600 million per annum. Half this figure is likely to be represented by the permanent production platforms which will stand over the oil wells in very exposed situations in the sea, and we hope to obtain an increasing amount of work connected with them.

**Thistle and Ninian Platforms**

The design and construction of these platforms is usually the subject of package bids, so that consulting engineers are not being called upon to give the full range of their usual services. However we now have a team working under **DE Thorp** advising two oil company groups on the evaluation of the alternative proposals they have received for production platforms in the Thistle and Ninian oilfields. Both fields are off the Shetlands where the sea depth exceeds 100 m. with waves that can be as high as 30 m.

The production platforms which concern us are of the 'gravity' type — constructed mainly of concrete in sheltered water on the coast then towed floating to their permanent position where they are sunk to stand on the seabed, relying only on their weight to resist the waves and wind. Obviously they incur a new range of very interesting problems with which we hope to be increasingly involved.

**BA Helicopter Hanger Sumburgh, Shetland [Rutter]**

Described by the managing director of British Airways Helicopters Ltd. as "an event of considerable significance in the development of British Airways' oil-related activities in Shetland", the ceremony of cutting the first sod for the new maintenance hangar at Sumburgh airport took place on July 3, with SWKP's **Peter Rutter** in attendance.

The hangar, for which we are the consultants, will accommodate either two Sikorski S61 helicopters or one S61 and one S65. It will provide improved maintenance facilities for the helicopters which are used on contracts for the oil industry.

Measuring 50m x 35m, the hangar will incorporate workshops and offices. We are also responsible for designing the adjacent apron. The doors will have a clear opening of 24m and a clear height of 8m.

This new project is an extension of the maintenance facilities also designed by SWKP for the Scottish area of BA at Dyce airport, Aberdeen.

**Hong Kong Highway: Tuen Mun Road Stage 1 Starts [Lindsay; McCafferty]**

**Jim McCafferty** was Project Manager, **Tuen Mun Road 1 & 2** with SWK Hong Kong 1976-1981]

"At £18.5 million the **Tuen Mun Road Stage 1** project in Hong Kong must be one of the highest value single contracts for which SWKP has been solely responsible on design and supervision", writes **Joe Lindsay** from Hong Kong.

Kumagai Gumi (Hong Kong) Ltd. will begin construction on October 2. The contract will provide a six-lane link between the new towns of Tsuen Wan and Tuen Mun. The value of Stage 1 will be increased to £21 million when the **Sham Tseng Viaduct** contract is let next year.

### **Smooth Move: Winsley Street to Scott House, Basingstoke**

Just for the record (and for the information of staff in such far-flung outposts as Brazil, Poland, Sabah and Wallasey Embankment): the office move to what our new neighbour, Thomas de la Rue, calls the copper-topped emporium, was completed on time in June

Bill Sterling took charge of departures from Winsley Street and Trevor Hancock of arrivals at Scott House. They both worked extremely hard to make the passage painless and are to be congratulated on a remarkable success.

Enough of this domestic news, lest we be accused, by Pontifact of poaching on their preserves and then we might end up in the Scottie (or dog) House.

**Retirement:** **Mervyn Johnston** and Archie Evans

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### **SWK Today 5-Oct 1974.....**

#### **Moving Along the Highway: M8 Renfrew Motorway Stage 1 [Breakey]**

**Don Breakey** in Glasgow told TODAY that Balfour Beatty Construction (Scotland), contractors for the **Renfrew section of Glasgow's urban motorway network**, have just begun pouring concrete for the first deck slabs of the four-carriageway Scotland Street viaduct.

The £13.5 million contract for the 3.3 km. stage one section of the motorway is due for completion in the autumn of 1976.

#### **Facelift: Forth and Clyde Canal, Clydebank**

The Scottish company are putting the finishing touches to their plan to turn three miles of the long-disused, and now derelict, **Forth and Clyde Canal in Clydebank** into an amenity for the Burgh's citizens. The canal at one time had a water depth of about 10 feet, but is now partially filled with debris and silt and in places the banks have collapsed, becoming a death-trap for children.

The plan is to reduce the water depth to about three-and-a-half feet by infilling, and to provide sloping banks with a gabion edge on one side so that those who inevitably fall in can get out easily.

Footpaths are planned along one or both sides, with a number of linking footbridges, seating and play areas. To retain the semi-rural aspect of some of the 'reaches', reeds will be replanted at the water edge and there will be extensive plantings of birch and other native trees.

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### **SWK Today 6-Jan 1975.....**

#### **Brandon Street Bypass, Motherwell Opens**

The Brandon Street by-pass which will remove traffic congestion in the centre of Motherwell and lay the way for the pedestrianisation of parts of the town's main shopping centre was opened to traffic yesterday.

The by-pass designed by consultant engineers Scott Wilson Kirkpatrick and Company (Scotland) of Glasgow, and built by R. J. McLeod (Contractors) Ltd. Glasgow, replaces the direct junction of the A73 Hamilton—Newhouse Road and the A71 Lanark-Glasgow road at Motherwell Cross, by-passing

Brandon Street (the former A71) to form a one-way ring road round the shopping centre in the Motherwell Cross area. (Project Scotland, October 31)

**High Stacks: Report on Inverkip Power Station Chimney [Thorp; Peterhead Chimney]**

A report has been given to the South of Scotland Electricity Board on undesirable wind and solar effects on the 800-foot high chimney at Inverkip Power Station.

Doug Thorp told our reporter that finite element analysis on a computer had been used to determine tensile stresses on the inside surface of the shell. As a result SWKP are advising client on remedial work on this chimney — the tallest in Great Britain.

And, prevention being the best cure, the North of Scotland Hydro-Electric Board have since asked us to advise on the design of a chimney for Peterhead Power Station.

**Lowland Fling; GMJ Williams at Trades House, Glasgow**

GMJ Williams, Esquire, proposed the toast The City of Glasgow at the Trades House of Glasgow Annual Dinner on October 9. This was the 369th anniversary of an institution founded in 1605.

At the high table, known as the Deacon Convener's' Platform, on the right of the Deacon Convener of the Trades of Glasgow, sat the Lord Provost, Sir William Gray, who replied to Mr. Williams' speech. Next to Sir William sat Mr. Williams, then Lord Strathclyde, one baronet, five knights and a dame before the next esquire.

Mr. Williams showed Today the exotic menu but said that, with the speech hanging over him, he dared not take full advantage of all five wines served.

**Highway Supervision: John Warburton rejoins as CRE Libya**

John Warburton, who spent six years with the firm on the M6 Motorway in Cumbria before going to the Eastern RCU at Bedford, has rejoined SWKP to be resident engineer on the first Libyan contract and, later, to assume an overall CRE role when the other two contracts are also in progress.

**SWKP Today 7- March 1975.....**

**All Our Today's: Mike Slinn Moves to Tuen Mun Road, Hong Kong**

Mike Slinn has gone to Hong Kong to complete the design of the Tuen Mun Road. The first stage of construction began last October.

**Oriental Print: Tuen Mun Road, Hong Kong [Lindsay; McCafferty]**

An article by Joe Lindsay was published last December in Asian Building & Construction under the heading Tuen Mun Road: Hong Kong's First Rural Motorway.

Note: Jim McCafferty was Project Manager for Tuen Mun Road Stages 1 & 2 from 1976 to 1981 while resident in Hong Kong.

It goes without saying that the text was excellent, and the three diagrams which appeared were well presented. Unfortunately they all related to Tsing Lung Tau Bridge. The publishers could not find space for a key plan of the route which, doubtless, was offered to them, and would have added considerable interest to the readers.

Today checked on the circulation of Asian Building & Construction which is 13,500, so Mr. Lindsay obtained some far-reaching publicity for SWKP - and set an example for the staff in the UK where there has been a noticeable decline in article-writing in recent years.

Another excellent publication emerging from Hong Kong recently was a full-colour, gate folded leaflet produced by the Cross Harbour Tunnel Company as a handout to drivers paying their toll. One page reflects to a great extent the brochure prepared by the consultants and contractors for the royal opening in October 1972. The reverse contains a series of colour pictures, a list of tolls and charges, the tunnel by-laws, aids to safe driving and some fascinating statistics

In the first two years after the tunnel opened the highest vehicle count on any one day was 49,085 (on January 24 1974); 3948 vehicle breakdowns were attended to by tunnel staff; 71 accidents involved personal injury (including two fatalities) which is one accident every 556,231 vehicle miles.

#### **Current Major Jobs. (Construction cost exceeding £1million - Scotland and NI).**

<b>Belfast-Antrim M/way: Ballybentragh-Sandyknowes</b>	<b>On site, £3.9m, completion due 1975</b>
<b>Glasgow, Townhead Interchange Stage 2</b>	<b>Design, £5m</b>
<b>Glasgow, Ayr Motorway Stage 1</b>	<b>Design, £4m</b>
<b>Glasgow, Renfrew Motorway Stage 1</b>	<b>On site, £14m completion due 1976</b>

#### **SWK Today 8-Aug 1977.....**

#### **SWK by Staff Numbers [Halved in Scotland]**

SWK numbers have halved in Scotland and almost doubled in West Africa in the last year, according to a worldwide census taken in May 1977 which enabled comparison to be made with similar figures for March 1976. In this period the grand total increased by 2% from 903 to 923, a stability reflected in the figures for the SWK population in East Africa and the Far East which have hardly changed.

The Nigerian numbers were 76 (compared with 45 the previous year) with the office in Ghana contributing an additional 31 (18) and that in Libya 16 (9). This expansion meant that the three partnerships in Africa totalled 255, compared with 282 for the Hong Kong partnership. Apart from a branch office of three men in Manila, the latter population is concentrated within a 15 mile radius of Star House, whilst Vulliamy's circle has a radius of 1500 miles, Tripoli and Lilongwe being 3000 miles apart.

Chartered and graduate engineers have dropped marginally from 374 to 367 in the year, but inspectors of works have increased by 10% from 94 to 104 and administrative staff (including drivers and messengers) by 8% from 185 to 201. One category that has shown a marked change is that of chainman and/or field labourer and this is entirely due to the recruitment by the Athens office of 20 chainmen who now comprise exactly half of Achille Calzetti's payroll. Lest anyone should think that Achille is running a labour agency in downtown Athens, the explanation is perfectly simple: these men are working on the vast programme of road surveys now going on in Libya.

#### **Faces & Places: Promotions [Osborn; Elliott; Innes; Grace et al]**

**Robin Osborn** has been taken into the Hong Kong partnership and **Richard Denton-Cox** promoted to associate there, and **Ron Rakusen** has been made an associate in Nigeria: all facts recorded in the reprint of the green sheet giving SWK Addresses & Information to be issued in September. Other information notified recently for this purpose included: **E O Measor** and **R W Hawkey** have completed their 5-year term as senior consultants and **Stanley Elliott** has moved into this category of the UK partnership from overseas associate; **Ken Innes** and **Louis Rikker** have been taken on to the board of

directors of Scott Houghton & Company; and **Henry Grace** and **Ken Phillips**, formerly partners, have been appointed consultants of the Hong Kong firm.

**SWK (Scotland) has opened a branch office in Dingwall**, Ross & Cromarty, at latitude 58°, the northernmost outpost of the SWK Empire.

#### **SWK Today 9-Nov 1977**.....

##### **Hong Kong News [Tuen Mun Road; Tsuen Wan Bypass; McCafferty; Kemp; Stamper et al]**

Tuen Mun is 32 km west of urban Kowloon/Hong Kong with Tsuen Wan between. Good transport facilities between all three are essential for proper growth and SWK had already helped in this by their earlier work on Lung Cheung (Kowloon Foothills) Road, Lai Chi Kok Bridge and Interchange and the Kwai Cheung Coastal Road. They had also completed the design of Tuen Mun Road linking Tsuen Wan to Tuen Mun.

The 1974 recession slowed development programmes but the bold decision to construct one carriageway of Tuen Mun Road at a cost of £28 million gave a tremendous fillip, particularly to Tuen Mun. Since then the pace of design and construction has accelerated, so I bat Ted Pay at Tuen Mun, **Andrew Fraser** and **Douglas Miller** at Tsing Yi, **Jim Logan** and John Grey at Tsuen Wan/Kwai Chung North, with site staffs totalling 90 but still growing, currently supervise £50 million of work.

The three sites differ greatly. At Tuen Mun mountains rise steeply from a partly developed valley at the head of a wide bay so much of the 1200 ha required must be formed by sea reclamation, involving material not only from bind sources but, a new departure for Hong Kong, finding and winning huge quantities of dredged fill. At Tsuen Wan/Kwai Chung North Bob Ballard's design work is basically the infilling development of pockets on the fringe of the town, complicated by planned major roads and a spur of the mass transit railway. The rugged terrain of Tsing Yi, dictates that coastal areas and valleys be developed with the main hills reserved for amenity and recreation. Here Richard Denton-Cox and David Barker wrestle with the effects of almost daily planning changes as land is leased off for shipyards and other private industrial developments, but look forward to involvement in two major bridges to the mainland which will provide a springboard for a road link to Lantau Island and be a spur to further Tsing Yi development.

Tuen Mun is, in scale at any rate, the most challenging task - a major involvement in the development, practically from scratch, of what looks like being the largest and fastest growing new town in the world. **David Butler, William Kemp and Alan Waterworth** produce contracts at monthly intervals for land formation, roads, bridges, breakwaters, river walls, major drainage and so on, while Mike Earwaker and peripatetic Richard Denton-Cox are involved in feasibility studies of extension areas which could raise the population to perhaps 600,000 by 1991. **John Stamper** runs the transport study (see inset) which takes account of high-speed hoverferries as well as land communications and investigates a looped right-of-way exclusively for internal public transport. SWK are also guiding a Hydraulics Research Station wave and siltation model study aimed at optimising the layout of the 60 ha port incorporated in the town. Under a separate commission Vincent Chan and Peter Rumsey advise the Housing Authority on foundations for high-rise buildings on fresh reclamation.

Inter-town road communications are being strengthened with **Mike Slinn** and **Jim McCafferty** preparing for construction of Tuen Mun Road's second carriageway to start next spring and awaiting news on the recently reported-on **Tsuen Wan Bypass**.

The new towns briefs alone cover capital expenditure of at least £200 million and involve nearly all the 97 technical and support staff presently based in SWK's newly acquired Tsuen Wan office. **JF Lindsay**

**Scottish Reel: M8 Renfrew Motorway Stage 1 Film**

SWK (Scotland) have now taken delivery of the half-hour film, which they commissioned jointly with contractor Balfour Beatty, of the construction of Renfrew Motorway. The film includes aerial photography of the Glasgow urban motorway system. A premiere of the film with invited guests will be held on 1st December, following which copies of the film will be available to interested parties.

**SWK (Scotland) is continuing to help out the other SWK offices** with staff both on short and longer term visits overseas. So far this year Glasgow engineers have been, or are, in Hong Kong, Kenya, Ghana, Malawi, Greece, Jordan, Saudi Arabia - and the Shetland Isles!

**Counter to this trend. Glasgow has had an influx of engineers on secondment.** At present they are Stewart Brown and Finlay Inglis from Balfour Beatty and Jim McPhie from FJC Lilley, whilst Dave Davies of the Royal Engineers has just completed a seven-month secondment.

Hilke Halbertsma, Director of Transportation at the EEC in Geneva, recently visited Glasgow with Henry Grace to look at the urban motorway system and to hear of the large-scale plans for improvements to public transport. The visit allowed time for some walking in the Scottish hills. JMB

**SWK Today 11-May 1978.....**

**Opening of Sumburgh Hangar [Brief history of Glasgow and Aberdeen Airports; Baillie]**

When Captain John Cameron, chairman of British Airways Helicopters Ltd, opened the new hangar No 2 at Sumburgh Airport, Shetland, on 16th February, SWK's total number of successfully completed airport projects in Scotland advanced to 5. SWK have now been working with British Airways (sometime BEA) and British Airways Helicopters (BAH) over a period of 13 years, beginning with Glasgow's airport at Abbotsinch and taking in fairly substantial works at Aberdeen and Sumburgh. Latterly, BAH have been more active, mainly because of the oil activity off the Scottish coast and, from many reports, it appears likely that their activities will expand and that, hopefully, SWK will continue to be consulted.

Site works at Glasgow's Abbotsinch started in 1965 with SWK's appointment by BEA to develop new hangars and apron areas for fixed-wing aircraft and helicopters. Next came Aberdeen in 1969 where BAH required a hangar for their small fleet operating to the few drilling platforms then around the northern North Sea.

With the exploration for oil moving further north, operating helicopters from Aberdeen to the fields became impossible thus leading to the use of Sumburgh Airport. Since starting at a small hangar built during the 1939-45 war, BAH's operations have expanded some twenty-fold leading in stages to the completion of hangar No 1 in 1974, followed almost straight away with the design of No 2.

Aberdeen meanwhile was beginning to "burst at the seams" and a further extension is now well under way, due to be opened this month.

So, from the start in 1965, British Airways have retained SWK to advise on their developments in Scotland. In all projects the client has asked for construction to be undertaken on a tight schedule and budget - and so far he has not been disappointed. GB

George Baillie recently attended the opening ceremony at Sumburgh Airport and the editors were particularly pleased to receive such an interesting report giving the historical background.

**SWK Today 12-Sept 1978.....**

### Highland Works [Rona & Raasay Jetties; A9 Sutherland; Baillie; Blackwood; Breakey]

Following the completion this year of a jetty for the Admiralty on the Island of Rona, R J McLeod (Contractors) Limited, invited SWK (Scotland) to undertake the design of further maritime structures. This time it was a jetty and slipways for ferries on the Island of Raasay, with the design done by Hugh Blackwood in the branch office at Dingwall with assistance from George Baillie in Glasgow. Don Breakey wrote to 'Today' on 21st July saying that this was the first significant work for the new office in Dingwall. McLeod's, whose client is the local authority for the Highland Region, will complete the construction next year when the jetty will be used by the regular ferryboat service between the islands of Raasay and Skye. Rona and Raasay are adjacent islands of the Inner Hebrides situated between Skye and Wester Ross on the Scottish mainland. Further north still, SWK (Scotland) has recently been given their first job directly for the Scottish Development Department: a small section of the A9 (about 5km) in the northern part of Sutherland in the Highland Region.

### Tuen Mun Road Stage 1 Opens 5 May 1978

Tuen Mun Road (Stage One) was opened to traffic on 5th May 1978. The project was neatly summarised on the contents page of **Asian Building & Construction** for that month when the colour picture on the cover (provided by SWK Hong Kong) was described thus:

Hong Kong's largest highway project to date is the newly-completed 17km Tuen Mun Road linking Tsuen Wan and Tuen Mun new towns in the New Territories. Work on this dual, three-lane carriageway took three-and-a-half years to complete and construction costs amounted to more than US\$ 57 million. In all, 10 road bridges, three footbridges, 12 underpasses and 15 box culverts have been built.

The job got a good press in the UK also. Mike Vinney of **Construction News** wrote from Hong Kong:

For consulting engineers SWK tomorrow's opening represents the culmination of work that started well over 11 years ago when the firm was commissioned by Hong Kong's Public Works Department to submit a report on the feasibility of building a high standard road avoiding the existing built-up areas along the shore line between Tsuen Wan and Tuen Mun in the New Territories. Mr & Mrs AS McDermott travelled from Basingstoke to attend the ceremony.

### Hong Kong Cross Harbour Tunnel Approaches Saturation [SWK(S); Cullen; Holmes]

Traffic through Hong Kong cross-harbour tunnel has increased by 53% in the last two years and is now running at 72,000 vehicles per day. As the capacity is in the region of 100,000, SWK were invited in April this year to study means of increasing this figure, following submission of proposed terms of reference to the Cross-Harbour Tunnel Company two months previously. Stanley Elliott was at Scott House in August and told Today that laying an additional tube (the present tunnel has two tubes each carrying two lanes of traffic) or some form of double-decking had both been considered as possibilities. He said the report was imminent. SWK (Scotland) made a substantial contribution to the study: John Cullen was in Hong Kong for a fortnight in May and Willie Holmes for three weeks in July.

### Hong Kong Office moves from Star House to Ocean Centre [Elliott; McCafferty]

The Hong Kong partnership moved to new headquarters in Kowloon this week next-door-but-one to the old premises. Ocean Centre is separated from Star House by the Hong Kong Hotel. 1720 still figures in the address as the new offices are on the 17th floor of Ocean Centre, but this time they are all on the one floor which is a great convenience. It is a block of very high-class shops and offices and should result in a greatly improved working environment for SWK,

According to Stanley Elliott, "The only trouble is", he added, "that we shall lose our splendid view of the harbour."

Footnote: SG Elliott and the Partners did lose their view of the harbour but many of the staff gained this splendid view; I certainly did!! Jim McCafferty.

**SWK Today 13-Dec 1978.....**

**Projects [GIRR S&E Flank Studies; Dumbreck Road Tenders; Dougall; Munro; Brown; French]**

After a quiet period SWK (Scotland) are involved in a resurgence of highway planning work for Strathclyde Regional Council, including feasibility studies for the remaining two **sides** of the Glasgow Inner Ring Road. The existing north and west flanks of the ring road are approaching their capacity for traffic, with flows over the Kingston Bridge (on the west flank) now exceeding 100,000 vehicles per day making it one of the busiest sections of road in Britain. **Willard Dougall** is leading the team involved in traffic assignment work for the remaining sections of the road, with team members **Jerome Munro** and **Allan Brown** in Glasgow, ably assisted from time to time by **Geoff French** and Anna Axtmann in Basingstoke.

An interesting and important fact thrown up by recent research is that the accident rate on the Glasgow motorways (0.097 injury accidents per million vehicle miles) is less than one-half of the national motorway rate and less than one-twentieth of the rate for city streets. SWK (Scotland) like to think that this is a reflection on their designs and not that Glaswegians are the best drivers in Britain.

Tenders for a further section of the road system (**Dumbreck Road connection**) designed by SWK (Scotland) are now being prepared for a contract start date in the spring of 1979. Advance contracts for consolidation of former mine workings beneath the new road and for construction of a new surface-water sewer in rock tunnel will be complete before the main road works commence. JMB

**Nigerian Capital Roads [Rakusen]**

On 2nd December 1977, SWK Nigeria submitted to the Federal Capital Development Authority five separate prequalification statements for various aspects of the infrastructure of the new capital city: roads, airports, mass transport, sewerage and water supply.

In October 1978, **Ron Rakusen** wrote from Lagos in a family newsletter: Here our big job of the future will be the roads design for the new federal capital of Nigeria which will be a new city to be built in the centre of the country like Brasilia. To give you an idea of the size of things out here the area of land designated as the capital territory is as big as Wales. The roads which we will be involved with are the main access to the airport and the periphery roads. These will start as dual carriageways but the plans show that the end product will be on the scale of the Parisian Boulevard Peripherique. So we have quite a job on hand.

**Hong Kong: Tuen Mun Road Stage 2: First Contract [J McCafferty PM]**

A sequel to the report in Today No. 12 on the opening of the 17-kilometre **Tuen Mun Road (stage one) on the 5th May 1978** was forwarded by SWK Hong Kong. It is taken from the Asian publication Contracting and Construction Engineer.

Construction and Development Corporation of the Philippines has won a HK\$59 million (£7 million) contract from the Hong Kong Public Works Department. The contract is for a three-lane second carriageway for the **Tuen Mun Road** project, linking **Tsuen Wan to Sham Tseng**. The 5.28 kilometre road includes two bridge and two viaducts with a combined length of 1.16 kilometres. Completion is set for August 1981.

CDCP won the bid from stiff competition from other overseas contractors, including the Japanese. Kumagai-Gumi has recently completed the first phase of the Tuen Mun project (HKS260 million).

**Footnote: Jim McCafferty was, among other things, Project Manager Tuen Mun Road Stage 2.**

**SWK Today 14-March 1979.....**

**Hong Kong Now 'The Greatest' [400 Staff] [Scotland 44]**

SWK partners and staff in the Hong Kong firm have topped the 400 mark and they are now the biggest body in the SWK organisation, ten per cent more than the Basingstoke firm. These figures are taken from a census, conducted by Alan Casebow, of the SWK population world-wide as it stood on 1st January 1979-Silver Jubilee day. It was on 1st January 1954 that Sir Cyril Kirkpatrick & Partners (founded 1924) and Scott & Wilson (founded in 1945) joined forces. Is it significant that the offspring took just 25 years to outgrow the parent?

The category of staff in which Hong Kong has expanded most since the last census in May 1977 (reported in Today No 8) is that of the young graduate engineer who is not yet chartered: a figure of 104, compared with 106 in all other firms put together. With 60 inspectors in Hong Kong, there **are** more than the total in all other branches of SWK.

The populations in Kenya and Nigeria are neck and neck with just over a ton each, and the numbers in Malawi, Libya and Scotland have all increased. Greece has declined, but not fallen like its Roman neighbour of ancient times. The **grand total is 1138**, compared with 923 two years ago, thus showing a growth rate often per cent per annum.

At the New Year there were 520 qualified engineers in the SWK organisation, 241 administrative and clerical staff and 377 other ranks. Geographical totals were as follows:

Hong Kong	401
Basingstoke (UK & abroad +Scott Houghton & Co)	366
Kenya (including Botswana)	104
Nigeria	103
Malawi	64
<b>Scotland</b>	<b>44</b>
Libya	27
Ghana	24
Greece	5
Total	1138

**SWK Today 15-July 1979.....**

**Flying Carpet Survey: **Baghdad CTS** [SWK(S)]  
[SWK Scotland staff participated in the surveys in Baghdad].**

SWK's Planning Division has just won its biggest overseas job since the transport survey of Bangladesh was completed over five years ago. The job is the comprehensive transportation study and area traffic control for the city of Baghdad, and the Planning Ministry confirmed the SWK appointment by telex on 23rd June. Project director Maurice Watson's departure to sign the contract is now imminent.

The Bangladesh study, at its peak, involved thirty expatriates, but these were drawn from both SWK and EIU. The March 1979 addendum to the SWK proposal submitted in October 1978 to the Municipality of Baghdad shows eleven expatriates resident in Iraq, providing 248 man-months over a period of three years. Ron Rakusen, until the beginning of this month SWK resident associate in Lagos, was named as project manager in the proposal.

At the time of the appointment Maurice Watson wrote:-

At a time when there is a general embargo on the purchase of British goods or services costing more than £33,000, SWK have won a £2 million commission to solve the traffic problems of Baghdad, capital of Iraq.

Baghdad already has streets congested with buses, cars, taxis, horse and donkey carts, hand carts and pedestrians. Its oil wealth and increasing population will cause a large increase in traffic in the city of four million inhabitants.

The firm will have two major tasks in their three-year project:-

To provide recommendations for the solution of the existing traffic problems by improved traffic management, junction design and computerised area traffic control; and to produce a medium-term plan for the future transport system covering rail, bus, water and road transport services.

In many ways, the work will be similar to the planning carried out by SWK in Glasgow which started almost 20 years ago. That plan is now well on its way to fruition.

(Since MW made this statement the embargo on buying British in Iraq has in fact been lifted: Editors.)

### **New Land for Oil Tanks at Nigg Bay [Dodd; Hunter; Tobiasiewicz; Cullen; Baillie]**

Supervision of a £1.5 million land reclamation contract at the Nigg oil terminal is the first major job given to SWK (Scotland) by the Cromarty Port Authority, in this case acting on behalf of a consortium developing the Beatrice oil field. Principal partner in the consortium is the British National Oil Corporation.

Reclamation of 31 hectares of Cromarty Firth, requiring one million cubic metres of sand fill with a rock bund around the perimeter, began at the end of March and is planned for completion by the end of August. The new land is destined to accommodate two 100-metre diameter tanks, for storage of crude oil, together with ancillary works. The tank farm will be at the end of a pipeline from the Beatrice field and an adjacent deep-water jetty is planned for the loading of tankers. The area where the two tanks will sit is being surcharged with a depth of sand equivalent to the ultimate load, as part of the SWK-supervised contract for which the main contractors are Costain-Blankevoort (UK) Dredging Company Limited, commonly known as Cobla.

Chief resident engineer on site at Nigg is Lance Dodd who retired to the remote and peaceful village of Mansell Lacy in Herefordshire over a year ago, only to be winkled out of retirement for another season of active service this spring. Curiously enough, after almost 20 years on the SWK site supervision circuit from Shell Centre to Herefordshire to Cheshire to Hong Kong to Westmorland and back to Hong Kong again, Lance's last appointment before retirement was with consultants Crouch & Hogg on highways in the highlands around Inverness, only a few miles across the Moray Firth from his new location. Lance has, as assistants, Ron Hunter and geotechnical engineer Richard Tobiasiewicz, the latter from distant Scott House where there was great enthusiasm for getting a slice of the action in a field in which, hitherto, the SWK experience has been exclusively in Hong Kong.

Project director John Cullen, named in the contract documents as "the engineer", with George Baillie as his deputy, told Today (on 5th July) that it was a most interesting job but it made life hectic: he had done the 300-mile round trip from Glasgow to Nigg and back three times in the past ten days.

### **Drain Brains Conference for Eastern Europe Engineers [Breakey]**

The main conference room at Scott House became a classroom during the first four days of May when a course on drainage for senior highway engineers from Eastern Europe began. The gospel spirit of teaching all nations came down upon instructors Terry McDowell, Roy Goodman and Don Breakey when they heard that there was to be one pupil from each of seven countries - Poland,

Czechoslovakia, Hungary, Rumania, Bulgaria, Greece and Turkey. However all the visitors spoke good English and, in fact, not all were present at the beginning because of visa troubles.

