

- (1) பக்கங்களின் எண்ணிக்கை 12
 (2) புதுக்கித் திருப்பிய நாள் 9/9/91
 (3) ஆதாரங்குறிப்பவர் கருக்கொப்பம் [Signature]

தமிழ்நாடு ஆவணக் காப்பகம்.

தமிழ்நாடு அரசு

PW துறை

அரசாணை எண். மு. கோப்புத் தாள் எண்.	3264	அச்சகம் பலவகை
நாள் : 29. 11. 1992 1992		

மடிக்கவோ கண்டபடி கையாளவோ கூடாது

D.V

Parsonstown,
Kings County, Ireland.
1st September 1892.

Sir,

32.64
1.

I have the honour to report, for the information of the Government of India, on the character of the training of the Assistant Engineers on practical work, 1891-92 as follows:-

G. Richards & J. H. White. - Employed in the locomotive shops of the Great Western Railway, Swindon. They have gone through the pattern and moulding shops, smithy, boiler, and erecting shops and have spent some time in the running sheds. They have obtained a good knowledge of mechanical work.

J. H. Neap. - Was employed for seven months on the Manchester Ship Canal, and five months on the widening of the Midland

Millard Railway between Leicester and Trent.

On the Ship Canal he saw a large variety of work, including excavation and removal of large quantities of earth and rock, temporary dams and bridges, locks, sluices, swing bridges, lock gates, pile driving, concrete walls, and pitching. At Leicester and Trent the chief works were two tunnels, a large bridge over the River Trent, with cylinder foundations, and several large arched flood openings. He paid visits of about a week each to the Buxton Sewage Works, the Dore and Chinley Railway, and the Manchester Waterworks.

C. W. Johnson. - Was employed for seven months on the Manchester Ship Canal, and for five months on the Manchester Waterworks. On the Manchester Ship Canal he saw the same variety and kind of work as Mr. Heap, which has just been described. On the Manchester Waterworks

Waterworks at Thirlmere he saw the tunnels excavated and lined for the aqueduct, large masonry dams for impounding the lake water, waste water overflow, compensation arrangements, straining wells. The arrangements and construction of large siphons for carrying the water across the valleys, concrete work road making round the lake, with bridge culverts, &c. He visited with Mr. Heap the Buxton Sewage Works, and the Dore and Chinley Railway Works.

H. L. Robertson; G. H. Streetfield. - Have been employed on the construction of the Tottenham and Forest Gate Railway where they have had much experience in field work and setting out. The line, which is about six miles in length is carried for some distance on arch viaducts. The engineers have had a good opportunity of studying the formation of banks and cuttings, concrete and masonry.

asonry works, and interesting
foundation work; temporary railroads
and bridge work.

L. W. Lewis; H. R. ^{Walton} ~~Wotton~~.— Were
employed on the widening of the Great
Northern Railway between King's Cross
and Oakleigh Park. They saw a great
variety of work, including the construction
of some heavy retaining walls, involving
heavy shoring; the construction of the new
Barnet tunnel and the long Haringay
viaduct; the enlargement and extension
of some of the present station yards. —
They have gained a good knowledge of
masonry and concrete works, the treatment
of heavy slips, and have done a great deal
of levelling and setting out.

P. J. Corbett; L. A. Lewis. — Employed on
the Dore and Chinley Railway. The principal
work on this line is a four-mile tunnel,
worked with a bottom heading and
breakups. It is being driven with
compressed

compressed air drills, and the work is
being carried on partly from the open
ends and partly by shafts. They have —
gained a good experience of tunnel work,
including the necessary machinery; but
besides this, they have seen the formation
of banks and cuttings in earth and rock,
the construction and erection of viaducts,
culverts, and small iron bridges. They
visited for a week the York Sewage Works.

H. M. Willmott. — Employed on the widening
of the Great Western Railway between —
Maidenhead and Didcot. The works were
of a varied and interesting description,
including the widening of the Maidenhead
and Moulsoford bridges, the removal of
several arched bridges over the railway
and their conversion into girder —
bridges, heavy retaining walls, and deep
and difficult foundation works. He
has gained a good experience of —
masonry works, both in concrete
and

and brick; station arrangements and goods yards; foundation work of all kinds, with and without water; the formation of deep cuttings and banks.

