

IN THE HIGH COURT OF THE REPUBLIC OF SINGAPORE

[1993] SGHC 219

Suit No 1710 of 1988

Between

Golden Singa Engineering
(Singapore) Pte Ltd

... Plaintiff

And

Techfield Engineering Pte Ltd

... Defendant

GROUND OF DECISION

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**Golden Singa Engineering (Singapore) Pte Ltd v Techfield
Engineering Pte Ltd**

[1993] SGHC 219

Suit No 1710 of 1988
Goh Phai Cheng JC
21 September 1993

1 **Judgment:**

2 Coram: GOH PHAI CHENG J.C.

3 Cur. Adv. Vult.

4 JUDGMENT

5 Both the plaintiffs and the defendants are civil and electrical engineering subcontractors. In 1985, the Public Utilities Board ("PUB") awarded contract No. KE 40783 for the supply and installation of 66KV XLPE cables and accessories to Messrs Pirelli Treficable S.A. Pirelli Treficable S.A. entered into a subcontract with Pirelli U.K. PLC ("Pirelli U.K.") for the carrying out of the installation works for the power cables.

6 Pirelli U.K. awarded to Messrs Henry Boot International Ltd ("Henry Boot") a subcontract for the carrying out of part of the installation works in accordance with the contract made between Pirelli U.K. and Pirelli Treficable

S.A. Henry Boot in turn accepted a tender dated 14 February 1985 from the defendants for carrying out the works described in the said tender. An agreement dated 29 July 1986 was signed between Henry Boot and the defendants. Clause 6 of the said agreement provides that it shall be deemed to have come into effect on 14 February 1985.

7 The defendants secured the works for the installation of 66KV XLPE power cables along sixteen routes. They engaged subcontractors to help them to carry out part of the works. The plaintiffs were one of the subcontractors engaged by the defendants to carry out the work for laying the cables along two of the sixteen cable routes.

8 The Plaintiffs' Claim

9 In this action, the plaintiffs' claim is for the sum of \$209,538.20, being the balance due to them from the defendants for the cable installation works ("the works") carried out by them for Pirelli U.K. at the defendants' request. During the progress of the works, the plaintiffs had from time to time sent invoices to the defendants for the value of the works carried out by the plaintiffs. The aggregate amount of the sums in all the plaintiffs' invoices was \$1,049,090.84. The defendants had from time to time made payments to the plaintiffs. The aggregate sum of all those payments was \$819,552.60. After making an adjustment for a sum of \$19,933.00 which the plaintiffs had given to the defendants as a credit for claims for damage to public services and materials purchased by the defendants on their behalf, there is still a balance of \$209,538.20 that is still due and owing to the plaintiffs. In the alternative, the plaintiffs' claim is for the sum of \$209,538.20, being the balance of reasonable remuneration for the works carried out by the plaintiffs.

10 The Amended Defence and Counterclaim

11 In their amended defence and counterclaim, the defendants alleged that they had requested the plaintiffs to carry out -

12 (a) the excavation works and cable laying works that the defendants had undertaken to carry out under their subcontract with Henry Boot in an agreement dated 29 July 1986; and the said works were described by the defendants as "the Techfield works";

13 (b) certain works between Paya Lebar Substation and Paya Lebar Airport Substation that were described by the defendants as "the additional works"; and

14 (c) certain works that were described by the defendants as "the triple circuit cable installation works".

15 The defendants further averred that both the additional works and the triple circuit cable installation works were outside the scope of the Techfield works and that remuneration for those works were not agreed upon between the plaintiffs and the defendants; and in the premises the defendants were liable to pay for the additional works and the triple circuit cable installation works on a quantum meruit basis. In the alternative, the defendants alleged that they had engaged the plaintiffs to carry out the additional works and the triple circuit cable installation works on an implied term that reasonable remuneration would be paid for those works. They alleged that the reasonable remuneration payable to the plaintiffs for the additional works and the triple circuit cable installation works was:

16 (a) For the additional works \$ 18,597.00

17 (b) For the triple circuit cable Installation works \$ 406,345.95

18 The defendants further alleged that they had overpaid the plaintiffs a sum of \$46,401.42. They are claiming that sum with interest and costs from the plaintiffs by way of a counterclaim. The make-up of the defendants' counterclaim of \$46,401.42 is as follows:

19 Amount paid by the defendants \$ 819,619.60

20 Less amounts due to the plaintiffs:

For the Techfield works	\$ 348,275.23	
For the additional works	18,597.00	
For the triple circuit cable installation works	\$ 406,345.95	\$ 773,218.18
Overpayment		\$ 46,401.42

21 The Reply

22 In their reply, the plaintiffs -

23 (a) alleged that an agreement for the works that the defendants had requested the plaintiffs to carry out was prepared by the defendants and was to have been signed by the parties on 20 July 1985; and despite two letters from the plaintiffs urging the defendants to execute the said agreement, the defendants failed to do so;

24 (b) denied that the defendants had requested the plaintiffs to carry out the Techfield work pursuant to the subcontract made between the defendants and Henry Boot;