#### **SWK Today 16-Nov 1979.....**

#### **Gas Pipeline from Scotland [Coldstream to Bishop Auckland]**

SWK (Scotland), with assistance from Scott House, have completed a geomorphological survey for a proposed 170-kilometre gas pipeline between Coldstream on the Scottish border and Bishop Auckland in County Durham. The appointment was made in July 1979 and the final report was submitted to the British Gas Corporation's regional office at Newcastle-upon-Tyne at the end of October.

The job was essentially a desk study but began with an aerial survey by BKS to produce photographs of the route at a scale of one in ten thousand; Steve Handsley, an engineering geologist from Basingstoke, interpreted these aerial photographs. Factors considered in the survey included geology, topography, land-use and mining operations both past and present.

Project manager Jim Cocksedge told Today that one of the most interesting features of the job was the assessment of archaeological remains along the pipeline. For this purpose, Jim discovered Peter Clack at Durham University, who subsequently reported 261 sites of potential interest en route, including, of course, Hadrian's Wall and other remains spanning in time from Palaeolithic to the Middle Ages.

#### **Scott Wins 'Kirkpatrick' Scholarship; DJ Monteith gets the 'Wilson'**

Andy Scott, formerly in the water section at Seal House, has won the Sir Cyril Kirkpatrick Fellowship for 1979/80 and started a post-graduate course in public health and water resources engineering at Imperial College, London. By coincidence, the winners of the other two named fellowships this year, J T Grant (Scott) and D J Monteith (Wilson), have also embarked on MSc courses at Imperial College, in structural steel design and concrete structures, respectively.

The SWK fellowships are awarded annually, if there are suitable candidates, and, as general rule (although there is one exception this year), they relate to courses in the fields of specialisation of the three founders: W L Scott - structures, Guthlac Wilson - geotechnical engineering, and Sir Cyril Kirkpatrick - civil engineering. Staff Services told Today that M L Chalmers had just started a maritime engineering course at the University of Manchester, financed by the Hong Kong partnership.

#### **Offshore Engineers: Ninian Central Platform for Chevron [Swift]**

Duncan Eggar and Iain Calder, on secondment from Scott House to oil company Chevron, are coming to the end of a season in the North Sea where they have been supervising construction on the central platform in the Ninian field. For the past three months the two engineers have been changing stations every alternate Thursday; a fortnight on the rig and then a fortnight at home in Hampshire, turn and turn about. Duncan started with Chevron back in May when the work to be supervised was stone-blowing and grouting to form concrete in the horizontal tubular chords of a truss supporting the superstructure. By mid-July the task changed to the lifting of modules which required two months of preparation culminating in a tremendous effort on the last day or two when good weather was vital to success. The heaviest of the four modules weighed 550 tons and the biggest crane barge in the world was used to lift it into position on a day of fiat calm in the middle of October. Life at sea kept one fit, Duncan told Today during his last run ashore. The food was very good but, provided one kept off bread and spuds, the waistline was kept under control by going up and down stairs, 80 feet at a time, umpteen times a day. It seems that the horizontal component of offshore activity is rather easy, but

the vertical component quite exhausting. Meanwhile, back in Chevron's head office in Wigmore Street, **John Swift** and David Evans are involved with supervision-in-chief of both Ninian central and Ninian northern platforms. Over the years John has been making regular visits to the Kishorn construction site and the Ninian field. A typical round trip to Ninian via Sumburgh requires six flights in 24 hours.

Work in the office includes checking contractors' calculations for platform design, design of modules and techniques for lifting modules off the decks of supply boats on to platforms. The cost of computer time in John's office since his secondment to Chevron has been well over £100,000. But, as he says, that is all part of the cost of providing an oil company with the instant answers and round-the-clock service that it expects.

#### **SWK Today-17-March 1979.....**

##### **Poland [**Slinn**]**

Construction of the 192-bedroom Gdansk hotel, on the Baltic coast of Poland only a few paces from the sea, was making good progress when SWK project manager Wodek Prylinski visited the site in the middle of February. As with the 315-bedroom hotel at nearby Gdynia, for which the structure was completed last year, Gdansk is a turnkey project headed by Cementation International. **Mike Slinn**, seconded from SWK to Cementation, has been transferred to Gdansk to continue his role of site engineer. Cementation has engaged Polish sub-contractors for the structural work which includes an eight-floor central tower block above, and flanked by, a podium. The client is Orbis, the Polish tourist agency, which is expecting to occupy this four-star hotel sometime in 1981.

##### **Cyprus [**Napier**]**

In February contractors were given access to the site of Dhekelia B power station for the Electricity Authority of Cyprus. The first stage development will provide two 60 MW generating sets and the principal consultants are mechanical and electrical engineers Preece Cardew & Rider.

Iain Calder (fresh from the North Sea) and **Alistair Napier** (Scott House: structures) flew to Cyprus, on 23rd January and 29th February respectively, to start the supervision of the £4 million civil works designed by SWK. The local firm of George P Zachariades Ltd is the main contractor.

##### **Persons and Places [**Breakey; Baillie; Dougal; McGowan Associates-Scotland**]**

"Today offers congratulations to two new associates in the African partnerships of SWK, Gordon Allen in Malawi and Gil Thomas in Libya. Still in Africa, partners Barry Paget and Steve Cotterell have been elected members of the Association of Consulting Engineers. Louis Rikker has resigned his directorship of Scott Houghton and Rod McMillan has been appointed their Company secretary. Apologies to Dr Timothy Aluko; he was taken into partnership in SWK Nigeria over a year ago but has not been mentioned in Today until now. Dr Aluko, resident in Lagos, has no less than ten decorations and qualifications after his name, including the Order of the Niger. **Don Breakey** and all three former principal engineers in the Glasgow office, namely **George Baillie, William Dougal** and **Bob McGowan**, have been made associates of the new partnership which has replaced the Scottish company. All the partners involved in the partnership changes were named in the office directive of 27th June 1979. Since then, the directors of SWK International have been named: **G M J Williams, S G Elliott, J J Gandy, S W Greenland, C M Guilford, J F Lindsay and P D Vulliamy.**

**Joe Lindsay** was elected chairman of the Hong Kong Association of Consulting Engineers in 1979 and Vincent Chan was elected to the Council of the Hong Kong Institution of Engineers.

**SWK Today 18-June 1980.....**

**Scottish Landscape [Brora; Pipeline Survey, HK Tunnel; Blackwood; Breakey; Cullen McGowan]**

**Hugh Blackwood** and his colleagues in the Dingwall office are putting the finishing touches to their third **environmental improvement project for the Scottish Development Agency**. The site of the latest project, the second one at Brora, was formerly occupied by a colliery, abandoned brickworks and worked-out clay quarries that in recent years had become a dump for derelict cars and other rubbish and a blot on a beautiful landscape. It has now been transformed into an open space amenity for the public beside the River Brora, one of Scotland's premier salmon rivers. Included in the project has been the creation of football and rugby/shinty pitches, one pitch being cut into the hillside to take the shape of an amphitheatre. A former clay quarry has also been reformed for use as a refuse tip that will later be soiled over and landscaped. Here it has been necessary to install a piped collection system for the leachate from the refuse to ensure that no pollutants reach the nearby river.

The Scottish partnership was pleased to receive a letter from the local planning officer, which, referring to the projects at Brora concluded: "May I take this opportunity of congratulating your firm and the Scottish Development Agency on a particularly successful reclamation project."

**Don Breakey** reports that SWK (Scotland), with considerable assistance from engineering geologist Steve Handsley at Scott House and Peter Clack, archaeologist at Durham University, are undertaking for the British Gas Corporation a further geomorphological survey on the route of the **fourth Scottish feeder pipeline** which starts at St Fergus, Aberdeenshire, and ends at Bishop Auckland, Co Durham. The section of the route included in the current survey is from St Fergus to a point west of Aberdeen a distance of about 75 kilometres.

**John Cullen** and **Bob McGowan** have been much involved recently in the feasibility studies for increasing the capacity of the Hong Kong tunnel. An initial report for the **Cross-Harbour Tunnel Company** in 1978 dealt with investigations to determine the practicability of increasing the tunnel's capacity. A second report, recently submitted, examines in greater detail all aspects of increasing the capacity, including construction methods, traffic implications, overcoming ventilation and operational problems and revising the layout of the tunnel approaches. The practicability of constructing a third tube is also examined. **JM Breakey**

**SWK Today 19-Dec 1980.....**

**Cromarty Firth Development [Guthrie; Baillie]**

Only a year after finishing the supervision of **reclamation at Nigg** for the BNOG oil terminal, SWK (Scotland) are back on site again preparing for another reclamation scheme almost ten times as big as the last one. The appointment from **Inverness-based Highland Hydrocarbons Ltd** came in early October and immediately a sub-sea soils investigation was begun to establish that the sea-bed material in the Firth was sufficient in quality and quantity to provide over 15 million cubic metres of filling for the reclamation of 275 hectares. **Peter Guthrie** travelled from Scott House to help SWK (Scotland) with this part of the programme.

Unlike the last Nigg reclamation, SWK are providing the full design service and contract documents this time. Project manager **George Baillie** told **Today** that contracts for hydrographic surveys and soils investigations would be let shortly and that the target date for putting the estimated £20 million reclamation contract to tender was the end of February. The firm was in continual communication with Bechtel, who are managing the proposed £800 million development for Highland Hydrocarbons, to ensure that the programme dates would be achieved.

If SWK (Scotland) are subsequently involved in the supervision of construction, as they hope to be, then they will be renewing contact with their former client Cromarty Firth Port Authority which controls all dredging operations in the Cromarty Firth.

**People & Places [Breakey Resigns; Monteith; Sabah Road; Guinness; Hedges; McCafferty]**

**Associate JM Breakey has resigned from SWK Scotland.**

Reported in **Concrete**, November 1980:- The Viewpoint Publications Prize, awarded annually by the C&CA to an MSc student at Imperial College for good design in concrete, has been won this year by **David Monteith**. His two projects, written for his year-long concrete structures course, which was financed by his employers (SWK), involved the designs of a concrete diving board and of a heliport over a river in a large mythical city. The diving board had to match the static and dynamic characteristics of a conventional wooden one, and was designed in prestressed high strength concrete. Not having much faith in the idea of a floating heliport, he chose a piled design for this, using precast concrete segments. The whole of this construction was to be prefabricated. What would he spend his £50 prize money on, he was asked? "Well there are some interesting ACI publications on deflections and deformations of thin concrete slabs which would be useful for the job I am doing at the moment," was his reply. "On the other hand, my wife's expecting a baby any moment, so it may all have to go on nappies!"

For the **Sindumin to Long Pa Sia road design in Sabah**, for which SWK Hong Kong and Majukonsult are in association, John Pratt and Karl Close were posted from Malawi and Ghana in September and October, respectively. John Pratt is project manager, working under project director **Ron Hedges**. [Based in Hong Kong, **Jim McCafferty** visited Sabah and provided bridge design input for the project].

**George Baillie** of SWK Scotland travelled to **Dublin** last July to collaborate with Mallagh Luce & Partners in a cost plan for **a proposed development at Guinness's brewery**.

## **SWK Today 20-March 1981**.....

### **Geotechnical Checks in HK [RJ Doubal]**

**The Hong Kong Public Works Department** has asked SWK to assess the construction proposals for both the tunnelling **and the stations of the Island Line** and report on the likely ground movements and effects on adjacent buildings. Much of the line will run through some of the highest population density areas in the world. The tunnels will run beneath or close to foundations of a large number of multi-storey buildings and, in some cases, will interfere with piled foundations. Responsibility for reporting on the metro construction proposals rests with the **Geotechnical Checking Team**, set up primarily for assessing slope stability in Hong Kong and currently managed by **Roger Doubal**. Working on the metro proposals will be **Mehmet Yilmaz**, who has joined the Hong Kong partnership from Basingstoke for the beginning of the studies.

**SWK Today 21-July 1981**.....

**Abuja New Capital of Nigeria [Greenland; Gandy; Cullen; McGowan; Hancock; McCafferty]**  
The following press release was drafted by **Stan Greenland** and issued in the UK by Peter Bloomfield & Co Ltd on 19 June 1981:

The Federal Government of Nigeria has appointed Scott Wilson Kirkpatrick & Partners, consulting engineers, to undertake final engineering design of roads, bridges and drainage for part of the central area of Abuja, the new capital city of Nigeria. The design of some lengths of urban expressway adjacent to the central area is also included in the appointment. The balance of the design work in the central area has been awarded to Gomel Engineering Ltd of Lagos.

The central area of the city will comprise the legislative and government offices and also the central business and shopping district. Capital cost of construction of the SWK-designed works covered by these appointments is likely to be of the order of £250 million. The Federal Capital Development Authority is anxious to hasten the construction of the first part of the city, and has stressed the urgency in completing the design services.

**John Gandy** amplified the Nigerian partnership's appointment by reporting that it calls for the production of five contracts within the next 15 months and covers about half of the central area roads, the inner northern expressway and the northern parkway. The design of the remainder of the central area roads, together with the inner southern expressway and the central parkway has been awarded to Gomel. In addition to the roadworks, the SWK design will include four multi-storey car parks, street lighting, drainage and traffic lights. There are more than fifty bridges and several kilometres of retaining walls. Much of the design work will be done in Nigeria where a large staff of Nigerians and expatriates will be based in Kaduna for the purpose. Due, however, to the complexity and urgency of the work, the UK offices of SWK will be heavily involved.

**To conclude this most important news item, the editor writes:** The UK effort was launched immediately after the spring bank holiday when Nigerian project director **Stan Greenland** arrived in Basingstoke and Scottish partners **John Cullen** and **Bob McGowan** came from Glasgow to meet him. The UK project director concerned with bridges is **Trevor Hancock**.

In the earlier months this year, leading up to May, the Abuja job gradually materialised. When the full extent of the SWK involvement was known, there was compensation for the disappointment of two years ago. SWK were then engaged for a lesser length of road, which was taken away for political reasons quite beyond the control of the firm. With the new job SWK are the only British consulting engineers with a major award from the Federal Capital Development Authority to date.

The priority central area will have a population of 230,000, equivalent to that of Southampton. The whole of the new city is expected to have a population of 1.6 million by the year 2000, and ultimately twice that number. According to the magazine **West Africa** (4 May 1981) "the basic plan for Abuja is a crescent, fanning out from the city centre which contains the National Assembly, federal government offices, national institutional buildings, major recreational facilities, the commercial centre and a national arboretum. Threading through the capital area, are a series of parks and open spaces which take advantage of the existing river valleys and tree-lined slopes".

**Footnote: Jim McCafferty** returned to Glasgow from Hong Kong in September 1981 to become PM for the **Abuja Bridges**.

**Cyprus Power Station [AG Napier]**

Construction work on the Dhekelia B power station commenced in mid-February 1980, with the joint venture of Zachariades - Atlas Pantou being appointed as the civil contractor. Now, almost one and a half years later, the construction of the cooling water culverts (three 5 m square box sections with slab thicknesses of 1.5 m in places) and of the turbine hall steelwork superstructure is reaching

completion. Reclamation work requiring over 22,000 cubic metres of fill and the two breakwaters are also virtually complete.

Drilling and blasting underwater for the 6 m deep intake channel have begun, using a converted British landing craft as the mother vessel for dredging operations. As with most civil engineering projects of this type, a host of other 'minor' associated works are also under construction; the 4-storey administration building, oil tank farm, water treatment building, boiler column plinths and access roads are all in various stages of progress.

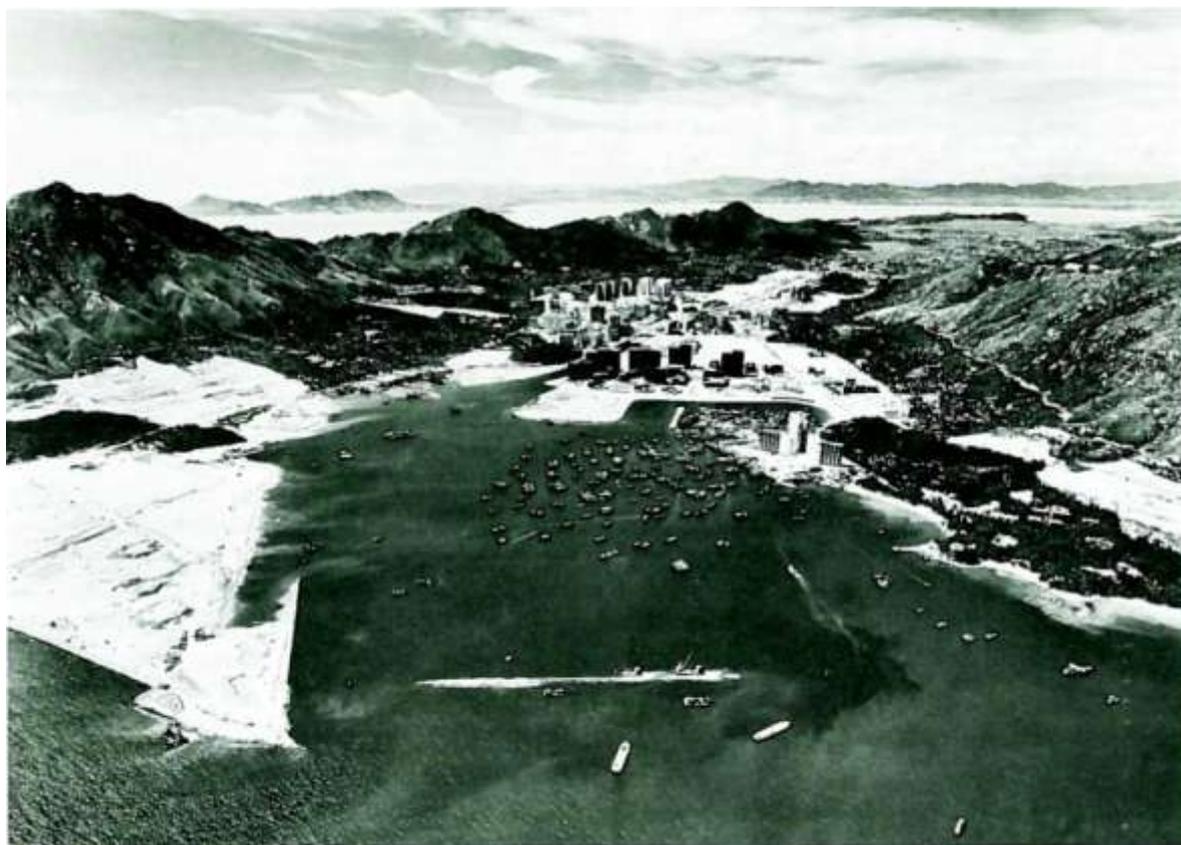
The SWK site staff, initially comprising engineers **Alistair Napier** (assistant resident engineer), Andrew Burgess (measurement engineer), and Iain Calder (deputy resident engineer), plus inspectors Les Wilcox and John Hunt, have been joined by two Cypriot engineers seconded from the client, the Electricity Authority of Cyprus. Norman Childs arrived to take the post of resident engineer in October 1980.

The £23 million project is due to come on line generating power by September 1982. The principal consultants, who are also responsible for the mechanical and electrical installation, are Preece Cardew & Rider, and local architects Vafeades Costas Associates are responsible to SWK for the design of the administration building, workshop and stores. ICC

#### **New Towns in New Territories HK [Lindsay; McKittrick et al]**

When we feel boastful we say that we are building the largest and fastest-growing new towns in the world, writes **Joe Lindsay** from Hong Kong. Tsuen Wan (including Kwai Chung and Tsing Yi) is planned to have doubled its 1973 population to one million by the late 1980's; Tuen Mun (Castle Peak) had, when; SWK were appointed in 1973 for the infrastructure engineering design of both new towns, a population of perhaps 20,00 in a few fishing and farming villages fringing a wide bay. Today the bay has been almost entirely swallowed by reclamation and the present population of 1 130,000 will grow to 600,000 in a few years' time.

SWK's work, including the sub-consultancy of Scott Houghton for pumping station plant, saltwater cooling mains and street lighting, is presently valued at £120 million. 31 contracts have been completed, 11 are under construction, 15 are being designed and 23 have yet to start. The design and contract administration team of Joe **Lindsay, Vincent Chan, William Kemp, Bob McKittrick, Wong Siu Fun, Geoff Lafford** and 50 others has recently moved to the firm's new two-storey prefabricated office in the town. **Craig Sim** has just transferred to site as chief resident engineer, where he is assisted by Alan Cawley, David Godden and a staff of a hundred.



Tuen Mun New Town

**SWK Today 22-Dec 1981.....**

**People, Papers and Places [RMCG on BS5400 Committee]**

Another SWK partner sitting on a BSI committee is **Bob McGowan** who is the Institution of Structural Engineers' representative for BS 5400 Steel, concrete and composite bridges. Bob has also taken the first step towards fellowship of the Chartered Institute of Arbitrators by passing the part two examination and being one of the first two candidates in Scotland to do so. The rules for admission to fellowship have become much more stringent since the Institute received its Royal Charter two years ago.

**SWK Today 23-March 1982.....**

**SWK by Numbers [Scotland 34]**

A census of SWK as at 1 January 1982 (carried out by Alan Casebow) gave a count of 598 in the Hong Kong partnership; 444 in the English firm (not forgetting the far-flung outposts in Karachi and Kota Kinabalu, the Gulf and Grimsby); 250 in the African firms, including their leader in Athens; 34 with SWK Scotland; and 20 with Scott Houghton at home and abroad. These numbers total 1,346, which should comfortably maintain SWK's position of fifth in the consulting engineers' league which **NCE** is expected to publish shortly.

**SWK Today 24-Sept 1982**.....

**Glasgow's Bridge to Africa Abuja Roads and Bridges [McCafferty; Blackwood; McGowan; Dougal; Holmes]**

As reported in Issue 21 of SWK Today, Abuja, the new Federal Capital City for Nigeria, required a mustering of forces in UK as well as in Nigeria. Following an agreement between SWK Nigeria and SWK Scotland for over 50 bridges to be designed in Glasgow in a short space of time, initial efforts in conjunction with SWK Basingstoke involved the preparation, at high speed, of contract documents for the first and most complex of the five roadworks contracts - the route to the New Federal Palace through the central business and ministry zones.

Jim McCafferty arrived from Hong Kong on 1 September 1981 to take on the job of Project Manager, Glasgow, and Hugh Blackwood departed for Nigeria shortly afterwards to be the bridges liaison man and general factotum in Kaduna. R. McGowan as Project Director has been meeting regularly with the Federal Capital Development Authority and their numerous other consultants in Suleja, and with those more intimately involved in our areas of the new city, in Rome, Paris and London.

A further commission on the same project from SWK Nigeria required SWK Scotland to produce final road geometry for the Inner Northern Expressway and the Northern Parkway from basic traffic and planning data produced by a collection of other consultants. Willard Dougal, H. Blackwood (part time from Nigeria) and W. H. Holmes (hot off the plane from Baghdad) produced the basic data in Glasgow, and Blackwood and Holmes are now finalising the roads aspects mainly in Kaduna but also part-time in Glasgow.

In spite of tenders having been received and assessed for the first contract early this year, an award has yet to be made and a general slowing down of the project appears to be taking place. Work is still in progress, however, in Glasgow, Basingstoke and Kaduna.

**Black Bridge Ullapool [H Grant returns from Malawi]**

Hamish Grant returned from Malawi in August 1981 and is now our man in Dingwall, near his home town of Inverness, engaged on building and civil engineering work, including design assistance on Black Bridge (A835 Dingwall - Ullapool) and supervision-in-chief duties for a road improvement scheme near Invergordon.

**PONTIFACT Today-Sept 1982**.....

**Congratulations: B Robertson** was elected MIStructE recently.

**Kwog's Quaich [Cullen; Anderson; Osborne]**

The SWK Glasgow office golf outing to Troon took place on 28 May and was attended by a contingent from SWK Matlock. D. Blythe and P.C. Charboneaux beat J. Cullen and R. Anderson in an inter-office challenge match. The main event of the day, a Stableford competition for Kwog's(1) Quaich(2) was won by a new member of staff, Frank Osborne (handicap 8), with a score of 38 points.

(1) SWK Glasgow Office (anag.) (2) Quaich = porridge bowl

**PONTIFACT Today-Dec 1982**.....

**Wedding Bells! Glasgow: David Webster** married Grace, 25 September.

**Congratulations! [McGowan; Briggs; Elliot]**

**Bob McGowan** was recently elected a Member of the Association of Consulting Engineers.

**Susan Briggs** and **Peter Elliot** were recently elected onto the AM&S Committee of the Glasgow and West of Scotland Branch of ICE.

**Pontifact Putter [Grace]**

This annual golf competition is open to all SWK staff outside the UK and is run on similar lines to the Measor Mashie. Jane, wife of John Goddard, Chief Resident Engineer for the Mzuzu-Ekwendeni Road in Malawi, won the competition with a Stableford score of 41 pts off a handicap of 21. Retired senior partner **Henry Grace** is seen here presenting the Pontifact Putter to Jane.

The competition began in 1970 and it is only in the last two years that a trophy has been presented to the winner. Mr Grace obtained the hickory-shafted putter from the late Peter Lind, whose company of the same name built Waterloo Bridge, London. The Latin scholars amongst us may remember that Pontifact means Bridge Builder.

**Nidger Trophy [McCafferty]**

Six golfers from SWK Scotland competed for the 18th Nidger\* Trophy at Pollok Golf Course on 6 October. This annual competition is open to all consultants and local authority staff involved in the design of the Glasgow Inner Ring Road. In a tight match, SWK emerged joint winners with Strathclyde Roads Department, thereby retaining the trophy for the second successive year.

\*Nidger - a large road stone.

Footnote: More correctly, 'a nidger' is 'an idger', a large paving stone used at the gutter or 'edge' of a Glasgow road paved in 'setts'. **Jim McCafferty**.

**SWK Today 26-April 1983.....**

**Farewell .....and Good Luck [Baillie; Hedges; Cullen]**

Today, the last working day of the SWK financial year, is the occasion for retirement or departure of an unusually large number of SWK's top people: John Gandy, Roland Bond, Maurice Watson, Barry Paget and **George Baillie** are all going. On 31st December 1982, **Ron Hedges** retired.

John and Roland will be enjoying retirement in Wiltshire and Hampshire, whilst Barry comes home to Cornwall after spending the last three years in Zimbabwe and the six before that in Libya. **Ron Hedges** had been a partner in South East Asia since 1975 and before that in Africa and is now living in Kent.

These departures are having important effects on the SWK organisation. **John Cullen** has moved south from Glasgow to Basingstoke to take on many of the former responsibilities of John Gandy and Maurice Watson, whilst John Bean (already secretary to Scott Houghton) becomes secretary to the English partnership in place of Roland Bond. The new accountant at Scott House is Len Davison.

**Conwy Tunnel Check [McCafferty; Monteith]**

Note: SWK Scotland were involved in these checks, see elsewhere **JP McCafferty**.

Britain's first immersed tube tunnel will carry the new A55 trunk road across the Conwy estuary. It is certainly a suitable site for such an achievement, as crossing the river has produced notable

structures in Thomas Telford's suspension bridge (1826), now used by pedestrians, and Stevenson's tubular wrought iron bridge (1846) which carries the Chester to Holyhead railway. The third bridge, Conwy Bridge, carries the existing A55 road.

In December 1982, SWK were appointed to carry out an independent check of the tunnel on behalf of the Welsh Office. SWK's previous experience in designing the immersed tube crossing of Hong Kong harbour, together with decades of experience in maritime works around the Welsh coastline, provide a unique background for tackling this work.

Before tender documents are issued to contractors, SWK will be required to certify the design of both the steel and concrete alternatives for the immersed tube in its final position. Also involved will be a check of the proposed towing, sinking and jointing methods and of temporary stresses in the tube during these operations.

In addition to the 710 metres of immersed tube, SWK are required to certify the 320 metres of cut-and-cover at the portals, where the ground water will be intercepted by cement/bentonite cut-off walls in conjunction with a pressure relief well system. Overtopping of the approach ramps will be prevented by berms.

SWK will provide separate geotechnical certificates to cover the complex soils conditions encountered over the 6km length of this stage of the new trunk road. Apart from the dredged trench in the estuary, these checks will cover the cuttings, embankments, groundwater interception and, probably, the temporary earthworks in the casting basins. Advice on slope stability is to be provided for the purpose of land acquisition.

A detailed hydraulic appraisal may also be required to check whether the estuarial regime will be adversely affected by any aspect of the project.

The programme calls for preliminary tender details to be available in June 1984, with full documentation by December of that year.

SWK's certifying role requires, in effect, a completely independent design to be carried out within this time, together with detailed checking of all working drawings (including bending schedules!). With the immersed tube tunnel works estimated as some £100 million, project manager **David Monteith** reckons to be quite busy for the next 18 months. DJ Monteith.