E. A. Smith. - Was first employed on the tunnel at King's Cross Station, Great Northern Railway, a long masonry viaduct at Haringay, and the London Board School at Bow; afterwards he went to Leicester, on the widening of the Midland Railway, where he saw the construction of the Hington and Leicester tunnels, and the commencement of the large bridge with cylinder foundations over the Trent; he has a good experience of tunnel work done by hand, as no compressed air drills were used in these tunnels, including shafts, and the arrangements necessary for removing the material and bringing forward bricks, &c. He has seen the formation of banks and ~~and~~ cuttings

cuttings in the approaches, and the use and application of concrete and masonry.

A. H. Morice. - Employed on the widening of the Great Western Railway between Reading and Didcot, and later on the widening of the same railway between South Brent and Newton Abbot; at Reading, Goring, and Moulsoford he had much the same work as Mr. Willmott. Temporary contractor's bridges and railroads, deep foundations without and with water, masonry and iron bridges, and retaining walls; at Brent the chief work was a tunnel, about 800 yards long, worked by hand, with shafts, also a large skew bridge. He has seen every variety of concrete and masonry work, rock cutting, culverts, bridges, &c.

E. G. Gahagan. - Employed on the Manchester Waterworks near Lake Thirlmere; the works included long tunnel

tunnel aqueducts lined with concrete, —
large masonry dams for impounding
the lake water, straining wells, pipe
syphons for carrying the water across
the valleys, head syphon wells, waste
water overflow, and compensation —
arrangements at the dam; road making,
bridges, and culverts; temporary works.

W. Hutton. — Was for seven months
on the Manchester Waterworks, and saw
the same work as detailed above in the
case of Mr. Gahagan; for the last five
months he has been on the Hamilton
Hill Railway near Glasgow; here he
saw the ordinary details of railway
construction, earthwork, arched
bridges and culverts, &c., and obtained
a good knowledge of concrete, masonry,
foundation work, and general
railway construction.

The wishes of the Government of
India, that one Engineer should
yearly

yearly be sent to a course of mining, ³²⁶⁴ —
conveyed in their Circular No 12, P.W.,
of 24th February 1892, and which was
forwarded from the India Office in
P. W. 447, of the 2nd April 1892, was
received too late to allow of this being
carried out during the last year, but one
Engineer has this year been placed
with an eminent mining Engineer
for instruction in this branch.

I have, &c.,

(Signed) R. J. Woods,
Superintendent, Practical Course,
1891-92.

The President,
Coopers Hill College.

All communications
should be addressed to
the Secretary.

No. 3575 G.
GOVERNMENT OF INDIA.

PUBLIC WORKS DEPARTMENT.

GENERAL.

3264
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To
The Secretary to the Government of Madras
Public Works Department

Simla, the 3rd November 1892

Sir,

I am directed to forward, for
information, a copy of the report of
Mr. R. J. Woods on the work of the Assistant
Engineers from the Royal Indian Engineer-
ing College who have recently completed
their course of practical training in
England.

I have the honour to be,
Sir,
Your most obedient servant,
C. M. Walker

Documents accompanying.
Report by Mr. Woods on
Asst. Engrs. from the
Royal Indian Engineer-
ing College.

Under Secy. to the Govt. of India
H

P. W. CURRENT No. 11234

~~4/29~~
No. 3264. W d/29 Nov/92
PC

Enclol

Recd: 11-11-92

^{1/11/92}
Recorded.

[Signature]
18-11-92

No 159 W d/17-1-91
- 1280C - 7-3-91
- 1639C - 21-3-91
- 3006W - 11-11-91
- 5409C - 2-12-91
- 3436W - 19-12-91
- 373-4W - 6-2-92
- 1892W - 29-6-92

Ham. 21/11. R 25/11

P 1/12

J.C. 30/