#### **Oman Review [Napier; Harden]**

Colin Holmes has been our senior representative in Oman since late 1980. He was joined by Mike Hayman in early 1981 and, together with Sadiq Sulaiman, they formed the engineering staff for the major part of 1981. During late 1981 and 1982 there were a number of new arrivals including Steve Preen, Mike Grey, **Alistair Napier**, Richard Alexander and, more recently, Andrew Scott and Brian Gore. **John Harden** was seconded from SWK Scotland for three months early in 1982; Howard Davies and Rob Wilson visited later in 1982. Our Asian engineers and draughtsmen form an essential part of the team and L.B. Peter

#### **SWK Today 27-Sept 1983.....**

#### **A6 Chapel and Whaley Bridge Bypass and M 42 Polesworth [McCafferty]**

Note: SWK Scotland designed several bridges for A6 Chapel/M42 Polesworth for the new Matlock office: **Jim McCafferty** Project Manager.

North of Matlock, SWK have two roads at the design and contract documents stages. Peter Knowles reported that his project, the 12km A616 from Stocksbridge to MI, had passed the public inquiry stage

and he was now proceeding with detailed design in expectation of construction starting in mid-1985. The present estimated cost is £17 million.

The 7 km, £25 million A6 **Chapel and Whaley Bridge bypass** is due to be put out to tender this autumn, with construction starting early in 1984. Peter Colliver is the chief resident engineer designate. David Whyman described some of the spectacular features of this job. The Hayfield Road viaduct (see Today No.23 for an artist's impression) was passed by the Royal Fine Arts Commission last year. The earthworks include 17-metre high embankments on soft ground overlying granular material which contains artesian water. There is a 200-metre long diaphragm retaining wall where the bypass runs alongside inhabited buildings. Last, but not least, there is a 14-metre deep rock excavation where the new road passes beneath a railway line already 5.5 metres down in a rock cutting. Due to railway traffic, severe restrictions will be placed on rock blasting at this location. (Shades of M6 in the Lune gorge 15 years ago when World War Two anti-submarine netting was strung up to protect the Euston to Glasgow main line from flying rocks).

Down south now to **the M42 at Polesworth**, where David Whyman's other responsibilities lie, but shared with Ron Watson. Ron is engaged on the southern of two contracts and the tenders for this 4km dual two-lane carriageway came in on 23 September. It is a 30-month contract with a concentration of structures: one railway bridge (that main line from Euston again), one canal bridge, one crossing of the River Anker and two side road bridges over the motorway. Ron explained that the longer-than-usual construction time was due to the complexity of the railway bridge, the need to backfill disused mine shafts adjacent to the canal bridge and a six-month settlement period for high embankments before paving. At the same time David is project manager for the northern contract, of length 7.5 km, which is due out to tender early next year. Both contracts were estimated to cost about £15million.

The other section of the M42/A42 Birmingham to Nottingham route with which SWK are involved is the 23km length of **A42 in the Castle Donington area**, estimated at £36 million and due for construction after 1986. This road will join the M1 motorway at the same point as the Stoke - Derby link and run close to the East Midlands Airport with which SWK were involved over 20 years ago. Mehmet Yilmaz is again in conflict with coal here. The trouble with the South Derbyshire coalfield is that it is prone to spontaneous combustion beneath the proposed route of the A42.

**Concrete Abstract: Das Island Structural Problems [McCafferty; Williams; Smith]**

Note: SW Scotland provided significant input to the Das Island investigations under **Jim McCafferty**, Project Manager working for **Geoffrey Williams**.

**DGE Smith** reports on a study arising from SWK's task of advising British Petroleum about structures at a gas liquifaction plant on Das Island. **GMJ Williams** is the project director.

The generally poor performance of reinforced-concrete structures in the Arabian Gulf states is well known to engineers practising in the area, but few have had the opportunity to study the subject as comprehensively as has the SWK team on this project.

A team based in London, but also staff from Basingstoke and Glasgow, has been assessing the state of deterioration of many structures, ranging from sea walls to an air-conditioned building, and including a cooling-water intake and an outfall. Structures for the support of petrochemical plant, such as compressors, storage tanks and various large vessels, have also been studied.

The exercise has two main objects: firstly, to assess the causes, the extent and the significance of the structural deterioration that has occurred and, secondly, to devise possible repair and partial-replacement schemes.

The range of SWK work encompasses the design and construction of structures in the Middle East, the problems associated with chlorides in concrete and the maintenance, repair and protection of

reinforced-concrete structures. The firm has been assisted in this task by Sandberg, Professor Neville (Dundee), Dr. Wilkins (Harwell) and by Sir Alexander Gibb & Partners. Taylor Woodrow have conducted the comprehensive testing programme. The work has been supported by an immense literature search and by a study of the effects of diurnal temperature variation in reinforced concrete, which has been extended to cover the effect of the early morning condensation on structures, to which may be attributed much of the damage.

The staff engaged on this study, are by now, probably one of the best informed teams anywhere on the behaviour of reinforced concrete in the Gulf and other arid maritime localities.

### **Hong Kong Highway: Opening of Tuen Mun Road Stage 2 May 1983**

Speech by The Honourable Sir Sze-Yuen Chung senior unofficial member of the Executive Council at the opening of the Tuen Mun Road Stage II on 17 May 1983

Ladies and Gentlemen,

We are here today to witness the opening of the final part of Tuen Mun Road. The first stage was commenced some ten years ago and was opened by the then Governor of Hong Kong, Sir Murray now Lord MacLehose, five years ago.

This project was first conceived in the mid-1960's when it became apparent that whilst the existing Castle Peak Road was adequate for access to the many beaches and other recreational facilities along its length, it would be inadequate to serve the needs of the proposed new town at Tuen Mun.

Government and its consultants decided that rather than monopolize the narrow coastal strip, it would be sensible to retain the existing road and make use of the rough, steeply sloping ground for the new road, and isolate it from most of the existing development along the route, except for the two interchanges at Sham Tseng and Siu Lam. This proved to be practicable except at Brother's Point where the massive rock formation necessitated construction of the new road at a lower level and realigning the existing Castle Peak Road to accommodate it.

Phased construction was also decided on at this stage, as it was thought that a new single carriageway would adequately serve Tuen Mun until the early 1980's, and was considered to be a cheaper solution, rather than constructing a dual carriageway immediately, which would be under-utilized for a long period.

Technically speaking the two-way traffic one carriageway was well designed and should be one of the safest roads in the territory, but unfortunately due to poor driving there were several distressing head-on collisions which attracted much adverse publicity. For the past couple of years increasing numbers of sections of the separated dual-carriageway have been put in operation and the severity of road accidents has been significantly reduced.

Now that the Tuen Mun Road is dual carriageway throughout its whole length, I am sure that the trend of reducing road accidents is likely to continue provided drivers observe the speed limit and take account of the road conditions.

In conclusion I should like to pay tribute to all those involved with the design supervision and construction of the various sections of this project; they are unfortunately too numerous to mention now but they are listed in the leaflet you have been given. It is due to their energy, expertise and tenacity that this fine road has been brought to reality. It is therefore with the greatest of pleasure that I declare Tuen Mun Road, Stage II, open.

Partner **Andrew Maslowicz**, who took over the direction of the project during the construction of Stage I and the detailed design of Stage II, wrote an epilogue for Today. [**Henry; James; Butler; McCafferty; Rakusen**]

SWK involvement with the road started in about 1964 when Government began to explore the possibility of improving road access between the developing new town of Tsuen Wan and what was then a small fishing village at Castle Peak. The late **John Henry** was much involved in the early formulation of ideas. In 1965/6, Government decided to investigate John's ideas in more detail and commissioned the firm to carry out a study for the road. **Jimmy James** was then in Hong Kong and prepared the report which was submitted in April 1967 setting out detailed proposals. Political uncertainty at the time resulted in a lull of a few years but enabled Government departments to explore a number of changes to the alignment proposed in the report. In 1971, the project again gathered momentum and, early in 1972, **David Butler** arrived to update all previous work on the road and start detailed design. It was decided at the time to implement the project in two stages with the final completion being linked to the development of Tuen Mun new town (previously known as Castle Peak).

Construction started in October 1974 and Stage I was opened to traffic in May 1978. **Jim McCafferty** came to Hong Kong late in 1976 and worked on detailed design and later implementation of Stage II. This work was carried out in four separate contracts and the project was completed in May 1983. Ron Hedges (now retired) directed the construction of Stage II from the office helped, after **Jim's** return to UK, by **Ron Rakusen** who is now endeavouring to wrap up outstanding contractual matters.

#### **SWK Today 28-Jan 1984.....**

#### **Highways Jubilee Carlisle [**Butler; McGowan; Blythe; Hopkins**]**

The Northern Branch of the Institution of Highways & Transportation celebrated its 25th anniversary with an exhibition at the Civic Centre, Carlisle, on 13 and 14 October 1983. SWK were invited to participate and displayed photographs of M6 Motorway Lancaster Bypass to Penrith Bypass, A66 Keswick Northern Bypass (two panels, with one devoted entirely to the award-winning Greta Bridge) and Tuen Mun Road, Hong Kong. One of the captions began with congratulations to IHT and then continued "SWK had various branch and site offices in Cumbria from 1960 to 1977, the greater part of the past quarter of a century. One of the longest serving SWK highway engineers in the area was **David Butler** who lived at Kendal from 1964 to 1972, worked on both the M6 Motorway and the Keswick Northern Bypass and was on the committee of the IHT Northern Branch from 1969 to 1972, being chairman in his last year. In 1972, David was posted to Hong Kong and took over the detailed design of Tuen Mun Road (pictured above). He is now an SWK partner in Hong Kong".

Another caption read "Roger Weeks, now a director of The Visual Link, has had numerous appointments from SWK since 1965 when he first photographed the M6 trial embankment at Killington. All the above photographs of the M6 Motorway and Keswick Northern Bypass are his work. Mr. Weeks has also produced/directed two 16mm films about the M6 for SWK and one slide/tape programme about the Keswick job. Two of these have now been transferred to video, namely **Motorway in the Landscape** (M6) and **Roads in the Environment** (Keswick), and they will both be shown during the course of this exhibition".

Terence **Cuneo's** painting of Borrowbeck Viaduct under construction, which normally hangs in the conference room at Clifton House, was transported to Carlisle and prominently exhibited in the area where the Institution held an evening reception for the civic dignitaries and other guests. The chief executive of Carlisle City Council was so impressed that he begged for the Cuneo to remain in position just outside his office on a long-term loan.



*Cuneo's painting of Borrowbeck Viaduct with the 1971 Civic Trust Award*

There were many old friends of SWK at the reception, including Jim McInnes and Derek Wrathall, both formerly with Westmorland County Council and both former chairmen of the Northern Branch. Among the visitors to the exhibition were SWK "Old Boys" Andy Kellam and Don and Pat Grant. Others unable to attend, but who sent greetings via Andy, were Archie Evans, Andrew Brodie, Bob Parkins, Joe Atkinson, Wally Walton, Frank Alderson and Steve Armitage. Manning the exhibition for SWK from Glasgow, Derby and Basingstoke were **Bob McGowan**, **David Blythe** and **Morris Hopkins**. They were left with two striking impressions: firstly, the very high standard of display by all the contractors, consultants and local authorities, particularly in colour photography and in the equipment used for mounting the exhibits; and, secondly, the immense amount of goodwill towards SWK which lives on in Cumbria 25 years after the firm first set foot in the old county of Westmorland.



*David Blythe, Morris Hopkins and Bob McGowan, admiring their own exhibition.*

#### **People, Papers and Pictures [Elliot; McGowan]**

SWK Scotland reported that **Peter Elliot**, who recently passed the ICE professional interview, is now serving on the Institution's External Affairs Committee as the Associate Members, Graduates and Students representative. Peter, because he is about to become chartered, will only be eligible to

serve in this particular capacity for the current year. Also, Scottish partner **Bob McGowan** has started a 3-year term on the editorial board of New Civil Engineer. Chairman of the board is **Professor Sutherland** and there are seven members, two others with distinctly Scottish sounding names.

Is Thomas Telford Ltd. becoming a family business?



*Peter Elliot*

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**PONTIFACT Today-Jan 1984.....**

**Wedding Bells [**Gibson; Ashwood**]**

**Susan Gibson** to Donald, 4.2.83

**Jim Ashwood** to Margaret, 25.6.83

**Peter Elliot** to Beverley, 24.9.83

**Baby Bells [**Munro; Blackwood; Osborne**]**

**Jerome Munro**, a son, 8.3.83

**Hugh Blackwood**, a son, 2.5.83

**Frank Osborne**, a daughter, 4.9.83

**Simon Davies**, a son

**Chris Sketchley**, a daughter

**Congratulations [**P Elliot**]**

**Peter Elliot** obtained his MEng from Glasgow.

**Golf at Troon [**Williams Wood; Cullen; Innes; Blackwood; Kwog's Quaich**]**

A team of four travelled over the border to compete against the Scottish and Matlock offices at Troon for the Williams Wood. With **John Cullen** recently signed on for a huge transfer fee and **Ken Innes** playing well below his declared handicap we had high hopes of retaining the title won at Foxhills in 1981 and not contested in 1982.

It was not to be; a bandit was in the field having recently returned from the Nigerian golf circuit with a thoroughly unprofessional handicap. **Hugh Blackwood** and his Glasgow team swept the board and it was booby prizes all round for the visitors.

This morning of golf, including also the Kwog's Quaich competition, formed part of the Glasgow Office outing where the organisers contrived to condense a long weekend into 20 hours of constant activity. After lunch the participants were whisked off to the Magnum Sports Centre where the athletics continued at an increasing pace among the more able-bodied, culminating in communal bathing. In the evening, the staff were guests of the Partners for a dinner dance at the Queens Hotel, Prestwick, where the terpsichorean fury continued into the night. During a lull in the proceedings **John Cullen** was presented with a silver tray from the Glasgow staff to mark his move to Basingstoke, and **Ken Innes** presented the Williams Wood to the Glasgow Office. Very few missed breakfast - as an exercise in character building it was extremely enjoyable.

The international competition for the Pontifact Putter attracted entries from Hong Kong, Botswana, Malawi, Scotland and England. **Hugh Blackwood's** round at Troon proved the best and hence the Putter goes north of the border for the first time.

#### **Marathon Men [Gibson; Frew]**

**Robin Gibson** completed his second Glasgow marathon accompanied this year by **Allan Frew** and John Lowe.

#### **Glasgow Curling [Anderson; Osborne]**

The office curling team, a new venture this year, skipped by **Roger Anderson** and later by **Frank Osborne**, finished 5th in the 5th Division of the Scottish Construction Curling League [11P, 7W, 4L].

### **SWK Today 29-June 1984.....**

#### **Behind the Tartan Curtain [Blackwood]**

##### **Clyde Submarine Base Access Roads**

Plans were unveiled recently by the Ministry of Defence to extend its Clyde submarine complex at Coulport and Faslane to accommodate the Trident fleet due to replace Polaris in the early 1990's. The Glasgow Herald reported on 11 May 1984 that the environmental impact study commissioned by PSA claimed to solve long-standing traffic problems for communities on the Rosneath peninsula by offering to build a direct access route to Coulport armaments depot and a bypass road to the east of the village of Garelochhead.

SWK Scotland has been appointed to design this aspect of the development, in line with PSA policy to use mainly Scottish-based firms on the project, a move described by ACE as a 'tartan curtain'. Construction of the 13 km of road is expected to start in 1985.

##### **Ardrossan Bypass**

About the same time, the firm was appointed by the Scottish Development Department to undertake the design of the Ardrossan Bypass, 6.5 km of single carriageway bypassing three towns on the Ayrshire coast, valued at £7 million.

##### **Cromarty Bridge**

Meanwhile, in the Highland Region, a series of repair and maintenance studies on various bridges over the past two years has been extended to include the 68-span Cromarty Bridge.

### **P1/P2 Interchange Hong Kong**

Whilst, in Hong-Kong, Tuen Mun's P1/P2 interchange, designed in Glasgow last year, is now under construction and the office is busy responding to the customary site questions.

### **Union Canal Aqueduct**

Tender documents have recently been completed for a four-span prestressed concrete aqueduct to carry the Union Canal over the Edinburgh City Bypass; a project which combined modern engineering with that of the Victorians and proved to be a stimulating exercise for the design team.

### **Rail Bridge East Kilbride**

Also going to tender soon is a new railway bridge providing access to a further phase of East Kilbride New Town.

### **New Edinburgh Office [Melville St]**

In March, the Scottish partnership opened its second branch at 35 Melville Street, Edinburgh.

### **H Blackwood**

## **SWK Today 30-Dec 1984.....**

### **The Chevron Connection [Ninian Field N Sea; Swift]**

It sometimes happens that SWK are asked by other companies whether suitable staff can be seconded to them to give specialist assistance or to meet the demands of a temporary increase in the workload. SWK have assisted Chevron Petroleum in this way on several occasions, and the latest was in June this year when an assortment of five SWK engineers from Basingstoke departed at very short notice for Chevron's London office to spend "about six weeks" assisting in some urgent analysis.

Chevron is at present extracting oil from the Ninian oilfield in the North Sea by means of three production platforms. They became concerned for the safety of the southern platform when divers discovered a fracture across one of the tubular steel cross members connecting a pair of legs, and that a gap about an inch wide had opened up between the broken ends. Could the repair be made with the tube in its extended position or must the fracture be closed first? If the latter should be necessary, what force would be needed, and how and where should it be applied? How had the fracture been caused and was any strengthening needed to prevent a recurrence? Questions such as these required answers before repairs could begin, and in meanwhile a mobile platform costing £60,000 a day was kept on permanent standby alongside the damaged platform as a safety precaution.

Subsequently, further investigations were undertaken to discover whether any other members appeared to be at risk in the northern or southern platform, and what the consequences of failure would be. The jackets (so called) of the steel production platforms consist of lattice towers of steel tubes nearly 200 metres high and secured to piled foundations on the sea bed. Many of the members are subject to large and frequent fluctuations in stress due to wave loading, and even moderate stress levels in such members can result in a surprisingly short fatigue life. This aspect of the investigations was of particular interest to those from SWK who did not normally require to pay special attention to the effects of cyclical loading.

Careful detailing at joints is vital to keep local stress concentrations as low as possible. A very detailed and accurate finite element analysis was undertaken on a typical joint in the southern platform to determine how the stresses in it compared with those in the adjacent members.

It appears to be a characteristic of secondments to Chevron that they generally turn out to be not quite as temporary as originally envisaged and **John Swift's** eight years (so far) must be something of

a record. Phil Miller, who is the sole member of SWK's 1984 contingent remaining with Chevron, is perhaps hoping that John has not set him too firm a precedent! GCM

### **GIPSYS for Planners and Architects [Glasgow]**

The existence of SWK's own computer aided draughting program GIPSYS is widely known, but what may not be so well known are the significant advances in its use which have been made in the last three years. Initially used for structural work, the system now encompasses airports, roads and bridges, services distribution and co-ordination etc. Latest users of GIPSYS are the transportation planners who obtain graphical output of traffic flow networks directly from their design programs.

Significant time savings are being made: a drawing in not more than 10% of the time required using manual methods has been mentioned. GIPSYS not only saves considerable time, reduces costs and improves the quality of the final product, but also enables work to be carried out which would not have been practical using traditional methods.

Two terminals at the Chesterfield office, linked by land line to the Basingstoke VAX 11/780 computer, have intensified the use of CAD on roads and bridges and the linking of GIPSYS with MOSS (the integrated highway design, ground modelling, surveying and measurement suite mounted on the VAX) has further extended the benefits to the firm of these two programs first experienced on the Iraq projects. The new work station in the **Glasgow** office, also linked to the Basingstoke computer, will be concentrating initially on roads and bridges, but there are hopes of early diversification.

### **SWK Today 31-April 1985.....**

#### **BR Follows the Highlands Road: Tain to Golspie Study [McGowan]**

British Rail, Scottish Region, employed SWK (Scotland) for a preliminary route location and engineering feasibility study of a new line in the Highlands from Tain to Golspie across Dornoch Firth. The railway would share a proposed new road bridge across the Firth which is planned to cut the longest road journey in Britain from Land's End to John O'Groats from 903 miles to 890. If the railways was built it would take 40 minutes off the journey to the far north of Scotland. SWK have completed the study and presented their report to the Scottish Executive of British Rail on 25 February 1985.

The **Daily Telegraph** of 22 February reported that "with its plans for a road bridge taking shape, the Scottish Office was surprised to receive an approach from British Rail asking if it could review the impact of its joining the scheme. British Rail took an interest because, at present, its line from Inverness to Wick and Thurso makes a 40-mile detour inland between the towns of Tain and Golspie, while the direct connection would cut the distance to 17 miles or less".

Project director **Bob McGowan** told **Today** that, if the 0.5 mile long road bridge was built over Dornoch Firth, the railway northwards from Inverness to Wick would become a less competitive transport route and consequently more liable to be axed. If British Rail can raise the funds to parallel the new highway, then at least the status quo would be maintained in the future.

**Footnote: This commission was the Firm's first major involvement in the Rail Sector JPMcC**

#### **Naval History: Rosyth Joint Planning Team [McGowan; McCafferty; Napier]**

In November 1984, SWK Scotland was appointed by PSA as civil/ structural consultants in support of the Rosyth Joint Planning Team. The commission is for two years on a term basis. **Bob McGowan** is project director with **Jim McCafferty** project manager.

**Footnote: this appointment was the start of a long involvement with PSA and Defence Works Services** lasting many years. **Jim McCafferty** was Project Manager and later Project Director for most of this work over the years before handing on to **Alistair Napier** when he became a Director.

Construction of the dockyard commenced in 1909 and carried on throughout World War One and indeed has continued intermittently ever since. There are presently 9,000 civilians and 2,000 service personnel working at Rosyth.

With the recent closure of Chatham dockyard, Britain's naval dockyards are now reduced to two, Rosyth and Devonport. This fact, plus a reappraisal of naval defence requirements, has generated the need for a JPT to plan and control future proposed facilities at the dockyard.

### **Rosyth Dockyard Historical Documents [Green; CR Kirkpatrick; McCafferty]**

When hearing of the Rosyth job, Phil Green recalled how he had recently come across some old documents in the Basingstoke archives relating to Rosyth dockyard. Further investigation revealed that they were the conditions of contract, specification and contractor's claims (including a set of superb coloured explanatory drawings in cartoon style). All documents bear the signature CR Kirkpatrick. Reference to the obituary of Sir Cyril Kirkpatrick in the ICE Proceedings, February 1958, reveals that he acted as arbitrator in 1922 in the dispute between the Admiralty and the contractor over the construction of the original dockyard.

The documents have aroused a great deal of interest with all those involved in the works at Rosyth and SWK (Scotland) are delighted to discover a previous connection between the firm and the dockyard. RMcG

**Footnote: These documents were gifted to the Library of the Institution of Civil Engineers** on behalf of Scott Wilson by Jim McCafferty in March 2007.

## **PONTIFACT Today-April 1985**

### **Wedding Bells [Campbell]**

Laura Campbell to William Allan

### **Engagements [Frew]**

Alan Frew to Brenda

### **Congratulations [Elliot; Hunter]**

Glasgow's successes were Peter Elliot, who has become a Chartered Engineer, and Ronnie Hunter, who passed the ICE Examination in Civil Engineering Law and Contract Procedure.

### **Golf [Nidger; Pontifact Putter; Kwogs Quaich; Cullen; Blackwood et al]**

John Cullen, Reg Ready, Dick Cooper, Graham Walker, Phil Stevens and Ted with the Clients - BAA, Architects - Scott Brownrigg and Turner, and Management Contractor - Taylor Woodrow, at West Byfleet Golf Club on 19 June 1984.

The Glasgow Office golf team won the Nidger Trophy at Pollock Golf Club. This competition is held annually among government departments and consultants involved in the planning and design of Glasgow Inner Ring Road. The Nidger which forms the trophy was one of the first cobblestones removed during construction of the Ring Road.

Hugh Blackwood (Glasgow) retained the Pontifact Putter for the second year, his round in the Kwogs Quaich at Troon being the lowest submitted in the international competition.

**SWK Today 32-August 1985**.....

**SWK Scotland's Silver Jubilee**

**Glasgow Office Founded in 1960 [Grace; Hodgen; Cullen; Holmes; Dougall; McKenna; GIRR; Highway Plan; N Flank; Townhead 1; Armour; Holford]**

On the first of February 1960 Henry Grace wrote to Roy Hodgen at an address in Indian Neck, Connecticut, "Things are beginning to move here and it may be that we shall want you back just as soon as you have finished your course at Yale.....last week the Chief Planning Officer of Glasgow rang up and asked us to advise him on traffic studies in connection with a new ring road for Glasgow". Mr Grace went on to suggest that Hodgen should try to get some immediate practical experience of a metropolitan transportation study before his return from America.

Thus was sown the seed of the Scottish practice and of the firm's first substantial experience of transportation planning.

In the event Roy Hodgen arrived in Scotland in July 1960 and was given a desk in the City of Glasgow Planning Department. He produced a first progress report on 31 August 1960 and was joined by a new recruit, John Cullen, on 5 September. By the end of that month there was an SWK name plate on the door of a temporary office at 252 High Street. In December 1960 SWK moved to a permanent address at 4 Park Gardens. Within one calendar year the firm had a fully established branch office in Scotland. This is the silver jubilee now being celebrated.

Billy Holmes joined the firm on 16 January 1961 and (with John Cullen now a consultant) is the sole remaining member of the Park Gardens staff because there was another move, to the present address at 6 Park Circus, in the summer of '63 before the arrival of the next longest survivor, Willard Dougall, on 3 February 1964. About the time of the move to Park Circus, Brian McKenna arrived in Glasgow where he stayed eight years. These events in 1963 broadly coincided with an expansion of the transportation work on the Glasgow Highway Plan (published in 1965) into detailed engineering design of the north flank of the Inner Ring Road where Brian had substantial responsibility for the many structures.

Townhead Stage 1, the first section of the north flank to be completed, was opened by the Secretary of State for Scotland on 5 April 1968. The commemorative brochure lists, alongside SWK, Master of Works & City Engineer John Armour, architects William Holford & Associates and contractors Marples Ridgeway. The cost of the job at 1965 rates was £3 million, compared with £150 million for the construction of 50 miles of new roads over a period of 25 years contained in the Glasgow Highway Plan.

**The Renfrew Years 1973 – 1976 [Renfrew 1; McNee; Renfrew Sewer; Hodgen; Cullen; Breakey; Ford; Mackay]**

The most dramatic of SWK Scotland's 25 years was 1973. And the most dramatic day in that year was 17 September. It was the official starting day for the 3 - year construction of Renfrew Motorway Stage One, the biggest contract ever handled by SWK Scotland. It was also the day when chief resident engineer Stewart McNee died suddenly when leaving the office to go home in the evening. Stewart had joined SWK for the design of M6 in Westmorland in 1964 and then had a spell in the Ibadan office in the early 1970's before returning to UK as resident engineer on the Renfrew sewer outfall works, starting on 23 October 1972. He was appointed chief resident engineer for the Renfrew motorway with effect from 1 July 1973. His funeral was in Dunblane Cathedral on 20 September.

Apart from the personal tragedy, the drama of 17 September was heightened by events earlier in the year. Renfrew motorway was put out to tender on 29 March 1973 and within a month Roy Hodgen had resigned as managing director of SWK Scotland and left to become a partner of another firm.

**John Cullen** succeeded as managing director and **Don Breakey** and **Chris Ford** joined the board. The latter was appointed director for the construction phase of Renfrew motorway.

**Chris Ford** resigned and left on 7 December 1973, to join **Roy Hodgen**. Thus the year ended with the replacement CRE not yet on site and an unexpected change in project director on the biggest job in the Scottish firm's history.

This was also the beginning of Britain's winter of discontent, with the miners' strike and the three-day week leading to the downfall of the government. But, following the arrival on 8 January 1974 of **Neil Mackay** (ex M6 motorway and Mombasa water supply) firstly as project engineer for the supervision of construction, and later as chief resident engineer, the difficulties of that desperate first winter on Renfrew motorway were gradually overcome.

The end of the job was triumphant with the official opening by the Secretary of State for Scotland on 15 October 1976. Balfour Beatty had been the main contractors and it had cost £22 million at 1976 prices. William Holford & Associates had again been consultant architects, but John Armour was by this date Director of Roads for the new Glasgow client, Strathclyde Regional Council.



**Bob McGowan** joined SWK in Glasgow in 1967 and spent 1970/71 in Kenya.

In 1979 SWK Scotland became a partnership, with **John Cullen** as the resident managing partner. Bob was then an associate. In 1981 Bob was taken into the partnership and within two years became the sole partner in Glasgow following John's move to Basingstoke. This year Bob also became a partner of the English firm and joined the UK policy group.

The present strength of SWK Scotland under **Bob McGowan** is **43 all ranks** distributed between three offices: Glasgow, Dingwall and Edinburgh. This number is made up of 35 permanent technical staff, including one on secondment from Chesterfield, five administrative staff and three weekly -paid students. This total may be compared with **the all - time peak of 89 in July 1974** when the Renfrew motorway construction was in full swing. The site staff then numbered 41.

### **Dougall's Casebook**

**Clyde Submarine Base Roads [Garelochhead Bypass; NAR Coulport; Dougal; McCafferty]**

Tenders for the construction of road approaches to the Clyde submarine complex at Coulport and Faslane were invited on 12 July 1985. The 12 km of road, in two contracts, designed by SWK for PSA, are known as **Garelochhead Bypass and Northern Access Road to RNAD Coulport**. Following an announcement, by the Ministry of Defence, that the Trident fleet would replace Polaris at Coulport

in the early 1990s, government decided to solve long - standing traffic problems for communities on the Rosneath peninsular with these new roads.

SWK, with assistance from landscape architects W.J. Cairns & Partners of Edinburgh, submitted a project report to PSA in October 1984. The roads design by project manager **Willard Dougal** and ten technical staff was then completed in nine months and has totally pre - occupied the roads and transportation section of the Glasgow office in this period.

Footnote: **Jim McCafferty** was Project Manager for the Bridges and structures on these projects and later became overall Project Manager until completion of construction following the departure of **Willard Dougal**.

### **Ardrossan Bypass**

Another project now in hand is design for the Scottish Development Department of the 6.5km A76 **Ardrossan bypass** on the coast of Ayrshire, north of Irvine. The importance of this road relates to the import of raw material at Hunterston for the steelworks at Ravenscraig.

### **East Kilbride Northern Bypass**

Roads and traffic have also been studied recently on behalf of East Kilbride Development Corporation where proposed construction includes infrastructure for 2500 new houses and a northern bypass of the town.

### **A9 Helmsdale to Ord of Caithness**

Moving to the Highlands, the scheme for 6km of the **A9 trunk road from Helmsdale to the Ord of Caithness** has revived, following an SWK preliminary report as long ago as May 1979. Preparation of land plans for the Scottish Development Department has now begun.

### **Brora Environmental Improvement**

A Highland project in the news again because it has been entered for the Regeneration of Scotland design award 1985, although completed in July 1981, is **Fascally Brora**. Coalmining and associated brick works at Brora in Sutherland ceased in 1973. Buildings and quarries remained to become an eyesore and a danger to the public. The Land Renewal Unit of the Scottish Development Agency engaged SWK for a £300,000 environmental improvement scheme which would include recreational features.

Earthworks, demolition, pollution control and tree planting all entered in to SWK's solution. As a result, The Northern Times was able to report in June 1980 "Years of dereliction and industrial decay are wiped out with the entire disappearance of the colliery buildings, the brickworks and their debris. The once busy area, a hive of activity for more than 150 years, will now echo to the sound of children's voices and the wild support for rugby and football matches. All thanks to the Scottish Development Agency's drive to clean up the mess of the Industrial Revolution".

Willard concluded his interview with Today with a round - up of SWK Scotland's overseas engagements in recent years.

### **Abuja Roads and Bridges [Blackwood; Holmes; McCafferty]**

Glasgow office made a substantial contribution to roads and bridges design for the Nigerian federal capital at Abuja, in particular for the city's **Inner Northern Expressway and Inner Northern Parkway**. A preliminary engineering report was submitted in September 1981. **Hugh Blackwood** and **Billy Holmes** both spent time at the Nigerian firm's Kaduna office.

Footnote: **Jim McCafferty** returned to Glasgow from Hong Kong to become Project Manager for numerous Abuja Bridges, some of which were designed in Basingstoke.

### **HK Cross Harbour Tunnel Capacity Study [Cullen]**

In support of SWK Hong Kong in 1978 the then managing director of SWK Scotland, **John Cullen**, did a lot of work on the study to increase the capacity of Cross - Harbour Tunnel. Traffic at that time was running at 72,000 vehicles per day. It was John who developed the idea of using mezzanine car lanes in each of the two immersed tubes.

### **Iraqi Airforce Bases and A55 Conwy Check**

Support came from Scotland to Scott House for the design of **the three Iraqi airforce bases** and, finally, if one regards **North Wales** as overseas from the Clyde, a helping hand was given in Glasgow on checking of the **A55 trunk road crossing of the Conwy estuary**, for which SWK were appointed by the Welsh Office in December 1982.



**Susan Gibson** obtained a first - class honours degree in civil engineering at the University of Glasgow in 1982 and then joined SWK Scotland. Susan has been working on the design of approach roads to the Clyde submarine base and is now hoping for site experience, possibly on one of the PSA contracts. Susan is married, and she and her husband enjoy walking the "high roads" along the west coast of the Highlands.

### **Blackwood's Magazine [Sellafeld; Tain-Golspie; Dingwall Office; Dingwall Projects; Grant]**

A thermal oxide reprocessing plant is to be built at Sellafeld in Cumbria. It involves massive reinforced concrete construction of what will look like giant egg boxes with 1.5 metre thick walls and one metre slabs. SWK Scotland have been engaged by contractors Balfour Beatty and Fairclough (employed in joint venture by British Nuclear Fuels) to check 5,000 drawings. It will take 6 man - years to do. The design is not in question, but the reinforced concrete detailing. The contractors are seeking quality assurance and the correction of any discrepancies. Can the plant be built? Does it all fit together? **Hugh Blackwood's** team are going to find out.

Other work in the section is on the **Tain to Golspie rail link across Dornoch Firth** in the Highlands which, as reported in Today No.31, would save 40 minutes on the journey to the far north. The original study for British Rail, Scottish Region, was completed six months ago. SWK are now assisting BR with preparation of parliamentary orders due in September 1985. After that a quiet period is expected because the road scheme, on which the rail link depends for a shared crossing of Dornoch Firth, may have to go to public inquiry before the bridge alignment is fixed.

The SWK branch at Dingwall in Ross & Cromarty above Inverness is the most northerly consulting engineers' office in Britain. Hugh reflected on **the opening of this office in 1977** and the early days there when he was the engineer in charge. "It was a listening post in the Highlands", Hugh told **Today**. "It takes time to become accepted up there". In 1981 Hugh handed over to **Hamish Grant**, a Highlander from Inverness, and returned to Glasgow.

As a result of all the flag flying more and more consultant engagements are coming to Dingwall. Biggest potential client is the Highland Regional Council which is responsible for an area as large as Wales. The Council's Department of Architecture has engaged SWK on **a new library at Dingwall** and

the Department of **Water & Sewerage** on a number of **small improvement schemes**. There have also been **road schemes** in the Highland Region, the latest being an **improvement at Allt na Cuile**, costing £1 million. Construction, supervised by the Dingwall office, is due to start in September 1985.

One of the earliest SWK clients in the Highlands was the Cromarty Firth Port Authority. There were two jobs related to the **British National Oil Corporation's terminal at Nigg**. In 1978 SWK had to check drawings and make calculations for a **loading jetty and mooring dolphins**. These structures have to withstand the berthing and mooring forces of a 120,000 ton dwt tanker. As a result some improvements to the design were made before construction began.

In 1979 the firm **supervised reclamation of 31 hectares of Cromarty Firth** to provide new land to accommodate two 100 metre diameter tanks for storage of crude oil. A million cubic metres of sand fill was placed in five months that summer. **Lance Dodd**, who had won his OBE supervising M6 in Westmorland, was brought out of retirement to be chief resident engineer at Nigg.

Another historic job in the Dingwall office was the design of **maritime structures for the ferry terminal at Raasay** where the SWK client was a private contractor working for the Highland Regional Council. There is now a regular ferry - boat service between the island of Raasay and Skye in the Inner Hebrides.

Nowadays there are four SWK technical staff in Bank of Scotland Buildings at Dingwall and, using a BBC computer terminal, they have a VAX link via Basingstoke to **big brother** in Glasgow. (Incidentally, big brother is getting up to date with replacement of the antediluvian internal telephones, installed when you could have any coloured instrument you wanted as long as it was black, with fancy press-button jobs at 6 Park Circus). Another link between Dingwall and Glasgow is the service that the former is able to provide in **independent checks of structural designs** which certain clients in Glasgow require from time to time. Apparently, the 150 - mile separation is sufficient to guarantee the independence of the Highlanders.

#### **P1/P2 Interchange Hong Kong [McGowan; McCafferty; IStructE Paper; Tuen Mun Road]**

Construction of **P1/P2 or River Interchange in Tuen Mun** new town which began in 1983 is now approaching completion. Client is the New Territories Development Department. The structures which link two major roads near the town centre have a deck area of 10,000 square metres and comprise prestressed post - tensioned concrete box girders with side cantilevers



**Bob McGowan** [PD] and **Jim McCafferty** [PM], who was resident in Hong Kong from 1976 to 1981, latterly as project manager on **Tuen Mun road**, are joint authors of a paper on P1/P2 interchange bridges to be published by the Institution of Structural Engineers in November.

**The Rosyth Saga: HM Naval Base Rosyth Joint Planning Team [McGowan; Kirkpatrick; McCafferty; Williams; Harrison]**

In **Today No.31** **Bob McGowan** reported on the history of HM Naval Base at Rosyth and the **Sir Cyril Kirkpatrick** connection. The dockyard is situated about a mile upstream of the Forth Bridge on the north side of the Firth of Forth and little more than ten miles from the SWK Edinburgh office. The long - term planning for the comprehensive development of the dockyard, which began with a meeting of SWK with the joint planning team from the PSA and the Ministry of Defence (Navy) on 28 November 1984, is the main job in the Edinburgh office at present.

Associated consultants, architects Reiach & Hall and mechanical/ electrical engineers Ian Hunter & Partners, are also based in Edinburgh and they attended a meeting with SWK on 19 July 1985 when the draft report for the first stage of the planning was tabled. Further stages of the two - year consultants' contract will follow immediately and it is expected that the SWK input will ultimately exceed 12 man-years. More than half this effort will come from Edinburgh, although project manager **Jim McCafferty** is based in Glasgow and water engineer **Leighton Williams** has contributed from Basingstoke.

Factors being considered by the consultants include not only structures and infrastructure on land, such as roads, railways (11km of existing track), car parks, drainage, water supplies and fencing, but also marine structures like berths, jetties and docks. There is also work to be done at this stage on mapping, subsoil investigation, road traffic and transportation planning.

**Lex Harrison**, commenting on the Rosyth job, spoke of the inherited problems from an 1800 acre development planned 80 years ago to contain enormous graving docks for the Dreadnought battleships soon to be engaged in the Great War. In the 1920s and 30s the naval dockyard almost closed down, until the second world war loomed, when there was another panic development resulting in piecemeal projects for which few record drawings now exist. In the late 1960s Rosyth became the base for the fisheries protection fleet and most recently there have been moves to accommodate nuclear submarines, hence the job in hand.

**SWK's Edinburgh Castle: New Office 48 Manor Place [Harrison]**

The new branch office of SWK Scotland at 48 Manor Place, Edinburgh, was occupied in **September 1984**. The accommodation is in a magnificent building, dating from about 1850, after the "new town" had been developed as a result of an overflow from the historic residential area surrounding Edinburgh Castle. The internal proportions are on the grand scale, with the elaborately moulded and decorated ceilings about 14ft above floor level and 10ft high sash windows. The present owner of the building is the Scottish Widows Life Assurance Fund, but SWK manager **Lex Harrison** reckons it was lived in as a private house until the 1950's.

The part of the building occupied by the six SWK staff comprises two large rooms on the ground floor. However, the overall tenant is the Scottish Council for Development & Industry which has two large, beautifully furnished (19th Century) conference rooms, also on the ground floor, available to SWK when not in use by SCDI. Incidentally, SCDI is an organisation to promote overseas business and SWK are subscribing members.



Edinburgh Office, 48 Manor Place

## From The Kingdom of Fife to the Heart of Midlothian

### Glenrothes Roads

Fife Regional Council has engaged SWK for a traffic reappraisal and review of road proposals in Glenrothes new town. Glenrothes is twenty miles north of the Edinburgh office in the kingdom which lies across the Firth of Forth. The consultants' task is to scale down an earlier road scheme in the light of revised vehicle numbers. Six man-months are involved and a draft report was submitted last month.

### Union Canal Aqueduct [Murray; McCafferty; IHT Paper]

One ongoing job within the purview of Edinburgh office, although designed in Glasgow two years ago, is the Union Canal aqueduct over Edinburgh city bypass now being supervised by Bill Murray, ex SWK Hong Kong. The client is the British Waterways Board and the Engineer is the Director of Highways for Lothian Regional Council. The main purpose of having a navigable aqueduct, rather than a culvert, under the bypass is to accommodate leisure boats. This demonstrates the city fathers' enlightened attitude to their nineteenth century inheritance. The resulting structure is 90 metres long and provides a 4 - metre wide waterway. Apart from aesthetics, factors affecting the design of the aqueduct were water retaining qualities and resistance to the impact of vessels and the forces exerted by thawing ice. SWK's solution is a four -span post - tensioned concrete channel on reinforced concrete piers.

Footnote: Jim McCafferty was Project Manager. See his paper **Union Canal Aqueduct, Edinburgh published in the Journal of the Institution of Highways & Transportation, October 1986.**

Lex Harrison concluded with a look at SWK's promotional role in Edinburgh. Most central government offices in Scotland are situated in Edinburgh and with the central government trend to give more work to the private sector, compared with local government where there is an in-house emphasis, SWK's Edinburgh enterprise is more important than Glasgow in this respect. PSA is a case in point because, apart from very large jobs like the naval bases which are handled from headquarters in Croydon, it is the Edinburgh office of PSA which the firm has to look to for smaller jobs in Scotland.

### The Ubiquitous Holmes: GIRR to Abuja [Munro; Watson; Stamper; Cullen et al]

Billy Holmes, doyen of the Glasgow staff, can look back on almost 25 years of service. He remembers the first big traffic survey of Greater Glasgow in June 1961 (when, incidentally, your correspondent spent a week away from Victoria Street helping out, including one splendid day on a Clyde ferry). Billy recalls that the traffic coding was done at 252 High Street by students who were given the use of an outside loo which was shared with the staff of a ladies hairdressers round the corner. Meanwhile, the lads in the new permanent office at Park Gardens, with proper facilities, included Angus Munro, Maurice Watson and John Stamper.

Billy's early assignments included site work at Townhead on the Glasgow Inner Ring Road, design assistance with Tebay interchange on M6 in Westmorland and setting - up the first origin and destination survey for Archway in 1969. For the last job Billy was already established in London having arrived in 1967 to help John Swift with Apapa Road (Lagos) design for a period of six weeks.

He stayed five years, until 1971. There is a story from that era of Billy's career about the mysterious migrations of a Landrover owned by SWK which had begun life on the South Humberside study, had been transferred to Archway and then started appearing every day outside the front door of 6 Park Circus under Roy Hodgen's window. (For the end of the story apply to **Bob McGowan**.)

Since returning to Glasgow in 1971 Billy has been involved in a number of overseas missions, including some trouble shooting trips of quite short duration. There was secondment to Peat Marwick & Mitchell for a **transportation study in Doha**. There was design of **roads in Malawi** around the southern end of the lake for Willie Scott. There was assistance to **John Cullen** in Hong Kong with the study **of increased capacity of Cross - Harbour Tunnel**. There were three months in **Abu Dhabi** on the **Al Ain - Mafraq road** looking at problems caused by twin axles carrying 100 - ton loads. And then there were the first two years, **1979 - 81, spent in Baghdad on the transportation study**. After Baghdad, Billy got married and this had the effect of reducing his globetrotting to the occasional shuttle service between Glasgow and **Abuja**.

On 18 July 1985, two days after talking to Today, Billy became the proud father of a son. Congratulations from all our readers.



**Stop Press: MOSS Models for SDA**

SWK appointed by **Scottish Development Agency** to collect **land survey data of 250 sites in MOSS** format. Also to create MOSS ground models with overlays of services and industrial estate information.

**SWK Today 33-Dec 1985.....**

**Forty Years On: Geoffrey Williams [Wilson; Scott; Elliott; Grace et al]**

1985 has seen many notable fortieth anniversaries, from VE day to the foundation of the United Nations. One anniversary which will give particular pleasure to readers of **Today** is that being celebrated by **Geoffrey Williams** who joined SWK, or more correctly Scott & Wilson, on 10 December 1945 soon after World War Two had ended. He was, in fact, demobilised on 30 November but put off starting work to see the first post-war inter-varsity rugby match, which the right side won!

**Guthlac Wilson** and **W.L. Scott** had joined forces at the beginning of 1945 and, when **Geoffrey Williams** arrived, the firm was still divided between Mr. Scott's old office in Artillery House and Dr. Wilson's office around the corner at 57 Victoria Street. They didn't come together at 39/47 Victoria Street until 1949 when the big job in hand was the Royal Festival Hall.

There are, of course, a few who have served well over 30 years such as **Stanley Elliott**, **Derek Verran** and **Michael Guilford**, and your correspondent first met (and his future wife first took dictation from) Mr. Williams in 1954. That was the year that **Sir Cyril Kirkpatrick's** firm amalgamated with Scott & Wilson. By then W.L. Scott had died, and Guthlac and Mary Wilson had been tragically killed in an aircraft crash in Tanganyika in March 1953.

The firm's first venture overseas had been in 1947 when **Henry Grace** went to open an office in Nyasaland (now Malawi) and, as the Fifties progressed, Scott & Wilson's overseas practice continued to expand, not least with the Hong Kong enterprise. **Henry Grace** set foot in the colony to start work on the airport at Kai Tak in the first week of November 1952 and **Geoffrey Williams**, accompanied by **Roger Whiting**, followed within days.

On his return from Hong Kong, from 1954 to 1960, **Geoffrey Williams** was involved in the Shell Centre on the South Bank initially on its design and subsequently seconded to Shell Estates to act as project manager for the construction. The Shell years were a watershed for SWK. Before Shell it was a small firm. After Shell it was a big firm. The staff and turnover had trebled and **Geoffrey Williams** was promoted to associate when he crossed back to the north bank in 1960. Many of **Today's** readers will be familiar with his activities in the firm since then.

**Geoffrey Williams** has served on the Councils of the Institution of Civil Engineers, the Association of Consulting Engineers and the Fellowship of Engineering. He has recently been elected to the Engineering Assembly as a representative of London Central. He is vice-chairman of ACE and is also chairman of the Engineering Council's regional organisation in London. **Today** wishes him **ad multos annos**.



The editor had hoped to get a photograph of Captain **G.M.J. Williams** in his demob suit in 1945. But, 40 years on, he is more handsome.

#### **Tsuen Wan Bypass Completed in Hong Kong [Butler; McCafferty]**

Note: **Jim McCafferty**, while resident in Hong Kong, was involved in preparation of the original project proposals in 1976 and, in 1981, in the independent check of the major elevated structure.

The opening ceremony for **Tsuen Wan Bypass stage two** took place on 1 November 1985. **Stage one**, from Kwai Chung Road to Texaco Road was opened in June 1981 and construction of stage two began in December 1981. The main contractor for stage two was Paul Y Construction Company and the total cost was 300 million HK dollars. A colour brochure published by the client authority Tsuen Wan New Town Development Office, New Territories Development Department, was sent to **Today** by SWK project director **David Butler**.

Stage two of the bypass, according to the brochure, is a continuous elevated structure of approximately 2.5 kilometres in length and the alignment is mostly straight and level passing from Texaco Road in the east to Chai Wan Kok in the west.

Associated with the project is the reclamation of approximately 30 hectares of land which will not only provide land for the essential road connections with the town centre but also new sites for housing, industrial, civil and recreational facilities, some of which have already been completed.



*Tsuen Wan Bypass, looking east. Photograph also includes the cargo working area, the transport complex and the ferry pier, which feature in a paper on Tsuen Wan by David Butler in Highways and Transportation, January 1986.*

There are interchanges at each end of the road and one intermediate interchange on the recently completed reclamation. The new bypass comprises dual two and three lane carriageways supported on cast insitu, post-tensioned concrete viaducts. Occupying a prominent location across Tsuen Wan Bay, care has been taken to produce a harmonising design which incorporates a specially created "light well" between a section of the carriageways to reduce the environmental impact of the structure on the proposed recreation areas beneath.

Constructed to the latest design standards, the road features highly improved skid-resistant surfacing, emergency telephones, lighting, and fire-fighting facilities.

Owing to the phasing of the reclamation works part of the structure had to be built over open water. The contractor designed and built a special 700 tonne temporary steel gantry which could support two spans during casting and could be moved from pier to pier as the work progressed.

Wherever possible the areas adjacent to the bypass, including those next to the ground level road connections, have been landscaped to enhance the general environment of the area.

**IStructE Paper: P1/P2 Interchange Hong Kong [McGowan; McCafferty]**

**Bob McGowan** and **Jim McCafferty** presented their paper on **P1/P2 Interchange, Hong Kong**, at the Institution of Structural Engineers on 28 November 1985. The paper had been published in the previous month's **Structural Engineer**.

**PONTIFACT Today-Dec 1985**.....

**Wedding Bells [Frew; Tubman]**

**Alan Frew** to Brenda Cassidy; **John Tubman** to Alison Muir

**Engagements [Kirkpatrick; O'Hara]**

**Jim Kirkpatrick** to Pauline Strawhorn; **Kenneth O'Hara** to Pamela Duscherer

**Baby Bells [Baker; Ashwood]**

**Alan** and Lesley **Baker**, a son 1.1.85; **Jim** and Margaret **Ashwood**, a son 28.2.85

**SWK Successes [Webster; Osborne; Eide; McLean; Gibson; O'Hara; McGowan]**

From Glasgow **David Webster** has been accepted as a Corporate Member of ICE, and John Harden and **Frank Osborne** have been elected members of I Struct E. **Stuart Eide** and **Norman McLean** both completed their HNC in Civil Engineering, with Norman receiving the award for the best student completing the HNC course from Inverness College.

**Susan Gibson** and **Ken O'Hara** are both serving on the AMG & S Committee of the Glasgow and West of Scotland Association.

**Bob McGowan** is now on the Scottish Panel of the Chartered Institute of Arbitrators.

**Curling [Osborne; Holmes; Hunter; Thomson]**

The Glasgow Office Curling Team - **Frank Osborne** (Skip), **Bill Holmes**, **Ronnie Hunter** and **Allan Thomson** had another successful season, gaining promotion to the Third Division of the Scottish Construction Curling League.

**Golf [Kwogs Quaich; Harden]**

**John Harden** won the Kwogs Quaich at the Glasgow Office Golf Outing at Troon, with a Stableford score of 37 points.

**News from Scotland: Silver Jubilee Exhibition**

SWK Today Issue 32 reported exclusively on SWK Scotland's Silver Jubilee, describing the development of the Glasgow office, the scope of the work with which it has been involved over the years, and the opening of its branch offices in Edinburgh and Dingwall.

To mark the event, an exhibition of work carried out by the Scottish practice was mounted recently, and open days were held in Glasgow and Edinburgh. These events were well attended by clients, friends and relatives, and served to demonstrate the wide variety of projects undertaken in the firm's 25 year history to interested parties, both within and outwith the engineering profession.



**SWK Today 34-June 1986.....**

**PSA: Clyde Submarine Base Access Roads [Garelochhead; Coulpport; McCafferty]**

SWK Scotland have been appointed by the Property Services Agency for the supervision of two road contracts to improve communications to naval installations on Loch Long and Gareloch and open up new prospects for tourists. The design of the roads was carried out by SWK and reported in Today Nos. 29 and 32.

In March 1986 the PSA accepted Miller Construction's tender of approximately £12 million to construct two 7.3 metre wide roads required for the development of the planned Trident base at Coulpport on Loch Long. A 3.5 km bypass of Garelochhead will run between Faslane and Whistlefield, relieving traffic pressure on Garelochhead and speeding the journey from Helensburgh to Arrochar. Construction will demand the blasting and removal of 125,000 cubic metres of rock, the culverting of several watercourses and a single span bridge over the West Highland Railway.

The second contract will see the construction of an eight kilometre road from Whistlefield, on the A814, to Coulpport. The road runs down the Roseneath peninsula, so shortening the present 18 km journey via Roseneath and Kilcreggan. Construction will call for the blasting and removal of 240,000 cubic metres of rock, the removal of substantial areas of peat and the building of a single span railway overbridge.

The contracts are expected to be completed in around 80 weeks. [Project Manager: **Jim McCafferty**]

**Thermal Road Maps to Keep off the Ice**

SWK's Edinburgh office has recently won two contracts to undertake thermal mapping surveys in Lothian and Highland Regions in Scotland.

Thermal mapping is one of a number of new techniques being applied by winter maintenance engineers in highway authorities so as to reduce the cost of keeping roads free of snow and ice.

A thermal map is simply a profile of surface temperature along a length of road. Research at Birmingham University has shown that this profile is reasonably consistent with road locations, showing similar relative temperatures from day to day if the general weather pattern is similar.

With knowledge of the thermal map, the maintenance engineer can install a limited number of permanent remote sensors. He can then judge the likely temperature pattern along the road surface and know when to apply salt and how much is needed to maintain ice free conditions. With winter

maintenance in Scotland currently running at about £50 million each year, even small percentage reductions in the use of salt are likely to bring substantial benefits to highway authorities.

Project manager for the SWK contracts is Lex Harrison, who has been working closely with the Environmental Remote Sensing Centre, Livingstone, in mounting the first aerial thermal mapping survey in the UK.

As a sidelight the results may be of interest to archaeologists.....the survey of Lothian has clearly shown up the traces of two prehistoric sites, despite both of them being covered by a foot of snow. AH

#### **Papers: Building on Marginal Land; Stocksbridge to M1 [Doubal et al]**

The Institution of Civil Engineers and the Scottish Development Agency were co-sponsors of a conference on "Building on marginal and derelict land" at the Albany Hotel, Glasgow, from 7 to 9 May 1986. John Bickerdike was co-chairman of session 5 on the last morning: soft or loose natural soils. He was also a member of the overall organising committee. Roger Doubal, Ed Farrand and Steve Handsley were joint authors of a paper, presented on the opening day, entitled "A case history of the investigation and design of remedial measures to old mine-workings for a road scheme". To quote the synopsis: "The route of the proposed 12 km long Stocksbridge to M1 road will cross about 20 seams of coal, ironstone and fire clay, most of which are known to contain old mine-workings. It will also cross several backfilled open-cast mines and spoil tips, one of which was burning. A comprehensive site investigation....."

#### **SWKC(S) History: Oliver Measor**

Retired SWK partner Oliver Measor wrote to Today's editor on 1 January 1986 about No.32 which celebrated SWK Scotland's silver jubilee.

Mr. Measor pointed out the transformation of the SWK branch office in Glasgow to Scott Wilson Kirkpatrick & Company (Scotland) in the late 1960s. After completion of the Glasgow Highway Plan and design of the north flank of the Inner Ring Road, it was decided that a continuing SWK practice in Scotland would be more successful if a separate Scottish firm were established. There were good prospects of more work, but the branch office of a London firm would be at a distinct disadvantage in local competition. Hence the new venture, which did succeed, and eventually led to the establishment of SWK Scotland as a partnership and as a member of SWK International.

#### **SWK Today 35-Nov 1986.....**

#### **Winning Design for Grampian Don Bridge Kintore [McCafferty; Tubman]**

Grampian Regional Council held a design competition for the replacement of the century-old Don River Bridge at Kintore, Aberdeenshire. SWK (Scotland) won. The 46-metre long bridge is being built by the Council's direct labour organisation at a cost of £650,000 and will be opened in the New Year.

The 64-tonne curved warren trusses were transported to site in three sections each. The concrete deck on transverse steel I-beams will carry two lanes of motor traffic and footpaths. Abutments are of reinforced concrete on steel pile foundations. The Glasgow design team was headed by Jim McCafferty [Project Manager] and John Tubman, who was engaged on the analysis of the structural steelwork for the bridge, won an Institution of Structural Engineers' prize for a paper on this work. John presented his paper in a graduates' competition at a Scottish branch meeting in Edinburgh in March 1986.



*Don river bridge: according to NCE, the huge crane to lift the warren trusses "took two days to erect, two to do the job and two to dismantle".*

#### ICE Publications [Bickerdike; McGowan]

As from the September 1986 issue, **Ground Engineering** became officially the journal of the British Geotechnical Society. This monthly publication had always acted as a link between the theoretical and practical aspects of geotechnical engineering, defined in this September's editorial as "civil engineering below ground level". Over the years the aims of **Ground Engineering** had become more and more aligned with those of the BGS. One result of the marriage has been **John Bickerdike's** appointment to the editorial advisory board specifically to represent the interest of the BGS.

Congratulations to John who follows in the footsteps of another SWK specialist adviser to a journal, namely **Bob McGowan** who was on the **NCE** editorial board.

#### Miller Prize 1986 for **Alan Frew**

**Alan Frew**, a 1982 graduate employed in SWK's Glasgow office, has been awarded a **1986 Miller Prize** by the Institution of Civil Engineers for his paper "**The design of the articulation system for a large expressway interchange in Hong Kong**". A certificate was presented to Alan at a meeting of the Glasgow and West of Scotland Association.

#### **Union Canal Aqueduct: IHT Paper Published [JP McCafferty; F Osborne]**

**Jim McCafferty's** paper on the **Union Canal aqueduct, Edinburgh**, was published in the October 1986 issue of **Highways and Transportation**, the IHT journal. The joint author was **Frank Osborne**, a former member of SWK staff. The estimated cost of the aqueduct over Edinburgh City Bypass is £0.5 million. The completion of this section of the bypass is expected next year, when Jim has promised 'Today' a story and pictures of the finished aqueduct.

#### **SWK Today 36-Oct 1987.....**

#### **A profile of SWK's Geotechnical Division [Bickerdike et al]**

The SWK Geotechnical Division, headed by **John Bickerdike** in Basingstoke, carries on the tradition of excellence established in the early days of soil mechanics by the late **Guthlac Wilson**. Scott & Wilson (Kirkpatrick came later) were the first consulting engineers in this country to set up their own soils

laboratory to assist their geotechnical studies and designs and the tradition in the firm has continued under the direction of men such as **Henry Grace, Geoffrey Williams** and **Phil Green**.

By its very nature geotechnics forms a part of almost every civil engineering project and the specialist geotechnical engineers are widespread. However the design efforts in the UK are largely concentrated on Basingstoke, Chesterfield and Glasgow offices. This article profiles some of the people involved.

### **Glasgow Geotechnics [Doubal; Bennett; Rodd; Poh; Blackie; Tubman; McCafferty; Glen Fruin; Garelochhead; NAR Coulpport; Canal Bridges; Rosyth]**

Glasgow houses yet another émigré from Basingstoke, **Roger Doubal**, who heads the Scottish geotechnical contingent. Among their projects are the 14.5km **Glen Fruin Hall Road and the Garelochhead and Northern Access Roads** which provide access to **Coulpport and Faslane**. These roads have provided many challenges for the team involved which included geologist **Mike Bennett**, senior technician **Peter Rodd** and engineer **Paul Poh**.

**Steven Blackie** has been supervising site investigations at a number of **bridges on the Forth and Clyde canal** where the plan is to raise the bridges and re-open the canal for navigation.

Among the other work being handled by Glasgow is **John Tubman's** analysis **of harbour retaining walls and locks at Rosyth Naval Dockyard**.

### **Minister Opens New A6 Chapel Bypass [Kemp; Colliver; McCafferty]**

[SWK Scotland designed several bridges on A6 Chapel for Matlock Office. **Jim McCafferty** PM]

Peter Bottomley, Minister for Roads, performed the opening ceremony for the **A6 Chapel-en-le-Frith and Whaley Bridge bypass** on 11th August. SWK's project director, **William Kemp**, presented the completion certificate to James Sheddon of Tarmac Construction Ltd., contractors for the bypass. Chief resident engineer for the scheme has been **Peter Colliver**.

7.3km in length, the dual carriageway will help to keep heavy traffic out of the busy shopping areas of the two towns, in particular the lorries carrying Peak District stone to Manchester.

The bypass route has taken it across a difficult terrain of glacial deposits overlying sandstones, shales and mudstone with a wide range of resulting geotechnical problems.

Footnote: **Jim McCafferty** was Project Manager for the Coulpport and Faslane Access Roads, the Glasgow Canal Project and the Rosyth Projects.

### **SWK Today 37-Feb 1988.....**

#### **Clyde Submarine Base Roads: Garelochhead & NAR completed [McCafferty; Blackwood]**

SWK (Scotland) have recently completed supervision of the construction of **the Garelochhead Bypass and Northern Access Road** (photographed). These roads together with the **Glen Fruin Road** form part of a 28km road network constructed to support the expansion of the **Clyde Submarine Base** and are intended to reduce traffic on the existing public road system.



The two roads form a new high class continuous link from CSB Faslane on Gareloch to RNAD Coulport on Loch Long. They consist of more than 11km of single carriageway, and are currently valued at £15 million.

Construction of the roads was along difficult, steeply sloping terrain through peat, glacial till and schistose rock. Care was taken at the design stage to ensure the roads merged into the environment to minimise visual impact on the picturesque landscape. The route crosses several streams and is carried over the West Highland Railway by single span bridges at two locations.

Footnote: Jim McCafferty was PM for Garelochhead and NAR and the bridges and structures on Glen Fruin; Hugh Blackwood was PM for Glen Fruin.

#### **Fife Regional Council: ENVPLAN and Gipsys**

Fife Regional Council has recently bought the ENVPLAN suite of transportation planning programs together with the GIPSYS automated draughting capability. Both Tony King and Dick Dapre have visited Glenrothes to give Fife Regional Council staff training in the use of ENVPLAN.

#### **SWK Today 38-May 1988.....**

#### **The Glasgow Canal Project [McGowan; McCafferty; Blackwood; Holmes; Frew; Hunter]**

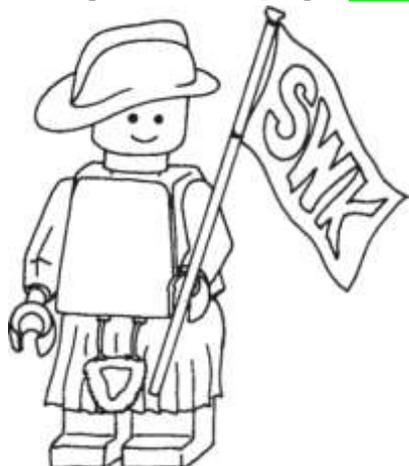
For the first time in 23 years, a boat navigated the Maryhill locks on 8th March 1988. Mr David Ingman, Chairman of the British Waterways Board, closed the new lock gate to open a new chapter in the life of the historic Glasgow canal. Bob McGowan, Jim McCafferty, Hugh Blackwood, Billy Holmes and Alan Frew were all at the ceremony.

SWK prepared the feasibility studies for the raising of six bridges and culverts which currently hinder navigation on the canal.

The canal was initially opened in 1790, principally to serve the coal and iron industries, and played an important role in the country's economy for many years. Nowadays, however, waterways offer tremendous advantages for leisure as well as significant opportunities for development.

When all the SWK proposals for structures, now at the planning application stage, have been implemented at a cost of £2.6 million, some 12 miles of the Glasgow canal will have been re-opened to navigation. [Jim McCafferty Project Director, Ronnie Hunter Project Manager].

### **A Bridge Too Small [Lego; Hamilton; Masterton; Dunbar]**



**David Hamilton**, **Iain Masterton** and **Peter Dunbar** were pipped at the post in the Scotbuild Exhibition's answer to Playschool in March this year. In two hours of frantic design-and-build activity, the team from SWK (Scotland) produced a working Lego model of the new swing bridge over the Clyde linking the Scottish Exhibition and Conference Centre with the Glasgow Garden Festival 1988.

The three engineers, who were the only non-architects competing, won second place and will now go on to the national finals in May. By then they hope that their fourth man, Jim Kirkpatrick, will be able to take time out from real work to compete in the gruelling contest.

### **Edinburgh Links: Trunk Roads South of Edinburgh**

SWK (Scotland) have been commissioned by the Scottish Development Department to assess the existing trunk road network south of Edinburgh, to evaluate alternative route options and to recommend a future strategy for links with the Borders and the south.

Origin and destination surveys took place in the second half of April. Two cordons were surveyed: one around the outskirts of Edinburgh and one along the Scotland-England border. This information will be supplemented by further interviews at four stations in the Borders. The final report will be submitted in December 1988.

### **Industrial Renovation: Hillington Industrial Estate**

SWK (Scotland) are involved in infrastructure and environmental improvements to Hillington Industrial Estate, on behalf of the Scottish Development Agency. This post-war estate, the largest of its kind in Scotland, is to be extensively refurbished to attract new developers. SWK are to carry out roadworks and service diversions to the value of £1.8 million.

### **Papers and Prizes [Frew; Tubman; Gibson]**

**Alan Frew**, who belongs to Glasgow, has done it again. In 1986 he was an ICE Miller Prize winner for a paper on a Hong Kong project and in March this year he won the Institution's AMG & S (Associate Members, Graduates and Students) local competition with his paper on vertical band drains. Flushed with success he now moves forward to the national competition.

Other successful young engineers from SWK (Scotland) are **John Tubman**, past winner of a Miller Prize and of an Institution of Structural Engineers prize, who became chartered in 1987, and **Susan Gibson** who passed PE1, the first stage of chartered status under the Chilver scheme. Susan has been with SWK since graduating six years ago, and has worked exclusively on Scottish projects

### **The Resident Engineer's View: [CL Greig Glen Fruin Haul Road]**

Late in 1986 I was distracted from my family history researches in the north east of Scotland by the prospect of supervising the construction of a new road from the Bonnie Banks of Loch Lomond for

some 15 km through Glen Fruin to the Gareloch. Recollecting my last sojourn in the locality 25 years previously, when I had spent some three years making holes in the hills two glens to the north, I was entranced by the prospect.

Appropriately, the proposed road's gestation period had occupied a mere nine months — a remarkable feat equalled only by its subsequent rate of growth to a length of some 15 km in its first year of life. SWK had in fact been commissioned by the Property Services Agency early in 1986 as lead consultants in a proposal to remove construction traffic from the Clyde coast resort of Helensburgh by providing an alternative route to Trident defence developments at Faslane and Coulport. After due consideration, a route was chosen through the historic and scenic glen where in 1603 the McGregors joined in battle with the Colquhouns. History records that the English spectated from the adjacent hillsides. The event was commemorated thereafter in the name Glen Fruin, *Glen of Sorrow*.

The sensitivity of the site thus dictated that particular emphasis be placed upon the avoidance of sites of historic or natural interest and, of course, the minimisation of environmental blight. Furthermore, the entire road was designed to be reinstated to original contours after five years of operation.

Early in January 1987, the Glasgow area recorded its heaviest snowfall for many years and Balfour Beatty arrived on site to commence, with their usual dash, a daunting *one season's* earthworks task. Some muddying of the waters caused a slight hiatus in early April. More particularly, silt produced from working the glacial tills and schists caused considerable nuisance to the salmon fishermen downstream on the Bonnie Banks. An interim interdict (an injunction in English legalese) was imposed by the good Sheriff of Dumbarton which resulted in a brief suspension of work.

Overall, some 650,000 cubic metres of material have been moved in the construction of the 7 metre wide single carriageway which required three significant bridges, one underpass and around 75 culverts on the steep sidelong ground. All pavement materials were quarried and processed on site, including Type 1 sub-base, wet-mix macadam and dense bitumen macadam surfacing. 300,000 cubic metres of rock were quarried and the resulting excavation was filled with unsuitable material from the line of the road. Almost 200,000 cubic metres of peat and topsoil were stored in temporary landscape bunds alongside the road for future reinstatement. Over a kilometre of dry stone walls were erected to reduce visual impact during operation and beyond. The road was designed for a speed of 65kph.

During the design period, expeditions were mounted to the extremities of the Glen where, nestling in a woodland glade by Loch Lomond, a Neolithic cup-and-ring marked stone was found. Considering the 6,000 year history of such artistry compared with the projected five year life of the approaching road, the decision to make a few metres detour and leave intact this prehistoric relic was easily made.

Apart from preserving such antiquities, relations with the extant descendants of the aforementioned artists have been enhanced by numerous accommodations, not the least of which was the preservation from the contractor's ravages of an Edwardian rosebush of sentimental value to the present occupiers of the land.

The views from the road over Loch Lomond and the West Coast are magnificent. It is such a pity that it will not be open to the public as a scenic route. Access control has been established at either end; however, in all other respects the road resembles a typical rural highway. Signs have been erected to define points of interest and snow poles for those with little faith in St. Christopher.

As a result of valiant efforts by all concerned, the works were completed in under a year, just before Christmas 1987. Vehicles now dash past my depleted offices on their errands to and from Faslane and Coulport in an endeavour to create a credible defence of the realm. **Colin L. Greig**: CRE

**SWK Today 39-Jan 1989**.....

**Geoffrey Williams: Obituary [Grace]**

Mr **Henry Grace** gave the address at the recent Thanksgiving Service for the life of **Geoffrey Williams** who died in October.

Knowing Geoffrey for over 40 years I am sure that he would wish us to remember the many happy times we have spent together and the many contributions he has made to his firm and to the profession of Civil Engineering.

Geoffrey devoted the whole of his working life to his firm and his profession. Before becoming a partner, in 1966, Geoffrey played an important role in the design, supervision of construction and management of many outstanding projects including the Royal Festival Hall, The Shell Centre on the South Bank, the British European Airways Maintenance Bases at London Airport, the Commercial Union and other important buildings in the City of London. He spent a year in Hong Kong in the 1950's and made a valuable contribution in developing the Kai Tak Airport.

As Senior Partner he continued his work on many major projects and was much sought after as an expert witness and at the Aberfan Enquiry his evidence played a vital part in obtaining compensation for the many victims and their parents.

He became an active and leading member of his profession becoming Vice President of the Fellowship of Engineering, a Member of the Engineering Council, a Member of Council of the Institution of Civil Engineers, Chairman of the Association of Consulting Engineers and Vice President of the faculty of Building. He was a Member of the Court of the Company of Constructors and gave much support to this new Livery Company because it brought together leading people of all disciplines. He was proud to be a founder Member of the Company of Engineers.

He was also a family man who had a great zest for life, a keen photographer who loved skiing and the outdoor life, much loved by his wife and daughter. He was a husband and a father whom Margaret, Jane, Priscilla and Elizabeth Ann will always remember with pride and we, his friends and colleagues, will remember him as a brilliant engineer dedicated to the contributions that engineering can make to society.

**Conservation Awards: Smoo Cave; Hermiston Aqueduct [Grant; McCafferty]**

**Smoo Cave** won an award from the Royal Institute of Chartered Surveyors in Scotland/The Times" Conservation Awards 1988. Highland Regional Council appointed SWK project manager including supervision of the Royal Engineers and procurement. SWK designed the walkway for access car parking and services. [**H Grant** PM]

**Hermiston Aqueduct** was awarded one of several commendations given to the Sighthill Bypass System by the Association for Protection of Rural Scotland. The judges commented "the thoughtful and attractive way in which they had been handled was of great merit and a credit to all concerned in their design and construction". They were particularly impressed with the fact that the vertical alignment of the bypass was radically altered by Lothian Regional Council, from the originally proposed position crossing the canal at minimum headroom, to a new position at a low level beneath the canal which was then carried over the Bypass on the Aqueduct. SWK, on behalf of British Waterways carried out the study which led to this change. [**Jim McCafferty**, Project Director].

**SWK Today 40-May 1989**.....

**Channel Tunnel Rail Link [Blackwood]**

British Rail has appointed Scott Wilson Kirkpatrick as one of the engineering design teams of the **Channel Tunnel Rail Link**. The route was announced by BR on 9th March 1989 and the design teams

are now in the process of producing the necessary plans for the deposition of a Parliamentary Bill in November this year. **Hugh Blackwood** is Project Director and Peter Guthrie is Project Manager.

#### **Glasgow Canal Project [Toal; Moore; McCafferty; Hunter]**

The first bridge replacement contract in the Glasgow Canal project is now well underway. The project currently comprises replacement of four bridges over the Forth & Clyde Canal to allow the reintroduction of navigation, essentially for leisure purposes. The canal was closed in the early 1960s but its leisure potential has been identified by British Waterways and the local councils who together with the EEC and the Scottish Development Agency are jointly funding the project. It is hoped that construction at another three bridges will have started by the summer. Feasibility studies at a further two locations have been completed.

**John Toal** is the resident engineer based at Canal House, Glasgow, and **Alan Moore** is the inspector of works. The contractor is Balfour Beatty. [**Jim McCafferty** PD, **Ronnie Hunter** PM]

#### **Routes South of Edinburgh [Holmes; Bissland; Gibson; McGowan; Hunter]**

In February 1988 SWK Scotland started work on phase two of the study of a strategy for routes south of Edinburgh for the Scottish Development Department. Phase one was essentially a desk top study whereas phase two comprised data collection and analysis, traffic modelling, highway planning and route evaluation. The object of the study was to recommend a future strategy for the trunk road network between Edinburgh and the South and between Edinburgh and Borders Region.

Twenty-two origin-destination stations were surveyed in April 1988 within a period of two weeks using some 60 temporary staff. These stations were widely spread ranging from West Lothian, the outskirts of Edinburgh, to the national border and involved a considerable amount of travelling for SWK staff. Subsequent traffic modelling work was fairly complex and involved incorporating the survey results and five other regional council models. Traffic models were developed using both SWK's ENVPLAN suite and SDD's NESA program.

The existing trunk road network in the study area was assessed on traffic, environmental and operational grounds. Computer techniques were used, particularly where data on road geometry and accidents were held by SDD in a suitable format. Highway planning proposals were developed for various improvement options covering a network some 370 km in length. These options were again assessed on traffic, environmental and operational grounds and various alternative strategies were proposed. The work was carried out by **Bill Holmes**, **Russell Bissland** and **Susan Gibson** who, together with **Bob McGowan** and **Ronnie Hunter**, presented the findings to the Chief Road Engineer in February this year. The report has now been submitted to the Secretary of State and his reactions are awaited.

Public interest in the project is intense. The study has been discussed in several parliamentary questions and there has been 'lobbying' by several district councils. The Sunday Times suggested that SWK would call for 'an urgent upgrading of Edinburgh's poor road links to the south', which interested **Ronnie Hunter** as he hadn't written the conclusions at that stage. Also before SWK's report, an alternative report on the subject was submitted to the Secretary of State by the Association for the Protection of Rural Scotland who thought SWK's report was taking too long!

**SWK Today 41-Sept 1989**.....

**Don Bridge, Kintore, Aberdeenshire [McCafferty; Osborne]**

The 46m span bridge, opened in 1987, has been submitted for a Structural Steel Design Award.



[Jim McCafferty Project Director, Frank Osborne Project Manager]

SWK (Scotland) have a great variety of projects in hand at present, according to Ronnie Hunter in Glasgow who wrote to **Today** at the end of June, with an update in August.

**Invisible Building for IBM**

To test whether computers receive or emit radio signals, IBM require a building which is "invisible" to airwaves and have engaged SWK to advise on a contractor's design for a plastic superstructure separated from services below ground by an aluminium screen. The firm now has a 7-year commission to monitor the project.

**RAF Machrihanish; RAF Kinloss; Water Conservation for MoD [McCafferty; Napier]**

For the RAF there are two current jobs under [Project Director Jim McCafferty and] Project Manager Alastair Napier. SWK were appointed by PSA a year ago for a feasibility study of water supplies and drainage at the airbase at the southern end of the Kintyre peninsula. This is **RAF Machrihanish** which has one of the longest runways in Europe and is being redeveloped to assume a more important NATO role. The final report, with some input from water section in Basingstoke, was submitted in May and recommended an upgrading programme estimated to cost £2.5 million. At **RAF Kinloss**, following a feasibility study of three married quarters' estates last year, SWK were appointed this March as consultants for the modernisation of the largest estate. Construction at a cost of £5.2 million starts in October.

Another job for PSA, which started in July, is a **study of water conservation at five Ministry of Defence sites in Scotland**. All aspects of water reticulation are being studied with a view to improving the economic effectiveness of the system by minimising usage and wastage through better management.

**Traffic Studies for Developers**

SWK have been studying the traffic implications for two waterfront property developments in Glasgow at Broomielaw (£200 million) and Queen's Dock (£85 million) for Shearwater Property Holdings plc. Similar traffic jobs have been done for the CWS at retailing centres in Glasgow and Dunfermline.

### **A9 Helmsdale; Replacement Bridges; Skye School; Day Centre Invergordon [Grant]**

SWK were appointed in 1978 to investigate the feasibility of realigning 5 km of the A9 trunk road north of Helmsdale on the boundary between Sutherland and Caithness. Following a recent updating report to the Scottish Development Department, the £9 million scheme has been accepted and must be ready for tender by December 1990, with publication of draft road orders now imminent. A proposed three-span, 60-metre high bridge over the Ord Gorge required the use of helicopters during the site investigation. **Hamish Grant** is regional manager of this project amongst other jobs in the Highlands including replacement of two small bridges and a new primary school on the Isle of Skye, environmental improvement of the harbour at Helmsdale and a day care centre for the handicapped at Invergordon where construction started in April.

### **East Kilbride Northern Distributor Road and Kittoch Water Bridge [McCafferty; Baker]**

Three years ago East Kilbride Development Corporation engaged SWK for a feasibility study of three different methods for carrying the town's northern distributor road over Kittoch Water. The firm's solution is a 5-span composite steel/concrete viaduct, 120 metres long. Construction at a cost of £80,000 took just over a year and was completed last month. [PD **Jim McCafferty**; PM **Alan Baker**]

### **IBM's Invisible Building**



### **Ord Bridge Site investigation, Caithness**



*Site investigation in difficult terrain : the Ord bridge site on the A9 trunk road realignment*

**SWK Today 42-Feb 1990.....**

**Rail Link to Europe: Channel Tunnel Rail Link [Blackwood et al]**

The Channel Tunnel Rail Link has a brighter future than before and SWK have a continuing role to play.

Months of intense effort, including a strenuous programme of public consultation, culminated in mid-October with the completion of a draft Channel Tunnel Rail Link Bill. In November, British Rail decided to defer bill deposition for a year, using the time to forge links with the private sector and to undertake more detailed project planning.



*The CTRL management team (from left to right) Martin Nielsen, Geoff French, Hugh Blackwood and Peter Guthrie.*

SWK were originally retained to undertake the engineering design for the 1989 Parliamentary Bill. This role has now been expanded and, in early 1990, the detail of the published alignment will be reviewed and analysed. By early March work will begin on preparation of the complex parliamentary plans, schedules and inventories for the November 1990 deadline.

The SWK team is similar to the one for 1989 when up to 100 staff were involved at times, under the direction of **Hugh Blackwood** and with support from **Geoff French** in Basingstoke. **Peter Guthrie** continues as project manager and **Martin Nielsen** as team leader. Under a new facet of the work, SWK will be responsible for the environmental aspects of the route and their integration into the design of the scheme as a whole. This environmental engineering fits well with SWK's recent initiatives in promoting a full range of quality assured services to clients. Whilst much of the work will be in-house, it will be necessary to retain sub-consultants for such specialist areas as archaeology, historic and cultural heritage, noise, agricultural issues and visual and landscape impacts.

1990 will be a busy year on the CTRL project and the excellent co-operation between offices which helped in making extraordinary deadlines achievable in 1989 will no doubt be called in to play again this year.

#### **1992 and all that! SWK in Europe [McCafferty]**

The DTI's campaign to raise awareness of the opportunities and threats posed by the completion of the European Internal Market in 1992 has been underway for more than a year now.

**Jim McCafferty**, Partner responsible for SWK's European activity, suggests that the biggest growth area in the service sector this year must be the '1992 Industry' which has been organising seminars, conferences and teach-ins and bombarding everyone with magazines, market research and news articles all about 1992. By the end of 1992, free movement and availability of people, capital, goods and services throughout the EC will be established.

The changes have already begun. For consulting engineers, it had been anticipated that there would be a Directive of Engineers which would define the minimum levels of education and training required for engineers practising throughout the EC. However this has been abandoned in favour of mutual recognition of diplomas, degrees and professional qualifications. Those who practise in Greece, Germany, etc will be permitted to practise here and we will be permitted to practise there!



*European Investment Bank, Luxembourg*

#### Travaux sans frontieres

The Directive on Public Procurement of Services, about to be published, could have a profound effect on the appointment of consultants throughout the Community. Governments will be required to advertise projects throughout the EC and justify their selection of consultants. Firms who are willing and able will become involved in cross-border projects.

The firm has a great deal of experience in overseas markets, not only in areas of traditional British influence, but also, in recent years, in Francophone and Lusophone Africa. We are building on this experience and are becoming involved in joint ventures with European firms. We hope that this collaboration will lead to joint ventures within other EC states.

SWK have, in the last 10-15 years, been involved in several major projects in other European countries including the European Investment Bank, Luxembourg, hotels and factories in Poland and housing development in France. Moreover, for some time Sir Peter Innes was responsible for an SWK office in Munich when he was involved in airports and bridge projects in Germany and overseas.

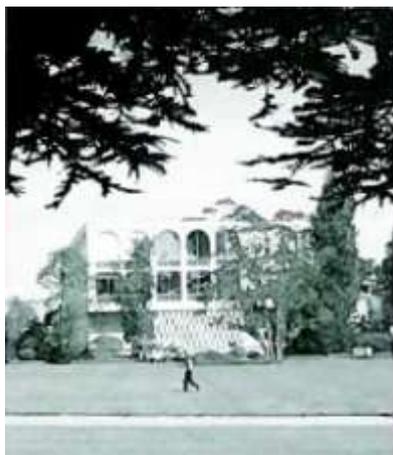
The recent exciting and quite unexpected political changes in eastern Europe have added a completely new dimension and have raised the possibility of involvement there, perhaps even within an expanded European Community.

#### **Our current European activity includes:-**

- a study of toll roads on the continent
- collaboration with a French consortium in a proposed toll road in the UK
- association with Portuguese consultants in Africa and Spanish consultants in Africa and Asia
- liaison with EC HQ in Brussels and with various firms in Paris for Francophone promotions
- investigation of opportunities in Lisbon and Porto
- Eurocodes: Peter Rutter is chairman of the BSI committee on EC3 (steel) and EC4 (composite construction) while David Smith is providing technical input to EC8 (seismic).

#### **Royal Botanic Gardens, Edinburgh [Napier; McCafferty]**

We have recently been appointed as structural engineers for the Royal Botanic Gardens in Edinburgh, advises project manager **Alistair Napier**. The project is to extend the existing 4-storey herbarium and library building (opened in 1964) to allow relocation of the existing library and office facilities in a new 3-storey extension whilst modifying the existing building to increase the herbarium area. The 18 month construction programme is due to commence in June 1990. Architect for the project is PSA. [**Jim McCafferty** PD]



### **Glasgow Airport: Supervision of Infrastructure [Bryson; O'Hara; Mackay et al]**

SWK seconded staff to the British Airports Authority in October 1988 for the site supervision of the infrastructure contracts in the current major development of Glasgow Airport.

The secondment has averaged four people continuously on site since the start. Those involved have included: **Tom Bryson** and **Kenny O'Hara** as resident engineers, **Alex Morrison** and **Tom Heaney** as inspectors, **Rose Fleming** as secretary and **Neil Mackay** (brought out of semi-retirement) as senior resident engineer. Jim Black of the airport's staff is assistant resident engineer.

This first year saw the completion of two main contracts - one was the alteration of access roads and public car parks, with some extraordinary problems resulting from the size and number of existing services; and the other was the construction of a new staff car park, finished expeditiously in 16 weeks. About to be finalised are contracts for the overlaying with concrete paving blocks of much of the apron, and for electrical work related to the overlay. Three further contracts will extend the firm's commitment until the end of this year.



*Glasgow's busy airport*

### **M74 Dinwoodie Green-Ecclefechan [McGowan; Blackwood; Hunter; Hindshaw; Baker; Doubal; Murray]**

The firm has recently commenced work on one of its largest projects in Scotland with an appointment in October by the Scottish Development Department for the design of a section of the M74 Motorway.

Completion to motorway standard of the 101-km link between the southern end of the existing M74 at Millbank and the northern end of the M6 at Carlisle has high priority in the Scottish road building programme. The current job being undertaken by SWK is for a 16-km section between **Dinwoodie Green and Ecclefechan**; the town of Lockerbie lies midway along this section.

We are working to a very tight programme on this project. The first milestone was a report to the client before Christmas with an assessment of the route recommended in the feasibility study and identification of possible alternative routes for more detailed examination. Development of these options will follow on immediately in order to choose a preferred route. The target is to publish road orders for the adopted route this spring. Thereafter the emphasis will be on detailed design with a view to calling tenders early in 1991. The estimated cost of the project is £45 million and it is envisaged that construction will be carried out in two contracts.

The project director is **Bob McGowan**, with **Hugh Blackwood**, as project manager, conducting the quintet of **Ronnie Hunter** on traffic, **Simon Hindshaw** on roads, **Alan Baker** on structures, **Roger Doubal** on geotechnics and **Bill Murray** on project administration.

#### SWK Today 43-Aug 1990.....

##### **Minister Opens Glasgow Canal Bridge at Firhill [McCafferty; Hunter]**

On 14th May 1990 Lord James Douglas-Hamilton, Scottish Minister for Home Affairs, Local Government and Environment, officially opened the Nolly Brig over the Forth & Clyde Canal at **Firhill, Glasgow**. The opening ceremony marks the change of fortune of the Scottish Lowland canals which are now entering a period of progressive restoration and also marks the start of the bi-centenary celebrations of the Forth & Clyde Canal. The Nolly Brig, built by Balfour Beatty, is the first of four road bridges, all designed by SWK (Scotland), to be completed as part of the Glasgow Canal Project.

**The Glasgow Canal Project**, a £3.2 million initiative to re-open to navigation and develop an 11-mile stretch on the Forth & Clyde Canal through Glasgow, was launched in March 1988. It is estimated that 110 temporary full-time jobs will be created during the period of the project and a further 145 permanent full-time jobs will be created in leisure and tourism when it is complete.

The project is the responsibility of British Waterways and is administered through their Glasgow office. It was developed by the consortium of British Waterways, Scottish Development Agency, Strathclyde Regional Council, Glasgow District Council and Strathkelvin District Council. Together these organisations provided £2 million funding. In addition, EEC funding of £1.2 million was received.

It is hoped that several restaurant boats, trip boats and day hire boats will operate permanently on the restored section and that local people will use the canal increasingly for recreation and educational purposes. [Project Director **Jim McCafferty**, Project Manager **Ronnie Hunter**].



*Lord James Douglas Hamilton (left)  
talking with Jim McCafferty*

### Scottish Roads [Routes S of Edinburgh; Fastlink; M8 St James; M74 Beattock-Dinwoodie-Ecclefechan; McCafferty; Hunter; Hackney; Hendy; Blackwood; Warburton]

On 26th April four of SWK Scotland's road projects were covered in *New Civil Engineer*

Following public consultation on SWK's **Routes South of Edinburgh** report (described by Lord James Douglas-Hamilton as "the most comprehensive trunk road traffic study undertaken in Scotland to date") the government announced plans for a £140m package of road improvements. The Scottish Office also intends to proceed with a £100m privately financed "Fastlink" between the M74 south of Lanark and the M8 motorway. Further studies on the A1 and A7 are also to be commissioned.

SWK in association with Balfour Beatty have been successful in the first stage of the design/construct competition for the £34m **St James' Interchange on the M8 near Glasgow Airport** (see photograph). The existing interchange, which is grade separated, is approaching the limit of its capacity and operates with traffic signals at peak hours. The new proposal incorporates directional ramps, mainly, in an area which has very poor subsoil conditions. The last stage of the competition has been restricted to three consortia and tenders will be submitted in November 1990. SWK project director is **Jim McCafferty**, assisted by **Ronnie Hunter** as project manager, **Mike Hackney** responsible for structures and **Mike Hendy** for geotechnics.

Our success on the **Dinwoodie Green to Ecclefechan section of the M74 motorway** was described in *SWK Today No42*. Road orders for that section have now been published and work on final design has started. We have since been awarded a further 16km section from **Beattock to Dinwoodie Green** giving a total length of 32km in a 90km scheme. Road orders for SWK's latest section are not due for publication until December this year. Project manager is **Hugh Blackwood** assisted by **John Warburton**. [**Jim McCafferty** was Director for bridges and structures on these projects].



*St James interchange - congestion*

### PSA Term Commission for Edinburgh [Napier; McCafferty]

SWK have been awarded a 3-year consultancy term commission for the Property Services Agency, Scotland. Work is expected to include a broad range of civil and structural engineering projects for the PSA's civil and defence clients throughout Scotland. Initial projects have confirmed the anticipated range of involvement and included water supply schemes in the Shetland Islands, building refurbishment in Oban and roads and sewage treatment projects at the Faslane Submarine Base. Project manager is **Alastair Napier** at SWK's Edinburgh office. [**Jim McCafferty**, PD].

### Traffic Topics [Motherwell-Wishaw; Dalkeith N Bypass; Bissland; Riach; Briggs]

SWK have recently been appointed by Strathclyde Region's Department of Roads to carry out the data collection for the **Bellshill - Motherwell - Wishaw traffic study**. The study comprises 36 origin destination sites in a congested urban area to the east of Glasgow (see photograph) and is valued at just over £100,000. Fieldwork was completed in May and data processing will be finished this month. **Russell Bissland** organised the fieldwork supervised by **David Riach**. This is SWK's first traffic commission with SRC since 1980. The area is familiar as the firm carried out the original transportation study in the Sixties and O-D surveys in Wishaw in 1973.

Meanwhile **Susan Briggs** is completing traffic impact analyses for various quarry developments for Tarmac and Russell, and economic assessment work for the **Dalkeith Northern Bypass** on behalf of SDD.

**Falkland Island Roads in the South Atlantic [Doubal et al]**



*Camp country in the Falklands*

In January SWK were invited by the Falkland Island Government to visit the islands and discuss the firm's proposal for the design and construction of 400km of rural roads. Gil Thomas and Ed Farrand flew to Stanley and were shown some of the existing tracks on East and West Falkland and the recently constructed roads around Stanley. The visit culminated in our appointment for the project, following a discussion with the Transport and Camp Roads Construction Committee (Camp is the countryside outside the capital, Stanley, from the Spanish el campo).

The project is to carry out design studies for 200km of low-cost roads, advise on and implement appropriate procurement for construction of the first 60km and give recommendations for a further 200km of track. This network will give all-weather access to the scattered settlements on the two main islands which are to be linked by a proposed ferry.

The total population is small (2000) and the camp settlements have been declining with the sale of the large sheep farms to form smaller units. These are serviced by a light aircraft according to demand and an infrequent coastal shipping service, both of which are subsidised. Access is possible by four-wheel drive vehicles on poor tracks across the peaty ground with a risk of being bogged (soft peat), hung-up (deep ruts) or swamped (watercourses). During the field data collection Ed Farrand was joined by Roger Doubal for geotechnical assessment and Uniscott, who carried out the field survey for air photo ground control of the first section. The SWK team is completed by David Williams and Richard Fowke, with Lindsay Thomas, assisting on procurement.

**SWK Today 44-Dec 1990.....**

**HM Naval Base Rosyth: Water Distribution [Napier; McCafferty]**

SWK were appointed in August by PSA to undertake a study of the water distribution system at HM Naval Base Rosyth, reports PM Alistair Napier. The main element of the study is the development of a mathematical model to simulate water supply to planned, and existing, key facilities at the base so that the system can be investigated. The model is to be proved by field test measurements and subsequently handed over to the client, who will be trained in its use. Project management and fieldwork aspects are being undertaken by SWK Edinburgh office, with technical support and the modelling expertise being provided by Basingstoke Water Division. The project is due for completion in December 1990. [PD Jim McCafferty]

**Skye Bridge Traffic: The Road to the Isles [French; Hunter; Bissland]**

The Firm recently completed an audit of traffic forecasts for the proposed Skye Bridge. Client, Morrison Construction, is one of three groups preparing a bid to design, build and operate the toll crossing which will replace the existing ferry service between Kyle of Lochalsh and Kyleakin. Geoff French, Ronnie Hunter and Russell Bissland were involved in the project which unfortunately did not include a site visit!

**SWK Today 45-Sept 1991.....**

Eastern Europe [McCafferty; Borostyankoi; Bencze; Slansky; Iparterv; Dopravni Stavby]



*Matyas Borostyankoi of IPARTERV in discussion with Jim McCafferty*

Following the recent political changes in Eastern Europe Scott Wilson Kirkpatrick have agreed to work with the Hungarian firm IPARTERV Consulting Architects and Engineers. Following a visit to London and Glasgow by their chief executive, **Matyas Borostyankoi**, **Jim McCafferty**, Partner in the Glasgow Office, travelled to Budapest last November to discuss the possibility of joint ventures and establishing close relations. Following his visit **Jim McCafferty** said "While there are opportunities for UK expertise it is clear that the provision of project finance will have an important role".

As part of our co-operation with IPARTERV, **Zoltan Bencze** was seconded to Scott Wilson Kirkpatrick to work on structural design in the London office. Meanwhile at the same time Glasgow office welcomed **Bob Slansky** from Czechoslovakia who was seconded to the Firm from Dopravni Stavby Olomouc to extend his experience on major bridges.



*Zoltan Bencze pictured on the IPARTERV stand at the recent Hungarian Exhibition in London*



*Bob Slansky with Jim McCafferty on the Forth Road Bridge*

### **Multi Million £ D/B Contract for M8 St James Interchange [McCafferty; Hunter; Hackney]**

A £27.5 million design/construct contract has been awarded by Strathclyde Regional Council to a consortium of Balfour Beatty Construction (Scotland) Ltd and Scott Wilson Kirkpatrick for the upgrading of the **St James Interchange** - junction 29 on the M8 motorway just west of Glasgow Airport. [Project Director **Jim McCafferty**, Project Manager **Ronnie Hunter**, Bridges **Mike Hackney**].

The total project, costing £36 million, is being jointly funded by Strathclyde Regional Council and The Scottish Office with the regional council acting as agent. A start is programmed for September of this year with completion within two years. With the exception of crossings over water, the scheme is the first major road project in Scotland to be carried out on a fixed price design and construct basis and is the largest of its kind in the United Kingdom.

Councillor Malcolm Waugh, Chairman of the region's Highways and Transportation Committee, said: "This is one of the most important projects in Strathclyde's capital programme. The upgrading of the St James Interchange is vital to promote the economic development of the area and to ensure a high standard of access to Glasgow Airport."

The consortia competing for the work had to submit their proposals to the Royal Fine Art Commission for Scotland whose recommendations were then taken into account. Strathclyde's Director of Roads, Donald Carruthers, said: "This is an exciting project - the largest design and construct contract in the UK. As such it will be regarded with great interest by the whole construction industry."

### **A1 Cross Border Traffic Study [Bissland]**

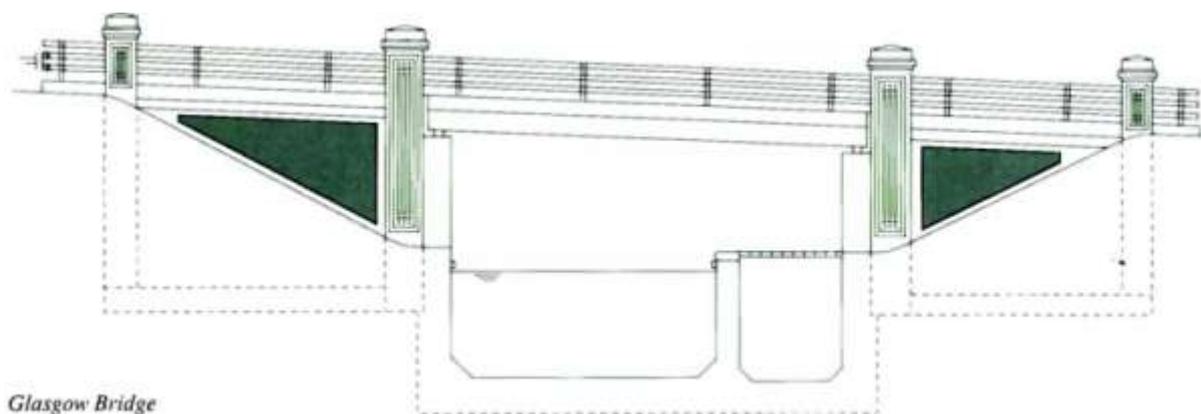
Scott Wilson Kirkpatrick earlier this year completed a review of cross border traffic patterns together with an analysis of the A1 between Edinburgh and Newcastle utilising data obtained from the Routes South of Edinburgh Study. **Russell Bissland** completed the report in February for issue to the A1 Steering Group. The Steering Group comprises representatives of the Scottish Office, DTp, Northumberland CC, Borders and Lothian Regional Councils. A copy of the report has been placed in the House of Commons Library.

### **Glasgow Canal Project [Ruchill, Firhill, Glasgow Bridges; McGowan; McCafferty; Hunter]**

With the **completion of Ruchill Bridge on 5 March 1991**, craft were able to navigate the Glasgow Branch of the Forth and Clyde Canal for the first time since closure of the commercial waterway 28 years ago. The **opening of Firhill Bridge** was reported in Scott Wilson Kirkpatrick Today No 43 and was followed by the **opening of The Glasgow Bridge in July 1990**.

At the **Glasgow Bridge** opening ceremony Partner **Bob McGowan** was presented with an engraved bowl by the District Council in recognition of our efforts. An interesting feature of the plaque unveiled at the opening was the incorporation of the firm's name. Certainly this was unique for a Scottish Project and perhaps in the UK?

The unusual architectural features which were developed by **Jim McCafferty** [PD] are common to all the structures and have been well received. The features are a simple modern interpretation of what has become known as the 'Glasgow Style', itself a variation of the Art Nouveau. The structures have been shortlisted for the Concrete Society Award 1991. [**Ronnie Hunter** PM].



## Scottish Waters

### Port William, Dumfries [Blackwood; Napier]

Hugh Blackwood and Alistair Napier recently journeyed to the small village of Port William in Dumfries and Galloway to present the findings of a study of the local harbour which dates back to the late 18th Century. The site was close to Partner Ken Innes' holiday retreat which permitted a site visit last autumn!

During the Study, a search for historical records uncovered an 1853 Engineer's Report by David and Thomas Stevenson for expansion of the harbour. The plans anticipated the need to accommodate steam boats which were replacing the sailing ships of the time. Students of engineering history will recall that the Stevenson brothers were renowned for their harbour and sewer engineering and were responsible for the design of over 30 lighthouses. Those who prefer other literature may find it of more interest that Thomas Stevenson was the father of Robert Louis Stevenson.

The harbour has a much less grand role these days, providing shelter for a number of fishing boats and leisure craft but remains the focal point of the village. Scott Wilson Kirkpatrick were called in to investigate the structural deterioration of the jetty and damage to the breakwater.

### Faulds Farm Infrastructure [Webster]

Meanwhile on the Firth of Clyde the infrastructure at the Faulds Farm site is nearing completion. The site is being marketed by Scottish Enterprise as a single-user high-tech site. Project Manager David Webster considers that the site offers stunning views over the Firth.

### Gourock Marina Planning [Hunter; Holmes; Briggs]

Coincidentally, Ronnie Hunter, Bill Holmes and Susan Briggs are assisting architects, Holford Associates, with a complex planning application for a major marina development on the Firth of Clyde at Gourock. The complex includes a 250 berth deep water marina, 280 houses, a 100 bed hotel and associated commercial and leisure facilities. Scott Wilson Kirkpatrick are advising on all infrastructure matters and it is hoped that planning approval can be obtained to allow the land reclamation to be complete for the Yacht Grand Prix as the area adjacent to the site is proposed for the Race Headquarters and the additional shore side area would be of use for car parking, hospitality suites and tented village.



Faulds Farm Site

**New Partner: D J Monteith**

**David J Monteith** of the Basildon Office was taken into the Partnership on 1st May 1991. David joined Scott Wilson Kirkpatrick (Scotland) in 1973 after graduating from the University of Glasgow. He was involved in the design of the Urban Motorway system in **Glasgow** before going overseas to the Sultanate of Oman where from 1975 to 76 he worked on the Naval Base and Army Headquarters. On his return to UK he worked in the London office on the design of high rise buildings and immersed tube tunnels. In 1989 he transferred to Basildon to assist in all aspects of running the Basildon office with a special involvement to business development.

**New Associates: R J Doubal Scottish Partnership**

**Awards [Quinn]**

Edinburgh Office technician **Michael Quinn** was awarded the Napier Polytechnic Medal and the Blyth and Blyth Prize when he finished top in his year and successfully completed his HNC course at Napier Polytechnic, Edinburgh.

**SWK Today 46-April 1992.....**

**David J Monteith: Obituary**

It was with great sadness that we learned of the death of David Monteith who died on 15 December 1991 after a long illness.

David joined Scott Wilson Kirkpatrick (Scotland) in 1973 after graduating from the University of Glasgow. He was involved in the design of the Urban Motorway system in Glasgow before going overseas to the Sultanate of Oman where from 1975 to 1976 he worked on the Naval Base and Army Headquarters. On his return to UK he worked in the London office on the design of high rise buildings and immersed tube tunnels. In 1989 he transferred to Basildon. On 1st May 1991, David became a Partner of the Firm.

**Expansion of Scottish Office in Glasgow [5 Park Circus acquired; McCafferty]**

To facilitate continuing growth and expansion of business, the Firm has acquired No 5 Park Circus adjoining Scottish Head Office at No 6 Park Circus, Glasgow. Having considered various options for the provision of additional office space, the Partners resolved to consolidate the firms position in this most elegant and dignified part of Glasgow that has been its home for the past thirty years.

Designed by Architect Charles Wilson in 1855 and built in 1857-58 atop Woodlands Hill, these were the town houses of the captains of industry and professionals from where they could survey, over Kelvingrove Park and the slated roofs of the city, that hive of industry, shipbuilding and commerce that then ensured Glasgow's place as "Second City" of the Empire.

No 5 is now undergoing extensive and sensitive refurbishment under the direction of Partner **Jim McCafferty** and the watchful eye of the Planning Authorities (for these are classified as Grade A listed buildings of National Architectural importance). When completed, No 5 will be interconnected with No 6 to provide modern accommodation suitable for the Firms growing needs into the 21st century.

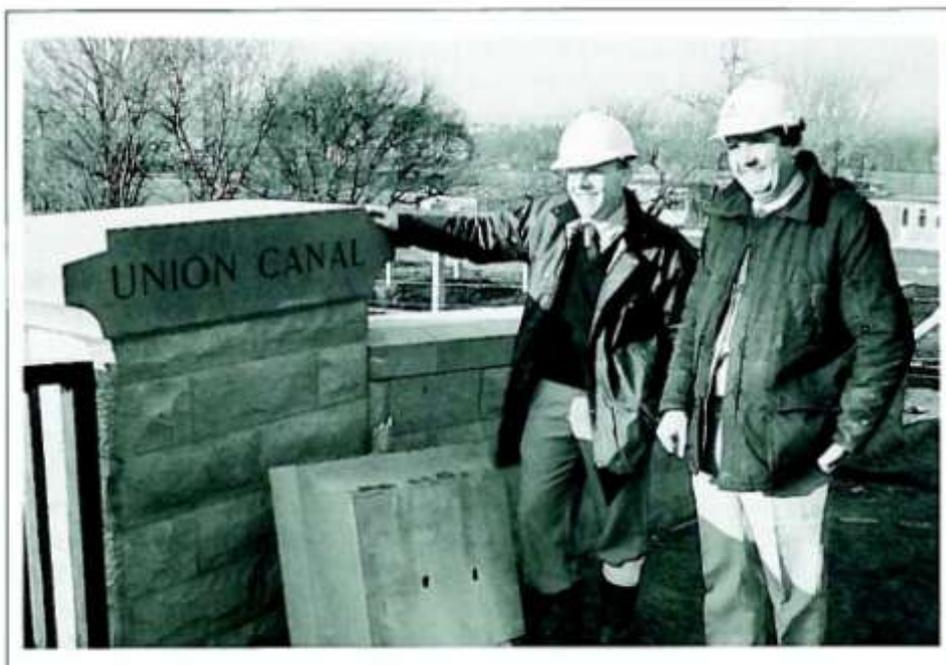


**Gogar Roundabout and Defence PM Commissions** [**McCafferty; Hunter; Napier**]

Gogar Roundabout on the outskirts of Edinburgh, a design/construct contract with Balfour Beatty; [**Jim McCafferty** PD; **Ronnie Hunter** PM]

Two term commissions to provide project management and design services to Defence Works Services. [**Jim McCafferty** PD; **Alistair Napier** PM]

**Union Canal: Preston Road Bridge, Linlithgow** [**O'Hara; Murray; McCafferty; Hunter**]



*Resident Engineer Kenny O'Hara and Site Agent Gordon Murray*

Scott Wilson Kirkpatrick's involvement in Scotland's Lowland Canals including the **Forth and Clyde Canal Project and the Union Canal Aqueduct** has been reported in previous issues. The latest project to reach completion is **Preston Road Bridge on the Union Canal at Linlithgow**, Lothian Region.

Unlike the Forth and Clyde Canal, the Union Canal is a 'narrow boat' canal like many of its English counterparts. Following the canal's closure to navigation the roads authority demolished the original bridge and substituted a pipe culvert which tends to encourage unsightly weed growth during summer months. British Waterways together with Regional and District Councils and the EEC have joined together to fund reopening the canal to navigation for leisure purposes and carry out a series of environmental improvements.

Scott Wilson Kirkpatrick was commissioned to design a new bridge at Preston Road and submitted a feasibility study to British Waterways in 1990. The Union Canal is designated as a Historic Monument and detailed discussion took place with the local and national planning authorities. Existing bridges on the Union Canal have a coherent style and are masonry arches. The Firm proposed a concrete box structure for the short span with associated wing walls and training works. However to provide a high quality of finish a sandstone cladding was proposed with pilasters to emphasise the canal crossing. The proposals were well received by the Planning Authorities whose only stipulation was that a concrete 'stringer course' should be exposed. Their reasoning was that although the masonry cladding was most appropriate solution there should be no attempt to conceal the true structural form.

The Contract for the bridge was let to R J McLeod (Contractors) Ltd in May 1991 and the bridge was completed in January 1992 some 2 months ahead of schedule. Masonry was imported from Howley Park Quarry in Morely, Derbyshire. **Kenny O'Hara** supervised the construction for Scott Wilson Kirkpatrick. **Jim McCafferty** PD; **Ronnie Hunter** PM]

### **Regeneration in Lanarkshire [Hunter; Bissland; Edmond; Holmes; Brown; Doubal; Hendy]**

The recently announced closure of Ravenscraig Steelworks has highlighted the social and economic problems in Central Lanarkshire. The area was once a centre of heavy industrial activity producing forgings and steel for use in heavy engineering. Scott Wilson Kirkpatrick has recently been involved in two projects intended to attract investment in new industries and provide welcome sources of employment.

At Newhouse adjacent to the M8 motorway the Firm was appointed by AMEC Regeneration Ltd and Lanarkshire Development Agency to carry out a Traffic Impact Analysis and assist in an Environmental Assessment for a 350 hectare site which will be developed over the next 20 years. The site includes the location for Scotland's Eurofreight Rail Terminal which is to open in summer 1993. Much of the development is likely to consist of freight forwarding and related activities making use of the international rail link and the adjacent Scottish motorway network.

**Ronnie Hunter** represented the firm on the development team who submitted three complex planning applications in November.

**Russell Bissland** carried out the Traffic Impact Analysis, **Graham Edmond** studied the effects of surface water drainage and **Bill Holmes** and **Andy Brown** carried out a noise assessment for both the construction phase and during operation of the development.

Meanwhile **Roger Doubal** and **Mike Hendy** are carrying out a study for Lanarkshire Development Agency to assess the suitability of a 10 hectare contaminated site in Motherwell for reclamation for housing development.

### **Design & Construct: Gogar Roundabout [Hunter; Briggs; Leckie; Doubal; McCafferty]**

Scott Wilson Kirkpatrick's success in the UK's largest road design and construct competition was reported in our last issue. Since then the Scottish Firm has worked with Balfour Beatty on several more projects and recently won Scotland's second major design and construct contract - Gogar Roundabout on the outskirts of Edinburgh.

The competition required the provision of a flyover over a signal controlled roundabout on the Western Approaches to Edinburgh. The junction is reputedly Scotland's busiest, carrying over 100,000 vehicles per day. The Scott Wilson Kirkpatrick design team submitted both a complying scheme and an alternative underpass solution which unlike the flyover does not preclude the future completion of Edinburgh City Bypass.

Project Manager **Ronnie Hunter** was assisted by design team leaders **Susan Briggs** (Roads), Stephen **Leckie** (Structures) and **Roger Doubal** (Geotechnics). The programme for final design and construction is very tight, with work due to start in April and be complete by June 1993. **[Jim McCafferty PD]**.

Current Scottish Office tendering procedures actively encourage the submission of alternative designs during a two stage tender period. **David Webster** has been assisting Balfour Beatty with a variety of alternatives on three schemes:-

### **A929 Tarbax-Forfar; M74 Maryville-Fullarton; A96 Bucksburn, Aberdeen [Webster]**

Scott Wilson Kirkpatrick has proposed a number of alternatives to road alignments, changes in earthworks details and alternative bridge designs. Of particular interest were the proposals to construct railway underbridges by means of cast in-situ reinforced concrete circular arches on permanent corrugated steel formwork. Although such structures exist south of the Border, the proposals are new to ScotRail.

### **Traffic Management East Kilbride and Stirling [Hunter; Holmes; Bissland; Brown]**

In December Scott Wilson Kirkpatrick completed the survey work for Stage 1 of a traffic management study in **East Kilbride**, one of Scotland's New Towns. Our client, East Kilbride District Council, is seeking to improve the environment within the historic core of the Village and the Firm is studying parking availability and usage and the possibility of pedestrianisation. The survey work was supervised by **Andy Brown** and the Study Team are to present their proposals to the Council at the end of February.

A major initiative to re-assert **Stirling** as one of Scotland's major Town Centres has been launched by Scottish Office ministers. It is proposed to upgrade the Castle Area with major tourist attractions and provide pedestrian and people-mover links to the Town Centre. The Town Centre is to have environmental improvements and a major area is to be pedestrianised. Substantial retail, office and housing developments are planned between the Town Centre and the River Forth where a public park and riverside walkway will be created. Forth Valley Enterprise which is co-ordinating the Initiative have appointed Scott Wilson Kirkpatrick to study the transportation implications for this exciting project. **Ronnie Hunter**, **Bill Holmes** and **Russell Bissland** are the members of the planning team.

### **SWK Glasgow's Sports Afternoon [Connor; Blackwood]**

The Glasgow Office's annual sports afternoon was held on 12th December 1991. Badminton, squash, snooker and swimming were on offer but the main event of the afternoon was the fiercely contested five-a-sides football competition, which this year attracted a team from the Edinburgh Office as well as the usual squads. The tournament was won by No 6 Park Circus ground floor. They won all five of their games convincingly with a total of 25 goals (brand 2 against. Your correspondent wonders if this is attributable to the inclusion in the team of the ringer - "player of the tournament", **Scott Connor**, who is usually to be found in No 20 basement! Nevertheless, congratulations to the winning team and to Scott, whose award was presented to him by **Hugh Blackwood** in the players' bar.

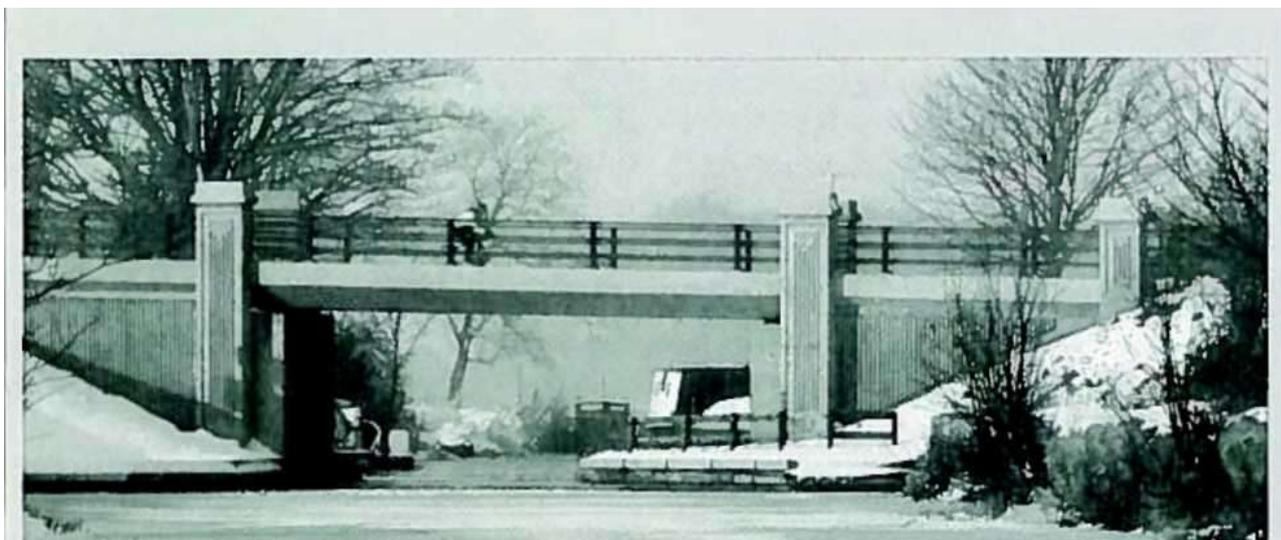


*Scott Connor receives award from Hugh Blackwood*

**SWK Today 48-Feb 1993.....**

**Glasgow Bridge APRS Award [McCafferty; Hunter]**

Scott Wilson Kirkpatrick's work in designing new bridges for the **Glasgow Canal Project**, reported in previous issues, was rewarded when **Glasgow Bridge** received a Certificate of Merit from the Association for the Protection of Rural Scotland (ARPS).



The bridge, designed for British Waterways and constructed by RJ McLeod (Contractors) Ltd, stands in an attractive rural setting, surrounded by rolling farmland near Kirkintilloch north of Glasgow, and has received much praise for the use of patterned profile concrete finishes and decorative pilasters. This part of the Forth and Clyde Canal has been revived in recent years and the construction of Glasgow Bridge has allowed the restaurant and pleasure barges based here to use much more of the Canal than before. [Jim McCafferty PD; Ronnie Hunter PM]

### **The Opening of Preston Road Bridge [Hunter; O'Hara; McCafferty]**

As reported in the last edition, Preston Road Bridge Linlithgow, over the Union Canal has been completed and was officially opened in October. All concerned including project manager Ronnie Hunter and Resident Engineer Kenny O'Hara were very pleased with the finished product. Contractor RJ McLeod imported masonry cladding from Derbyshire; this together with attractive landscaping will enhance the area for years to come. [Jim McCafferty PD]



### **Argyll: Lingerton Landfill; Langa Sand Quarry [Hunter; Hendy; Briggs]**

The splendid scenery of the Argyll coastline with its mountains and deep sea lochs is the setting for two of Scott Wilson Kirkpatrick's sensitive environmental commissions in Scotland.

At Lingerton on Loch Gilp an Environmental Impact Assessment has been prepared for the extension to Argyll & Bute District Council's landfill site. Ronnie Hunter, Mike Hendy and Susan Briggs are also working on the site development plan and intend to submit a planning application early in the New Year.

The second project takes the team further into Argyll to Machrihanish on the Kintyre peninsula where a development plan, environmental assessment and planning application is being prepared at Langa Sand and Gravel Quarry. A local contractor wishes to use the site for landfill and the adjacent SSSI and extraction of groundwater at nearby RAF Machrihanish present interesting problems and opportunities for lengthy site visits.

### **Glasgow City Centre Parking Study [Hunter; Bissland; Gillespie Johnston]**

In Scotland, the Firm has recently completed the fieldwork for a major Parking Study in the centre of Glasgow for Strathclyde Regional Council. The primary objective of the study was to collect information on current parking conditions in the central area of the City, to assess the performance of the present parking policy, to review the central area parking strategy and to consider extending the central area parking zone.

Surveys were undertaken on weekdays and Saturdays during October/November covering on-street, public off street, residential and private non-residential parking. The current street inventory of parking meters, waiting and loading restrictions and public and private car parks was also updated.

The survey team of some 25 staff were on duty 7am - 7pm and were managed by **Ronnie Hunter**, **Russell Bissland**, **Jason Gillespie** and **Bruce Johnston**. During the survey some 33,000 questionnaires were distributed to motorists.

The survey data is presently being validated and processed using SRC (Roads) PARK and BEAT computer programs. Tables and graphs showing parking demand, supply and duration for each of the 32 zones and car parks will be prepared for various types of parking.

The results will be analysed to determine the residential parking requirements where no off-street alternative exists, operational parking requirements of business users, the extent and nature of illegal parking and duration of parking. Scott Wilson Kirkpatrick is due to report on the study by the end of March 1993.

The results are of particular interest to the Firm as our Scottish headquarters at 5/6 Park Circus fall within the study area and we currently enjoy unrestricted parking facilities and hope that the study will not affect this.

### Scottish Success Stories

#### **Bob McGowan** talks to Royalty and Scottish MPs [**Blackwood; McCafferty; Hunter**]

Managing Partner **Bob McGowan** has been busy since his election to ICE Council. He has presented a number of papers including one to a conference on Roads, Bridges and Traffic in the Countryside, held in Dundee, which was attended by HRH The Prince of Wales who gave a special address airing his own forthright views on the subject, and was apparently pleased to learn of the interest that had been shown in the **arch bridge design and construction competition for Glencoe**, in which Scott Wilson Kirkpatrick have recently reached the final three. Partner, and arch bridge enthusiast, **Hugh Blackwood** [?] hopes to build on the Firm's success in the design and construct field, working with Balfour Beatty who are currently constructing **St James Interchange and Gogar Roundabout** to our designs, as reported in previous issues. [PD **Jim McCafferty**, PM **Ronnie Hunter**].

**Bob McGowan** has also been lecturing on transportation matters to Scottish Members of Parliament, at the ICE Headquarters in London.

#### **Jim McCafferty** talks to Architects [**Visions Revisited; GIRR; Hunter; St James I/C**]

Partner **Jim McCafferty** recently gave a talk to an architectural conference in Glasgow, entitled '**Visions Revisited**', which examined and re-appraised the architecture and planning of the 1960's. His paper on the sometimes controversial subject of **Glasgow Inner Ring Road**, was, against all expectations, well received by the architects and started a lively debate.

Other staff who have presented papers recently include Partner **Ronnie Hunter**, who gave a presentation on **St James Interchange** as part of British Steel's 'Steel Construction Week'.

#### **New MICE** [**McKillop; Campbell**]

**Duncan MacKillop** and **John Campbell**, both of the Glasgow office were both pleased to pass the CPR exams becoming MICE. John was also awarded the Miller Prize, at the Glasgow ICE dinner by JCE president Mike Cottell, for his excellent paper on environmental assessment.

#### **Glasgow Bridge Receives Merit from ARPS** [**McCafferty; Hunter; Toal**]

Partner [and PD] **Jim McCafferty** received the award, on behalf of the Firm from Lord Elgin, of the ARPS, in the magnificent surroundings of the Signet Library in Edinburgh. Also present were Project Manager **Ronnie Hunter**, Resident Engineer **John Toal** and Mr Derek Cochrane of British Waterways (as owner) and Mr Judd, director of RJ McLeod (contractor) who also received awards.



*Lord Elgin presents the award to Partner, Jim McCafferty*

### **Golf-Golf-Golf [Napier; Doubal; Blackwood; Ogilvie; McGowan]**

**Alistair Napier** of the Edinburgh office was a member of the victorious four man team which represented the Edinburgh and East of Scotland Branch of the ICE at the annual tournament at Porthcawl in September. In October Alistair was presented a prize by Mr Cottell at Edinburgh ICE.

The annual Scottish offices golf outing this year moved from the usual venue of Troon to Deer Park in Livingston, West Lothian.

This obviously benefited **Roger Doubal** who pulled off a stunning victory against a strong field. The Glasgow team of **Hugh Blackwood**, **Derek Ogilvie** and **Bob McGowan** picked up the team prize, as usual!



**Fix Picture Spacing Problem**



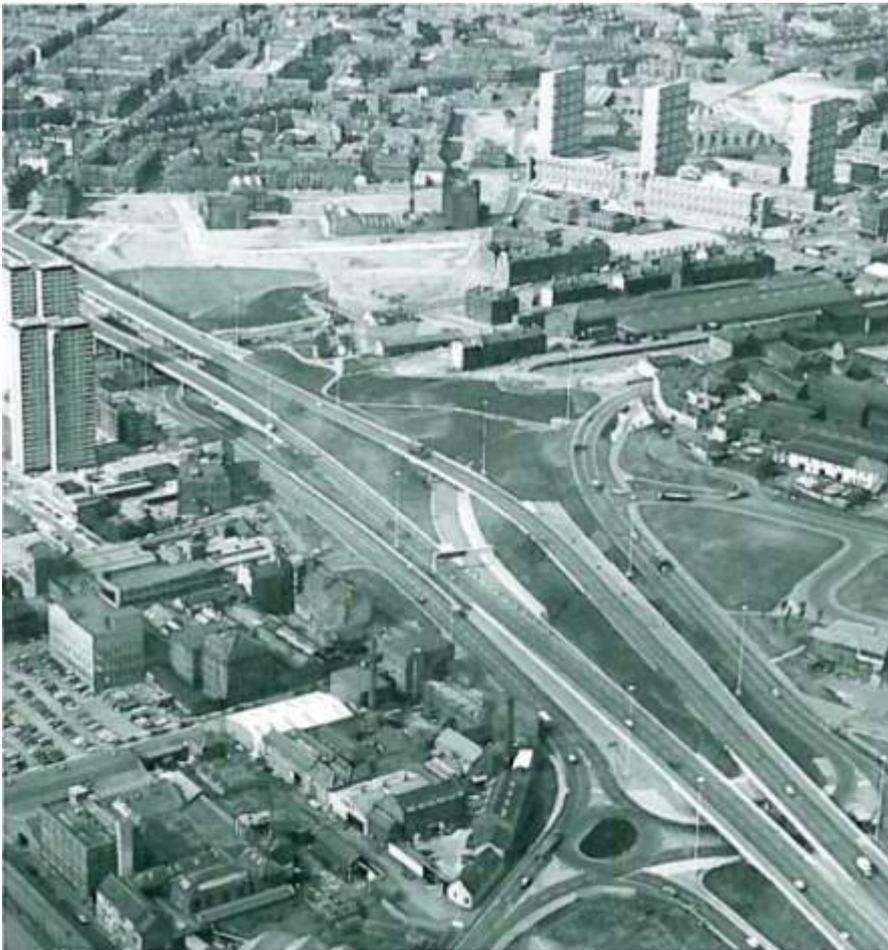
### SWK Today 49-Nov 1993.....

#### 20 Year Gap Bridged at Woodside, Glasgow Inner Ring Road [Baker; Innes; McCafferty]

In May 1971 the Woodside Section of the North Flank of Glasgow Inner Ring Road was opened to traffic. Scott Wilson Kirkpatrick was the Consulting Engineer for the detailed design of the scheme, bringing what was to become a continuous motorway route from west to east one step closer.

Now, some twenty years later, Strathclyde Regional Council is upgrading the capacity of the route, including widening a number of bridges. The Firm has been appointed Independent Checker of SRC's bridge modification proposals.

As Project Manager, **Alan Baker** resumes the Firm's involvement in the first of these, a two-span skewed reinforced concrete structure, the preliminary calculations for the original bridge were found to bear the initials PABI, now Basingstoke Partner **Sir Peter Innes**, who worked in the Glasgow office for a spell during the early years of the Scottish Partnership. Graduate Engineer [and now PD!!], **Jim McCafferty** was subsequently to develop the detailed design into a submission for ICE corporate membership!



### **Smart Road Signs for FEDICS and CITRAC**

Scottish Office and Strathclyde Regional Council have recently awarded a contract for FEDICS (Forth Estuary Driver Information and Control System) and CITRAC (Centrally Integrated Traffic and Control System) to SERCO who are at the forefront of traffic system technology. Both projects involve state of the art driver information and control systems, covering the Central Scotland Strategic road network and the Glasgow motorway and urban networks respectively. SWK are providing SERCO with traffic, geotechnical, civil and structural advice.

### **Setting Forth: A second Forth Road Bridge [Hunter; McCafferty; McGowan]**

The Scottish Office has now invited bids from the private sector to enter into a Concession Agreement to take over the Existing Forth Bridge, design, build and finance a second Forth Road Bridge; and design, build and finance a significant road links on both the north and south banks of the Forth Estuary. Scott Wilson Kirkpatrick has been appointed by the Laing-Miller-GTM consortium to provide transportation planning advice for the project, which includes advice on tolling and public transport issues. In addition the Firm will plan and design some 20km of new approach roads which will significantly upgrade the road networks in Lothian and Fife.

The consortium has an impressive track record. Miller Construction is currently leading the Skye Bridge consortium and construction of that scheme is well underway. Laing-GTM are responsible for the Second Severn Crossing which is also under construction. SWK brings a proven expertise in the planning and design of roads and bridges backed up by recent success in Design and Construct Contracts. Partners, **Ronnie Hunter**, **Jim McCafferty** and **Bob McGowan** are presently working with the consortium to submit the prequalification documents early in November.

### **ScotRail Tunnel Inspections [Hindshaw; Wylam; Greenock; Turner; Weir; Green; Proud; Douglas; Doubal]**

Throughout the year, during the early hours of Sunday mornings staff from Glasgow and Edinburgh have been surveying and inspecting a series of rail tunnels in Glasgow and Edinburgh (14 in all) overseeing coring, pitting and radar surveys. This exercise together with desk studies forms part of ScotRail's re-establishment of tunnel records which have been fragmented over the years.



Reporting is presently underway, drawings and location maps being required in AutoCad format.

Those willing souls who selflessly gave up their sleep included **Wayne Hindshaw**, **John Wylam** and **Robbie Greenock** from the Edinburgh office and **David Turner**, **Audrey Weir**, **Alan Green**, **Stewart Proud**, **Jim Douglas** and Project Manager **Roger Doubal** who was heard to mutter something about pens not working at -10°C.

### **Glasgow Schools: Structural Repairs [Toal; McCafferty]**

In keeping with the sentiment of saving our 1960's schools and indeed, our 1990's school children, **John Toal** is managing reinforced concrete repair and refurbishment contracts for three Glasgow Schools. The client is Strathclyde Regional Council Department of Architectural and Related Services, which has come to the engineering discipline for assistance in these cases. Of particular note in the trio of schools is King's Park Secondary which was an award winning design by the partnership of the renowned Glasgow-architect. Jack Coia. The contracts went to tender in October with a prospect of working over the winter for completion in April 1994. [**Jim McCafferty** PD].

### **Quality Assurance [Clegg; McCafferty]**

Since the beginning of the year, the Glasgow, Edinburgh and Dingwall Offices have been working hard to get their quality assurance systems up and running. **Robert Clegg**, Office QA Manager in Glasgow, has been co-ordinating the effort with guidance from John Taylor in Basingstoke and the backing of partner **Jim McCafferty**. This paid off in September when BSI QA assessors recommended each of the three Scottish Offices for registration as complying with the requirements of BS 5750.

### **Inverness Airport Taxiway Reconstruction [Blackwood; Hindshaw; Findlay; Grant]**

Following a successful fee bid prepared by **Hugh Blackwood** and **Simon Hindshaw**, the Firm was appointed in May as consultant to Highlands & Islands Airports Authority Limited (HIAL) for a taxiway restrengthening project at Inverness Airport. The solution adopted involved partial reconstruction, and partial overlay of the existing pavement to bring a section of taxiway up to current standards. Design was done by **Grant Findlay** in Glasgow with backup from SWK Pavement Engineering, and support from **Hamish Grant** in the Dingwall Office.

The construction contract was awarded in August and, aided by a spell of favourable weather, the site work was completed on program in early September. Our brief has now been extended to include advising HIAL on remedial options and designing remedial works for a number of other sections of taxiway and pavement in adjacent service areas.

### **Summer Openings: Gogar Underpass and St James Interchange [McCafferty; Hunter]**

Both of SWK's Design and Construct projects in Scotland opened during the summer months. On 16th July the Gogar Underpass scheme was opened to traffic. The project, valued at some £7 million, was designed and constructed with a 15 month period and was completed by Balfour Beatty some two weeks ahead of programme. A month later the £27.5m scheme at St James Interchange near Glasgow Airport was opened on 17th August by Lord Fraser of Carmyllie and Councillor Malcolm Waugh. Both Balfour Beatty and SWK are delighted with the outcome of these demanding projects. [**Jim McCafferty** PD; **Ronnie Hunter** PM on both projects]

### **M8-Edinburgh City Bypass [Hackney; McCafferty]**

The relationship with BB continues on the outskirts of Edinburgh. Balfour Beatty has been awarded the contract for the **Extension of the M8 to Edinburgh City Bypass**. The contract contains four design/construct elements and SWK is acting as Designer of three bridges and the rock cuttings. Project Manager, **Mike Hackney** has already begun work on the project which will not be completed until 1996. [**Jim McCafferty** PD]

### **Improving the A9 Highland Highway Perth-Inverness [Blackwood; Hunter; Bissland]**

Those who have ventured north of Central Scotland will have experienced the freshness of the Scottish Highlands and the frustration of travelling on the A9. The A9, known as the Highland Highway, was fully reconstructed during the 1970's and 1980's to design standards appropriate at that time. Despite the high standard of road construction the route is not known for the quality of design, but for the severity of road traffic accidents, excessive vehicle speeds and the lack of safe overtaking

opportunities which result from a combination of road geometry, traffic composition and peak traffic demands imposed by tourists during the summer months.

Scott Wilson Kirkpatrick was one of 6 consultants invited by The Scottish Office to submit proposals for improving the level of service provided by the 170km section of the A9 between Perth and Inverness. Following a presentation of these proposals by Project Directors **Hugh Blackwood** and **Ronnie Hunter** and Project Manager **Russell Bissland**, the Firm was awarded the 18 month commission.

The primary objectives of the study are to analyse accident trends on the A9, assess the potential for future accident savings and to develop a strategy to increase safe overtaking opportunities on the route. In undertaking the study, the Firm is liaising closely with the Scottish Office as trunk roads authority, local roads authorities in both Highland and Tayside Regions and the respective police forces.

Detailed interrogation of accident statistics is already underway to assess the effectiveness of recent accident remedial measures. Scott Wilson Kirkpatrick is also one of the first consultants to use and develop a new dynamic traffic model for the route to simulate both existing and future overtaking characteristics under various road improvement scenarios.

The outcome of the study is considered to be of national importance for road users to encourage economic growth and development in the Highlands and of particular importance to the Scottish Partnership who use the A9 when travelling to the Dingwall office.



#### **M8 Kingston Bridge Approaches Assessment [McGowan; Redpath; McCafferty]**

In Glasgow, the Firm has been assessing the north and south approach viaducts to the Kingston Bridge on the M8 motorway. The commission extends the assessment work already underway on the main bridge itself.

The work involves the analysis and assessment of multi-span post tensioned concrete box viaducts of some 46,000 square metres of superstructure area. These comprise continuous curved boxes and

wide bifurcating multi-cell decks. In all, there are some 215 columns and 170 half-joints on 8 approach ramp lines.

This interesting and challenging job is directed by **Bob McGowan** and led by **John Redpath**. **Jim McCafferty** PD after RMcG transferred to Basingstoke]

One particular area where much effort has been expended is in the construction of computer models to simulate the articulation of the linked structures. Surveys and structural monitoring have shown that the articulation of the viaducts is not as was designed. In the study, which Bob has described as 'forensic engineering', the causes of the abnormal articulation effects have been successfully demonstrated.

Following a series of reports submitted to the client, Strathclyde Regional Council, a commission was recently awarded to carry out a feasibility study into the options available to manage the articulation faults on one of the major four span curved box viaducts. This exercise will certainly expand the team's experience in the use of finite "element program LUSAS that has been used extensively so far. Assessment work is expected to keep the team busy until summer 1994.

#### **Prestwick International Airport Railway Station [McCafferty; Robertson; Hackney; Leckie]**

An inspection of ScotRail's draft 1994 summer train timetable will reveal the existence of "Prestwick Airport" station even though at the time of writing the design of the station is ongoing and a Managing Contractor has not yet been appointed for the project which includes construction of station platforms, two storey station buildings incorporating escalators and lifts and an enclosed pedestrian bridge which links the two station buildings over the electrified railway and continues over a dual carriageway and the airport car park before entering the existing terminal building.

Prestwick International Airport (PIK) in partnership with Enterprise Ayrshire, Kyle and Carrick District Council and Strathclyde Passenger Transport Executive are promoting the £1.6m project with the aim of attracting new holiday flight operators by enabling them to offer their customers free rail travel within Scotland to and from the airport.

Although SWK Glasgow's fee bid of April 1993 was originally unsuccessful, they were contacted in July after the client and his agent became disillusioned with the apparent lack of progress by the appointed design team. SWK now heads a new design team including architects, M & E consultants and quantity surveyors. Under the leadership of Project Director **Jim McCafferty** and Project Manager **Brian Robertson** the previous structural design programme has had to be condensed by involving more staff and splitting design responsibilities into distinct packages under the supervision of PE **Mike Hackney** and APE **Stephen Leckie**.

Much of the work on site will have to be undertaken during railway "possessions" which will only be available for some 6 hours early every Sunday morning and this has obviously dictated certain aspects of the adopted design. With less than a 'Month of Sundays' before the opening date of 29th May 1994 the team are hopeful that the project is now on the right track!

#### **Project Management for DWS in Edinburgh [McCafferty; Napier]**

In addition to its more general project workload, the Edinburgh office has continued expansion of its Project Management involvement for Defence Works Services projects throughout Scotland and North England under the direction of Partner **Jim McCafferty** and Project Manager **Alistair Napier**. Term commissions for Project Management, design and advisory services together with individual project appointments have resulted in a total of some 15 projects currently being Project Managed. A wide geographic spread is a feature of DWS work. Together with DWS advisory services projects, Edinburgh staff have been involved at over 30 locations in the past 18 months, from Yorkshire, throughout mainland Scotland and to as far afield as the Shetland and Hebridean Islands.

Most recently, under the UK wide appointment held by Scott Wilson Kirkpatrick to project manage work for which PSA projects are contracted to undertake detailed design, Edinburgh office has taken responsibility for further projects to a value of £10m.

### **Institutional Representation [McGowan; Blackwood; McCafferty]**

Congratulations are in order for **Bob McGowan** and **Hugh Blackwood** on being appointed Chairman respectively of Chartered Institute of Arbitrators (Arbiters) (Scottish Branch) and the Central and Southern Scotland Branch of the Institution of Highways and Transportation. Bob also continues with his involvement at ICE Council and this year has been appointed Vice-Chairman of the Arbitration Advisory Panel along with membership of the Conciliation Advisory Panel, Thomas Telford Service Limited Board and the NCE Editorial Board. At ICE local level **Jim McCafferty** has joined the local Association Committee as Convenor of the Exhibition and Archives Sub-Committee and is the ACE's representative on the Adjudication Panel of the Saltire Society Awards for Civil Engineering.

### **Professional Status [Scholes; Masterton; Ogilvie; MacKillop; Blackwood; Greenock; Campbell]**

MICE **Grant Scholes; Iain Masterton; Derek Ogilvie**

MIStructE **Duncan MacKillop**

Eng. Tech **Alison Blackwood; Robbie Greenock**

HNC **Peter Campbell**

### **Congratulations to all!**

### **Marriages [Ritchie; Briggs; Crawford]**

**Denise Ritchie** (nee McCracken) to Andrew on the 27th March; **Susan Adams** (nee Briggs) to Neil on the 18th June; **Ernie Crawford** to Brenda on the 19th June

### **Births [Irvine; Webster; Bradley; Green]**

To **George and Gillian Irvine**, a daughter Millie, on 22nd July; To **David and Grace Webster**, a son Grant David, on 27th March; To **Stephen and Georgina Bradley**, a son, Eamon, on 5th April; To **Alan and Jane Green**, a daughter, Rachel Alyson, on 17th April

### **Structures Lift Scottish Cup Again [Logan; Bradley; Hamilton; Adams; Campbell; Crawford]**



The Scottish offices annual five-a-side football tournament took place once again at the Allander Sports Centre, Bearsden. The Structures team building on a solid defensive wall and with mathematical effectiveness and surgical precision produced swift and devastating attacking football which ground all opposition into the foundations for the fourth year in succession. Can no effective opposition be found?

Rumours abound that next year the Structural Giants will be forced to take on all opposing teams at once to produce a more even balance of talents.

Congratulations to **Stuart Logan, Stephen Bradley, Duncan Hamilton, Peter Adams and Peter Campbell** and particularly to star of the tournament **Ernie Crawford**.

### **Golf-Golf-Golf [McGowan; Blackwood; Bradley; Ogilvie; Ross; Kwogs Quaich]**

The annual Scottish Offices Golf Tournament returned to Deer Park Livingston this year where, unfortunately, the fine weather of last year's event held off.

The Glasgow Team (**Bob McGowan, Hugh Blackwood, Stephen Bradley and Derek Ogilvie**) emerged 'drootit' but victorious from under leaden skies and torrential rain to take the team prize. The foul weather proved advantageous to the younger players (under 30's!) who stormed off with the first three places in the individual event.

Biggest surprise of the Tournament was the performance by **Cameron Ross**. Last year Cameron won the wooden spoon; this year he won the individual event by six clear points to lift KWOGS QUAICH.

Next year's handicappers are already at work! (I hope these aren't related to the knee-cappers of Basingstoke!)



### **Fix Picture Spacing Problem**

**SWK Today 50-July 1994.....**

### **Railway Successes . . . [Prestwick Airport; McCafferty; Robertson]**

Having seen some twenty-five railway projects tackled last year across the Firm in addition to our continuing involvement with CTRL, Scott Wilson Kirkpatrick is currently enjoying success on a number of fronts within the railways market. Work on railway projects within the newly created Railtrack environment is coordinated from the Railways section in Basingstoke, working in close conjunction with various local offices.

Projects include:

Economics and engineering input to RoadRailer on a new bimodal freight service between London and Glasgow. This project benefits from recent government initiatives on 44-tonne road dispensation;

revised grants; a choice of operators; and the replacement of motorway mileage now applicable for grant funding.

Economics and engineering input for Manchester Airport on the import of construction material for the second runway by rail. This also involves what is believed to be the first case of a consultant procuring competitive signalling design tenders directly with Railtrack's approval.

Design and supervision of a new station on the Nene Valley Railway; believed to be the first instance of a consultant supervising a BR contractor.

**Design of a new station at Prestwick Airport, believed to be the first privately funded station designed without the use of British Rail design resources.** [A Scotland Project; PD **Jim McCafferty**, PM **Brian Robertson** - see SWK Today 49-Nov 1993].

Design of trackwork, signalling and level crossing reinstatement for Railtrack in Scotland; believed to be the first case of a consultant leading a BR design office.

Successful negotiation of a light railway order public inquiry for a new £20 million freight terminal in Melton Mowbray, with design and implementation to follow.

A study to re-open freight and passenger business over some seventeen miles of disused railway line in Norfolk.

Strategic transport planning for the new Chelsea-Hackney Underground in London

#### **Obituary: **Henry Grace SM (Harvard), MSc (Bristol), MICE, FASCE, MISE, AMIWE****

Henry Grace, who recently died aged 82, was one of the founding members of Scott & Wilson and a Senior Partner of Scott Wilson Kirkpatrick from 1971 to 1976. His expertise covered a wide range of public works including airports, roads, urban and rural motorways, dams and water supply.

After gaining his MSc from Bristol in 1937, Henry went on to study at Harvard University to read Soil Mechanics and Foundation Engineering under Professors Terzaghi and Casagrande. It was here that he met his wife Anne and where he laid the foundations for his future in engineering.

Henry joined Scott & Wilson in 1946 and became a Partner in 1950 when he established an office in Nyasaland - later to become Malawi. He was responsible for the design and supervision of the building of Blantyre Airport, the Mudi Dam and many miles of road which stimulated his interest in the construction of low cost roads in developing countries. The Malawi office was one the Firm's first overseas branches and is still thriving. In 1952, he set up a new Partnership in Hong Kong to plan and design the innovative and unusual airport at Kai Tak. Further partnerships were later established in Nigeria and Ghana which laid the groundwork for SWK's widespread expansion overseas. By this time, the firm had merged with Sir Cyril Kirkpatrick & Partners to become what is now Scott Wilson Kirkpatrick.

Henry was held in great affection by all that knew him. His great integrity and dedication to civil engineering was exemplary. He worked hard and enjoyed life to the full and will be sadly missed by all. He leaves a wife, Ann, two sons and two daughters.

#### **ICE Dinner London [**McGowan** et al]**

At the ICE Annual Dinner in London on April 21st, five members of Scott Wilson Kirkpatrick were guests of the Institution in recognition of their participation in Institution business. They were; **Bob McGowan** - ICE Council Member, **Ken Innes** - Southern Association Chairman, **William Kemp** - East Midlands Territorial Council Member, **Kim Candler** - Southern Association Honorary Secretary, and **Bill Gallear** - East Midlands Association Honorary Secretary.

### **Promotions [AG Napier et al]**

The Partners are pleased to announce that on 1st May 1994 both Mr **Ron Wall**, based at the Telford office, and Mr **John Bean**, based at the Basingstoke office, were taken into the Partnership.

At the same time, **AG Napier** of the Edinburgh office was promoted to Associate.

## **SWK Today 51-Dec 1994.....**

### **Scott Wilson Kirkpatrick 1954-1994**

#### **The end of an Era.....and the Beginning of a New One**

##### **After 40 Years, SWK Dissolves the Partnership.**

**1954.** New Year's Day: the birth of Scott Wilson Kirkpatrick & Partners in the year when flashing indicators were the latest legal requirement for new cars, Roger Bannister broke the 4 minute mile and a TV licence cost £3.

**1994.** 12th October: the announcement of the Partnership's intention that, as from 1st May 1995, we will be a limited company. There's now no such thing as a car without indicators, athletes run a mile in about 3 minutes 40 seconds, and £3 will buy you a mere fortnight's worth of TV viewing.

The past four decades have seen SWK grow from a small operation employing less than 100 people to an international firm with nearly 2000 staff. Remaining competitive demands adaptability: the decision to become incorporated was taken in order to enable us to function more effectively in a business world that is generally unsympathetic to large partnerships. The Firm's structure will be more clearly defined, it will be easier to borrow and finances will not be dependent on the partners' comings and goings. Remaining independent, however, is as high a priority as it ever was.

So - what effect will this restructuring have on life at SWK? There will probably be very little change as regards everyday running, although it is expected that the Partners will become Directors. A new title for the associates, however, is still to be decided!

##### **Scott House Welcomes **Bob McGowan****

In September, the Partners in Basingstoke were joined by **Bob McGowan** who, following a few weeks of upheaval has finally moved into his office on the third floor. Despite a few teething problems with the heating system, Bob is now settling down to life at Scott House.

Bob's increasing involvement in the Firm as a whole, rather than just the Scottish Partnership, has precipitated the move. Basingstoke is a logical base from which to carry out his wider responsibilities, which will encompass the Firm's business not only in the UK but overseas as well, but, he says, "I am not deserting my clients in Scotland. I'm still going to be spending some time up there."

The move coincides with the decision to incorporate. Bob will be playing a major role in ensuring a smooth transition to a limited company, for not only has he been appointed Chairman of the new Board of Scott Wilson Kirkpatrick & Co Ltd, he also becomes Chairman of Scott Wilson Kirkpatrick & Co (Scotland) Ltd.

What additional responsibilities will these new positions entail? "First of all, one of my prime functions between now and incorporation is, as a member of the 'working party' (Ken Innes, Phil Green and myself), to make it happen. That's quite a big task at the moment! I also have a particular involvement in the financial aspects. As for post incorporation, I will be involved in making the UK and Europe operation a success in a general management sense, and who knows, I might even get involved in a project or two!"



So, what are Bob's impressions so far? "Well, somebody said the weather would be better but so far it's very similar to what I'm used to! Seriously, though, I'm enjoying my new responsibilities very much. It's a much more broad-based role, there's more variety, and a lot more people to contend with! I'm looking forward to new challenges and to the Firm's continued success, and I'm confident that my experience with the Scottish Partnership will stand me in good stead here at Scott House."

### **Scotland: What is happening north of the Border**

As **Bob McGowan** looks forward to increased responsibilities down south, we take a look around the offices in Scotland, and ask: What is happening north of the border?

### **Jim McCafferty becomes Managing Partner/Director of the Scottish Firm**

#### **Glasgow Office**

The name of Scott Wilson Kirkpatrick first appeared in Scotland on the door of a temporary office in Glasgow's High Street in September 1960. Now the Scottish Partnership enjoys a better address in the grand terraces of the city's Park district. No 6 Park Circus, the head office in Scotland, generally became rather short of space and so the opportunity to purchase No 5 next door was eagerly grasped. No 5 has now been carefully restored and refurbished as befits the Grade A Listed Building status of this area, and connections have been made to facilitate movement from one building to the other.



#### **Inverness Office**

A North of Scotland office was established in Dingwall in the late 1970s to oversee oil-related projects. On 1st October 1994, the office relocated to larger premises at Ardross Street in Inverness

(pictured). From there, staff are involved in road and bridge projects throughout the Highland region an administrative area geographically bigger than Wales.



### Edinburgh Office

The Edinburgh office opened in 1984 with an address at Manor Place in the New Town [1]. Six years later, the office relocated to more spacious accommodation in the same building, changing the address to Chester Street, just around the corner, facing St Mary's Cathedral. Notable neighbours have included Magnus ('I've started so I'll finish') Magnusson in his role as Chairman of Scottish Natural Heritage.

[1] [The first Edinburgh Office actually opened at 35 Melville Place in 1984, later moving to Manor Place! **Jim McCafferty**. See SWK Today 29, June 1984]



**So, what is happening within these Hallowed Walls...?**

### **A74(M) Upgrading [McGowan; Blackwood; Hindshaw; Lee; Briggs; Bryson]**

On 22nd September SWK was again in the company of Secretary of State Ian Lang, when he climbed aboard an excavator and cut a ribbon with a giant pair of scissors to open a stretch of the **A74(M)** from **Dinwoodie Green to Ecclefechan**. The 18.6 km carriageway cost £85m to build, and comprised 4 separate contracts: three of them designed and supervised by SWK. Among SWK representatives at the opening ceremony were **Bob McGowan, Hugh Blackwood, Simon Hindshaw** and two of the Chief Resident Engineers, **Don Lee** and **Len Briggs**. Other guests included local MP Sir Hector Monro, Sir James Miller (the Chairman of the Miller Group) and Peter Mason (Chairman and Chief Executive of Balfour Beatty).

SWK's involvement with the A74's upgrading continues: another section costing £20m is under construction with Barr Ltd as the contractor. **Tom Bryson** is supervising operations, and the 4.5 km stretch is expected to be complete by the end of the year. Also, SWK's design for the remaining 10.9 km section of the A74(M) has been completed.



*Smiles from the Rt Hon Ian Lang and Managing Partner Bob McGowan at the A74(M) opening*

### **Prestwick International Airport Rail Station Opens [McCafferty; Leckie]**

The Rt. Hon Ian Lang MP, the Secretary of State for Scotland, opened Prestwick International Airport Station on 5th September. SWK Project Director Jim McCafferty and Project Manager Stephen Leckie were among some 400 guests at the ceremony, which also welcomed Lord Younger of Prestwick - the airport's company chairman - and representatives of Strathclyde Regional Council and Enterprise Ayrshire.

The station is the first in the UK to be licensed by the recently established Office of the Rail Regulator and also the first in Britain to be designed and constructed without direct input from Railtrack or its predecessors, British Rail. Its completion is a significant step in the drive towards rail privatization.

### **M8 Extension: Newbridge-Edinburgh City Bypass [Hackney; Doubal; Briggs; McCafferty]**

Fuming frustratedly in a traffic jam at the Newbridge Roundabout on the M8 will hopefully become a thing of the past, as construction of the extension gets underway. The contract for the extension, which stretches from south of Newbridge to the Edinburgh City Bypass, contains a separate 'ring fenced' design and build section - the Western Interchange - for which SWK is the designer to Balfour Beatty, who were awarded the contract in September 1993.

The interchange contains three heavily skewed long span bridges, whose abutments are among the first in the UK to be constructed using reinforced earth. This revolutionary method is both cheaper and quicker than traditional techniques.

Project Manager Mike Hackney and Team Leaders Roger Doubal and Susan Briggs have completed the detailed design and are now busy providing expert advice and assistance to the contractor during construction. Independent checking was carried out by Ken Weir and Dave Hubie at the Chesterfield office. The cost of construction is estimated at £40m, with completion expected in summer 1996.

[Jim McCafferty PD]

### **A Tale of Teith Bridge [Hunter; Holmes; Briggs]**

A scheduled ancient monument, the bridge across the River Teith upstream of Doune Castle was originally constructed in 1535. Although aesthetically appealing, its single carriageway is decidedly road-user-unfriendly, as the horse-drawn carriages for which it was originally built now only appear during the wedding season. The only safe pedestrian is a fluorescent one, as there are no footpaths.

Widened in 1865 to a design by 'the Colossus of Roads' Thomas Telford, a more recent attempt to improve matters was the installation of traffic lights, resulting in chaos last Easter when the peak tourist traffic started again.



SWK has been appointed to review these difficulties, and to propose short and long term solutions. The planning team led by **Ronnie Hunter**, **Bill Holmes** and **Susan Briggs** is well into the traffic, economic, engineering and environmental analyses, and Wayne Hindshaw will report on the state of the existing bridge and modification possibilities.

Because of the bridge's historical significance, consultation with a variety of interested parties - each with its own priorities and constraints - is necessary, with environmental and aesthetic questions dominating the discussions. More news on the bridge's progress will be reported in future issues of SWK Today.

#### **Projects in Brief**

##### **Audit of Simulation Model for Scottish Roads [Bissland; Crawford; Weir]**

SWK has been appointed to assist TRL audit the simulation model for the Scottish Office Roads Directorate. **Russell Bissland** will lead the team of **Ernie Crawford** and **Audrey Weir**, and phase 1 of the study will assess the reliability of the programme under various network and traffic demand conditions.

##### **M8 Glasgow Townhead-Charing Cross [Masterton; Howie; Muir; Hackney; McCafferty]**

SWK's proven track record in design and build has led to being appointed by SRC to act as Agent and Independent Checker for their contract to widen elevated sections of the M8 in Glasgow between Townhead and Charing Cross. The team consists of **Iain Masterton**, **Robert Howie** and **Dave Muir**, led by **Mike Hackney** PM [**Jim McCafferty** PD].

##### **A1 Tranent to Haddington & M77 Ayr Road**

Sir Alfred McAlpine has appointed SWK to carry out independent checking for their bid for the Design and Build **A1 dualling**, Tranent to Haddington. SWK has also been advising Balfour Beatty on the design of the proposed **M77 Ayr Road** route, again a Design and Build project.

##### **Broughty Ferry Railtrack Level Crossing**

One of the first commissions awarded by Railtrack has gone to the Glasgow office, which has been involved in plans to upgrade the gated level crossing in Broughty Ferry to a barrier supervised by remote CCTV.

##### **Tiree Airport Pavement Remedials [Kirkwall Airport]**

A Pavement Remedial Works contract at **Tiree Airport**, including 10,000sqm of overlay to parts of the main runway, has just been completed and an options assessment report for a more long term runway upgrading has been submitted. A similar report is being prepared for **Kirkwall Airport**.

**Stop Press: Saltire Society Award: M8 St James Interchange [McCafferty; Hunter; Hackney]**

Lord Prosser, Chairman of the Royal Fine Arts Society for Scotland, presented Scott Wilson Kirkpatrick with the 1994 Saltire Society Award for the **M8 St. James Interchange Project**. Winning the premier award for advancing the art of civil engineering in Scotland confirms the Firm's commitment to quality in design. [Jim McCafferty PD; Ronnie Hunter PM; Bridges-Mike Hackney]

**Traffic Calming in Glasgow [Hunter; Holmes; Howie]**

Glasgow is under increasing pressure from the competing demands for better mobility and the need to provide a pleasant place in which to live.

To solve these problems, the Regional Council intends to prevent through-traffic in the city centre, install traffic calming schemes in historical areas and introduce trams.

SWK has been appointed by the Department of Roads to assist in the development of these proposals. **Ronnie Hunter** and **Bill Holmes** are currently working on possible realignments of the secondary peripheral road system and channelization aspects of major junctions. **Robert Howie** is managing the production of all drawings prepared by SWK on the Firm's AUTOCAD system.

**Congratulations [Bradley; Proud; Taylor]**

**Stephen Bradley** and **Stewart Proud** of the Glasgow office and Neil Valentine from Scott House, who passed their CPR exams to become MICE [As if that wasn't enough, Neil's Part B essay was awarded a commendation by the examiners];

**Graham Taylor**, also of the Glasgow office, who has successfully completed an MSc in Soil Mechanics at Imperial College, London; Graham is now available to answer any questions that anybody might have on negative skin friction (form an orderly queue, please!)

**Promotions [Bissland; Hindshaw; Redpath; Aikman; Briggs; O'Hara; Campbell; McKillop; Ogilvie; Wright]**

Congratulations are in order to the following staff in Scotland, who were promoted on 1st July:

To Principal Engineer - **Russell Bissland, Wayne Hindshaw** and **John Redpath**

To Assistant Principal Engineer - **Andrew Aikman, Susan Briggs** and **Kenny O'Hara**

To Senior Chartered Engineer - **John Campbell, Duncan McKillop, Derek Ogilvie** and **David Wright**

**Births [Campbell; Stephens; Edie; McKillop; Keenan; Muir]**

More proof that staff are being civil, and not only in engineering...

**John and Alison Campbell** have a daughter - Lucy Frances - born 17th April

**David and Heather Stephens** also have a daughter - Hannah - born 18th June

**Stuart and Aileen Eide** have had a son - Donald - born 24th June

**Duncan and Sunita McKillop** were hot on their heels with Sheena, born 25th June

**Jim and Lindsay Keenan** have a son - Fraser-born 6th July

**David and Hayley Muir** produced a daughter - Fiona - on 12th August.

**Marriages Grant Scholes and Maureen tied the knot on 30th June.**

**Golf.....The Putting [Allan Green [Ramsay; Hamilton; Blackwood; Kwogs Quaich]**

This year's Scottish Golf Tournament was played at the challenging Southernness Links on the Solway Firth. The event saw teams from the Scottish offices and the A74(M) site offices battle it out over 18 holes. As usual, the Scottish offices triumphed, proving, (perhaps unwisely) who has the most time for golf practice! The individual competition ended in a three-way tie between **Gordon Ramsay, Duncan Hamilton** and **Allan Green**.

The prize was eventually awarded to Allan, on the basis that he gained most stableford points on the last 6 holes. Here he is on the left of the picture, receiving the 1994 Kwogs Quaich golf trophy from **Hugh Blackwood** on the 30th anniversary of the competition.



**The latest arrivals to join the ranks in Scotland** [**Oliver; Copeland; Curley**]

August: **A Oliver**, graduate engineer

September: **A Copeland**, trainee technician

October: **C Curley**, graduate engineer.

**40 YEARS of PROGRESS: SWK 'Today' takes a nostalgic trip down Memory Lane.**

**The 1950s:** In the decade that 'never had it so good', the polio vaccine is introduced, the physics world suffers the death of Albert Einstein and the motor world witnesses the birth of the Mini. For Scott Wilson Kirkpatrick, the Shell Centre and the M6 motorway are major projects in the UK, while in Hong Kong work begins on the Cross Harbour Tunnel and on the runway extension at Kai Tak airport.

Ken Innes is a 'new boy' in 1954, and by 1959, **staff numbers have risen to 200.**

**The 1960s:** The 'Swinging Sixties' see the Great Train Robbery and the Profumo Affair dominate the headlines. JFK is assassinated, England wins the World Cup and Neil Armstrong takes his legendary 'giant step for mankind' onto the Moon.

Scott Wilson Kirkpatrick becomes one of the UK's major international consultants, and **offices are established in Glasgow and Belfast.** There are hospital projects in the UK and Middle East, power stations in Cyprus, Guyana and Nigeria, and airports in Brunei and Qatar.

**The 1970s:** The decade of long hair and hippies brings drought, decimalization and the first test tube baby. Picasso and Presley pass away and Margaret Thatcher becomes Britain's first woman Prime Minister.

Scott Wilson Kirkpatrick's main office moves to Basingstoke in 1974, and the Hong Kong office celebrates its silver jubilee in 1977. Princess Alexandra opens the Cross Harbour Tunnel in Hong

Kong and Queen Elizabeth opens Charing Cross Hospital in the UK. Work begins on Heathrow's new Terminal 4, while President Moi opens Mombasa Airport in Kenya.

### **Staff numbers grow to over 1,000 worldwide.**

**The 1980s:** In years marked by murder and mayhem, John Lennon is shot dead by a deranged fan, Argentina invades the Falklands, hurricanes cause chaos, and the stock market crashes.

Scott Wilson Kirkpatrick opens offices in Chesterfield, Telford, Basildon and Peterborough in England, **Dingwall and Edinburgh in Scotland**, and Harare in Zimbabwe. Sokoto Market in Nigeria is opened by President Shagari, Lilongwe Airport by President Banda, and Terminal 4 is topped out. Work begins on bypasses in the UK, airbases in the Middle East and the Tuen Mun Hospital in Hong Kong.

Scott Wilson Kirkpatrick becomes involved in the Channel Tunnel Rail Link and, in 1989, is one of the first consulting engineering companies to become accredited by the BSI.

### **The 1990s ... and beyond**

Germany unites as the Iron Curtain crumbles, Britain and France link up and Yugoslavia falls apart. The European Community is created and Saddam Hussein wreaks havoc in the Middle East.

New offices are opened in Nottingham and Birmingham, and Bertlin & Partners join Scott Wilson Kirkpatrick in 1990 to form Scott Bertlin. Work begins in Jordan on the Qa Disi aquifer, and Al Ain Airport in Abu Dhabi is opened in March 1994. **Staff numbers now total over 1800 worldwide, - a far cry from the mere 60 back in 1954.**

**The decision is taken to dissolve the Partnership.** Scott Wilson Kirkpatrick is poised to enter the next century with confidence and enthusiasm.

### **Scotland snaps up Saltire Award: M8 St James Interchange [McCafferty; Hunter; Hackney]**

SWK has won a Saltire Award for the design of the M8 St James interchange at Paisley. These prestigious awards recognize and encourage excellence in civil engineering in Scotland.

The judges congratulated the Firm on its "... economical design of high visual appeal of this project which provides significant benefit to the community."



[Project Director **Jim McCafferty**, Project Manager **Ronnie Hunter**, Bridges- **Mike Hackney**].

**SWK Today 53-Aug 1995.....**

**Editorial**

On the front page of each future edition of SWK Today there will be an editorial column written by one of the Directors. It will deal with a particular issue currently affecting the Firm and/or the profession as a whole. It will be a personal view, and may be controversial, humorous, congratulatory, etc, depending on the preference of the Director concerned.

**Phil Green, Chairman of SWK Holdings Ltd, starts us off...**



Welcome to this first Editorial of what, after the next issue, will be a remodelled SWK Today. Yet another change, you say - when will it end? Well, not yet, hence my choice of 'change' as the theme for this Editorial.

Firstly, the change from a Partnership to a corporate structure has come and gone and many of you will have hardly noticed the difference! To some extent this was deliberate because the Firm needed to keep its work flowing and its clients happy. However, from now on change must become a way of life if we are to survive in the increasingly aggressive and competitive environment of today and tomorrow!

I recently read that as individuals we have different reactions to change, particularly when it is forced upon us. Some people welcome fast moving events and high levels of uncertainty; some feel comfortable as they are and only accept change once it has happened; others may feel very threatened even by the mere prospect of change and therefore exhibit various forms of resistance. To these 'others' I apologise that in future life may sometimes be less than congenial, but they will be encouraged to express their views openly. However, once decisions have been made, debate and any further resistance, overt or covert, must cease.

Secondly, change will require all of us to re-examine old ideas, beliefs and behavioural patterns - collectively known as the corporate culture or "the way we do things around here". Charles Handy, the current British management guru, has suggested that among others, the 'beliefs' underlying the future successful business will be that:-

- autonomy releases energy
- people have the right to do things in their own way, as long as it is in the common interest

- people need to be well-informed, well-intentioned and well educated to interpret that common interest
- individuals prefer being led to being managed.

Part of my job as Chairman of SWK Holdings Ltd is to create the climate to allow these things to happen.

Finally, whilst this Editorial has focused on our internal change we must always be mindful that the objective of this change is to understand our clients better and to meet their real needs; to innovate and use the latest technical ideas and processes, and to create a rewarding environment for all of us working in the Firm. **Phil Green.**

#### **Promotions [Hindshaw; Leckie; Webster; Edmond; Proud; Scholes]**

The Directors are very pleased to announce the following promotions. Congratulations to all concerned!

To Associate, **Simon Hindshaw**

To Principal Engineer, Chris Broome, **Stephen Leckie**, Kevin Smith, **David Webster**, Tim Williams

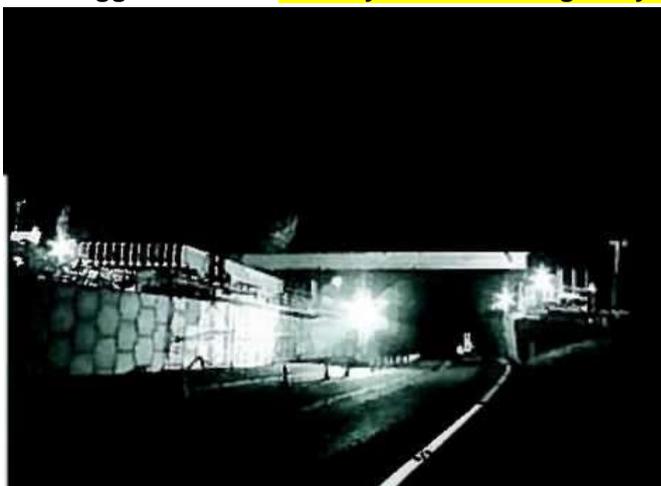
To Senior Chartered Engineer, **Graham Edmond**, Mark Harrison, **Stewart Proud**, Neil Robertson, **Grant Scholes**

#### **Business Development [RAF Lossiemouth; Campbeltown RoRo; McCafferty; Napier; Clegg]**

Grampian: **project management services** for pavement restoration and associated works at **RAF Lossiemouth** (MoD, Liverpool) [PD **Jim McCafferty**, PM **Alistair Napier**].

Strathclyde: **Campbeltown RoRo** berth design (SWK Glasgow). [PD **Jim McCafferty**, PM **Robert Clegg**].

#### **UK's Biggest Beams: M8 Claylands-Edinburgh City Bypass [Bradley; Hackney; McCafferty]**



Following the successful installation of the UK's longest ever precast, pre-tensioned beams on the **M8 Claylands to Edinburgh City Bypass** contract, SWK (Scotland) can justifiably claim to be at the forefront of pre-stressed bridge beam design. Designed by **Stephen Bradley** in the Glasgow office, the 36.6m long Super Y beams were fabricated by Costain Ltd at their specially adapted Coltness factory. Police escorts were needed to transport the 70 tonne monster beams 40km to the site on articulating bogies modified specifically for the task. The 46 beams were then offloaded and stored adjacent to

the bridge ready to be hoisted into position on the bankseats using a Demag 950 with Superlift during night time possessions of the M8.

Project Manager **Mike Hackney** is happy with the final outcome despite some early teething problems. These included the discovery that temporary transverse bracing was required between beams to prevent overstress due to lateral wind loads, a design consideration which apparently was not taken into account during the original development of Super Y beams. The bridge deck, which is nearing completion, has a 47° skew to the bankseats, whereas the carriageway itself is skewed at some 63° to the bankseats, thus creating what the design team has christened a 'semi-skewed structure'. This form of construction was chosen by the contractor, Balfour Beatty, after pricing a matrix of options with varying skews prepared by SWK in steel, concrete and prestressed concrete. A penalty of £150,000 imposed by the Client on each painted steel superstructure to reflect future maintenance costs also had to be taken into account. [**Jim McCafferty** PD].

Watch this space for the next technological breakthrough!

### **Road Network Management [Edmond]**

With ever increasing opportunities for SWK to be involved in the day to day maintenance and operation of the UK's highways, it is essential that the Firm's experience encompasses all aspects of highway engineering from design to eventual route management.

In Scotland, **Graham Edmond** is well into a three year period of secondment to the Scottish Office Roads Directorate where he works in the Network Management Division. The Division is responsible for the management of Scotland's Trunk Roads and has an involvement in a variety of tasks:-

- routine structural and winter maintenance
- minor improvement schemes and route action plans
- development control
- traffic orders
- accident investigation and prevention
- liaison with local authority agents
- preparation and monitoring of budgets
- Ministerial briefings and public liaison.

Graham was initially an assistant Route Manager for trunk roads in North West Scotland. He is now Route Manager for the North Highland area which is about the size of Wales and stretches north from Inverness to Wick and Thurso and west to Ullapool. He also has duties involving Orkney and Shetland. Graham advises that recent tasks include being Project Manager for the A9/A882 Dornoch Bridge to Scrabster Route Action Plan Study and a scheme for traffic calming and management in Golspie which has involved a series of public meetings and exhibitions. With a day to day involvement in the wide range of activities which the Division undertakes, any worries about being office bound are dispelled as Graham makes a week's trip into the Highlands every month to inspect his patch!

### **Incorporation – Intoxicating: Glasgow Office Party 2 June 1995 [M6 DBFO; McCafferty]**

There was a modicum of intoxication in the air as staff, Directors and Partners (if you know what I mean) celebrated Incorporation of the Scottish Firm at a party held at the Glasgow Office on Friday 2nd June.

The ground floor of No 6 had been specially cleared for the occasion, and in preparation for the forthcoming refurbishment which will bring it up to the standard of No 5. The faded green carpet, the earth coloured hues of the walls, the collection of traffic cones and road signs from the M74 and the garden furniture and parasols dotted around gave the place the unmistakable ambience of the Glasgow Garden Party.

It had been several years since last we let our hair down and Incorporation provided a perfect excuse.

A further cause for celebration was the announcement that the Scottish Office had just confirmed commencement of the **M6 DBFO** contract preparation, which puts us at the leading edge of the Private Finance Initiative in Scotland.



Partners took the opportunity to tour the building, where they viewed those desks, drawings and VDUs over which so much time and effort has been expended over the last few years by their other halves.

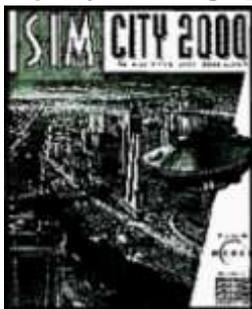
There was a great deal of good humour and it appears that no one said or did anything

to be 'regretted at leisure' although a Director with a mobile phone apparently managed to order up a second round of reinforcements from Oddbins just as we all thought we'd have to go home; someone slipped under a table momentarily, and a senior engineer spent much of the evening engaging people in conversation while balancing a tupperware box containing swimming tadpoles on his head!

It was time to let off some steam. Much fun was had by all. We must do this again some time!

**Jim McCafferty.**

**HepCity Challenge [Gillespie; Logan; MacLean; Crawford]**



Reigate's SimCity Management Team has made an immediate impact on the HepCity Challenge. The challenge pits various building professions against each other to plan the perfect city using the popular computer simulation game SimCity 2000. After the first round, Reigate's Team (named, rather imaginatively, 'Scott Wilson Kirkpatrick - Team 9') lies 15th in the New Civil Engineer league with a massive 979 points out of a possible 1000. This score also places Reigate in a strong position overall, only thirteen points behind the leaders and one point behind second place, out of 500 entrants!

Team Captain Paul Starr achieved this impressive score whilst waiting for his wife to return home from hospital after giving birth to his baby daughter Jessica. When asked to comment on his team's achievement, he responded: "What team?"

In Glasgow, **Jason Gillespie, Stuart Logan, Michael MacLean** and **Ernie Crawford** have now progressed to Stage 3 of the challenge.

The Hep City results are published every month in the New Civil Engineer.

**Congratulations**

**Births [Ogilvie]**

To **Derek and Janet Ogilvie**, a son, called **Iain**, born **29 March**

**Marriages [Aikman]**

**Andrew Aikman** in Edinburgh got engaged to Julia in April.

**SWK Today 54-Oct 1995.....**

**Editorial: Incorporation [R McGowan]**. At the time of writing we are within 2 weeks of the end of our



first half year under our new incorporated structure. It is, of course, too soon for reflection on whether or not we have achieved any of the hoped-for benefits of incorporation, except to say that in the past 6 months each of the Regional Holding Companies has grown through the acquisition or merger of other companies:

In the Asia-Pacific region a merger has taken place with Irwin-Johnston & Partners

In Africa, the town planning consultancy of Seneque Smith Maughan-Brown has joined forces with SWK (South Africa), to add 2 Directors and 16 staff to the ranks

In the UK, SWK Holdings Ltd acquired two BR design offices.

I can't say that these developments are a result of incorporation, as talks leading to the final agreements were well in hand before 1<sup>st</sup> May. However, some would say that the new structure helped facilitate the final agreement and this may well be true.

Incorporation has been the latest step in the steady growth of SWK. From Christmas 1960 to summer 1977, an in-house magazine called Pontifact was produced. 36 editions were published in all and they represent an invaluable record of the Firm's activities in a period of dramatic growth. In 1960 we had 10 Partners and 198 staff. Today we have 60 Director/Shareholders and approximately 2,300 staff.

In an early edition of Pontifact, **EO Measor** (Senior Partner 1954-1972) commented that at the tenth anniversary of the merger of Scott & Wilson and Sir Cyril Kirkpatrick, the Firm had increased fivefold in 10 years. Within two years, this had doubled!

Is there an ideal or optimum size? Must we keep growing? What structure is best to manage an organisation of this complexity? These and other strategic questions are about to be discussed by almost all of the 60 Directors when they meet in Cape Town in the first week of November this year for one of our infrequent international conferences.

The results of these deliberations will chart the direction of SWK into the next century; an exciting time for us all.

As a final word, albeit a little early perhaps, on behalf of the Directors of Scott Wilson Kirkpatrick & Co Ltd I would like to wish staff, clients and all who read SWK Today, a very pleasant Christmas and a prosperous 1996. This year the Board has decided not to send out Christmas cards but will instead make a donation to a construction-related charity.

**Bob McGowan.**

### **Glasgow Wins Major DBFO Contract**

**M6 [A74(M)] Millbank to Gretna [Blackwood; Hunter; Hindshaw; McCafferty]**

The Government Autumn Statement, published in 1993, called for increased activity in developing the major road infrastructure of the UK in line with 'The Private Finance Initiative'

Its emphasis on the funding of major projects by the private sector led to the Glasgow office being appointed as consultant to the Scottish Office for the procurement of the M6 from Millbank to Gretna. The project incorporates the construction of 28km of new dual 3-lane carriageway between Paddy's Ruckle Bridge and Cleuchbrae. It also includes the operation and maintenance of the entire A74(M) upgrading - some 92km - which will be renamed M6 when completed.



A74 (M)

Recognising a possible candidate for procurement by Design Build Finance Operate, Directors **Hugh Blackwood and Ronnie Hunter** discussed this strategy with the client. Throughout 1994 Hugh and Ronnie produced papers and reports to illustrate the value such a procurement strategy might have to the Secretary of State.

The method of payment developed for the project will be by shadow tolling (actual traffic flows will generate revenue for the operating company). This method provides incentives for efficient construction and operation, which will require diligent use of resources and materials during the projected 25 - 30 year life of the Contract.

SWK has now been appointed to take forward the implementation of the project to tender. The adjustment from traditional procurement methods to the innovative documentation necessary for the project is an intellectually stimulating exercise for all those taking part. The Firm is working within tight programme constraints to produce new contract documentation which will be issued to tenderers in October 1995. The project is managed by **Simon Hindshaw**, with development of the policy resting with Hugh and Ronnie, the initiators of the project. [**Jim McCafferty**: Director for bridges].

### **SWK Acquires BR Design Offices Glasgow & Swindon [**French; Nielson; Blackwood; Green**]**

On 21st August, SWK officially took over from the British Railways Board the civil engineering design offices at Swindon and Glasgow.

Staff at the MainLine office in Swindon number around 140, and provide consultancy services to Railtrack, BR subsidiaries, local authorities and private developers and contractors. Currently they are engaged in the design and supervision of railway and surface works associated with Heathrow Express.

There are 60 employees at Infrastructure Design Group (IDG) in Glasgow, who provide similar services in Scotland and the north of England. A major present commitment involves technical and management support for Railtrack's Zones and Major Projects Division. This work includes securing clearances for international Eurostar services which will operate from Scotland early next year.

SWK Directors **Geoff French** and **Martin Nielsen** have joined the MainLine Board as Chairman and Managing Director respectively, with **David Dawson** remaining as Operations Director. **Hugh Blackwood** serves as both Chairman and Managing Director at IDG [Glasgow], with **Douglas Atkinson** as Operations Director.

"We are delighted to welcome 200 new members of staff to the SWK Group", said Chairman **Phil Green**, "This acquisition further consolidates our position as leading consultants in the transport sector, and provides us with a substantial core of highly skilled railway professionals."

**Footnote: Sectorisation: Jim McCafferty.**

The decision to make the two Railway companies independent sectors or divisions was the start of the move towards 'sector' based divisions rather than the geographically based divisions favoured by SW Scotland (and others). JP McCafferty.

**Over the Sea to Sky: Impact of Skye Bridge on Local Economy**

This month, the opening of a £35 million 1 balanced cantilever crossing will provide a permanent road link between the Scottish mainland and the Isle of Skye. The Roads and Transportation division of Scott Wilson Kirkpatrick (Scotland) has enjoyed a longstanding association with the bridge, from the initial assessment of the economic viability of the toll structure as part of a Private Finance Initiative in 1990 to the current assessment of the likely effects of the bridge on the local economy. Having just reported on a comprehensive programme of ferry, bus and rail passenger interviews, the project team looks forward to returning to Skye, this time by road, to complete the second phase of the study.

**Revs Testing for Scottish Office [Bissland]**

The same project team, led by Russell Bissland, is also engaged in detailed testing of the new Scottish Office dynamic traffic simulation model REVS (Route Evaluation by Vehicle Simulation). This follows on from the successfully completed project to audit this model, and involves sensitivity testing, comparison with other computer models and consideration of features to ensure that the system is user friendly.

**SWK Today.....The End**