25 (c) denied that the triple circuit cable installation work was outside the scope of the works that the plaintiffs had contracted to carry out for the defendants for the installation of the electrical cables along the two routes;

26 (d) alleged that the defendants had requested the plaintiffs to carry out double circuit cable installation works along the route from Kallang Bahru to Bishan and single circuit cable installation works along the route from Kallang Bahru to Toa Payoh; and

27 (e) alleged that the triple circuit cable installation works were in fact carried out by installing the double circuit cables and the single circuit cables simultaneously wherever possible along the routes from Kallang Bahru to Toa Payoh and despite the triple circuit cable installation works being within the scope of the works which the defendants had requested the plaintiffs to carry out, the triple circuit cable installation works entailed an amount of work that far exceeded the work required to install the double circuit cables and the single circuit cables.

28 The Issues

29 The issues as disclosed by the pleadings are:

30 (a) Was there an agreement between the parties that the plaintiffs were to carry out the Techfield works pursuant to the subcontract that was made between Henry Boot and the defendants?

31 (b) Were the additional works and the triple circuit cable installation works outside the scope of the works that the plaintiffs had agreed to carry out for the defendants? (c) If no rates were agreed between the parties for the additional works and the triple circuit cable installation works, what is the remuneration payable to the plaintiffs for those works on a quantum meruit basis?

32 The Cable Installation Works

33 A brief description of the works carried out by the plaintiffs is necessary in order to understand the nature of the dispute between the parties. The works that the plaintiffs had undertaken to carry out for Pirelli U.K. involved the digging of trenches in different ground conditions of various dimensions in width, depth and length (called span or section) and the laying of cables in those trenches. The trenches dug in different ground conditions were called Type A, B or C trenches and so on. For example, trenches that were dug on ground where the top layer is grass turf, were called Type A trenches. Trenches that were dug on the surface of a road were called Type C trenches. Cable ducts consisting of PVC pipes had to be laid in Type C trenches and thereafter the pipes were encased in concrete. For those Type C trenches where excavations works were carried out at night, they were called Type C1 trenches.

34 The cables were installed in a trench in different configurations as single circuit, double circuits or triple circuits. The diameter of a single-core cable is approximately 100 mm. For a single circuit transmission line the plaintiffs had to lay three single-core power cables plus two other cables - - the pilot cable and one telephone cable. After the cables were laid, the trenches would be backfilled with fine sand (1st layer), and covered with concrete slabs and then with earth

or granite dust (2nd layer). The trenches would then be reinstated either with grass turfing, premix or concrete, to its original condition.

35 The specifications issued by the PUB to the main contractor for the project give the following dimensions for a standard trench that is suitable for the laying of cables as single circuit, double circuits or triple circuits:

36 Type of configuration Width Depth

37 Single circuit 750 mm 1500 mm Double circuits 1200 mm 1500 mm
Triple circuits 2250 mm 1500 mm

38 The dimensions of a trench that runs under a road crossing where there are other electrical and telephone cables or gas and sewer pipes under the road may be different. Such conditions involve digging the trench to a greater depth.

39 Cable Routes K & L

40 The evidence of the defendants' managing director, Quah Liong Thye ("Quah"), was that he had approached the plaintiffs in or about June 1985. The plaintiffs were supposed to carry out works along cable routes K1 and L. According to the defendants' discussions with Pirelli, the defendants were supposed to have commenced work on 29 July 1985. There was a special site progress meeting held on 17 July 1985 (DB1) which was attended by the representatives of Pirelli U.K., the plaintiffs and the defendants. The agreement reached at the said meeting was that the plaintiffs were to carry out the works for the installation of cables along routes K1 and L as double circuits and the defendants were to carry out the works for the installation of cables along route

K2 as a single circuit. Those cable routes were to have been laid in separate trenches. This was not disputed by the plaintiffs.

41 The defendants called Mr Donald Ivor Gallop ("Gallop"), the area manager of Pirelli U.K., to give evidence and his evidence was briefly as follows. Both cable routes K & L ran from the PUB Kallang Bahru sub-station. One went to the Toa Payoh sub-station and the other to the Bishan sub-station. On 7 July 1985 the works for the installation of these two major cable routes were to have been carried out by two different contractors from the Kallang Bahru substation. It was envisaged on 7 July 1985 that the two routes would run in a common trench. The PUB directed that the two cable routes be laid in a common trench after trial holing was done when it was established that there was sufficient room to install two routes in a common area. Trial holing was carried out between 17 July and 29 July 1985.

42 The Scope of the Plaintiffs' Works

43 The evidence of the plaintiffs' managing director Wan Soon King ("Wan") was briefly as follows. He had discussions with Quah on the scope of the works to be carried out by the plaintiffs and had agreed with Quah on the rates for those works. The scope of the works and the agreed rates were set out in a contract document (PB1) that was prepared by Quah and handed to him on 20 July 1985. The provisions of PB1 in so far as they are material read:

44 `This contract is made the 20th day of July 1985 . . . for the following scope of cable trenching and installation works hereinafter called Route K1 & L (double circuits) and Route K2 (single circuit):

45 1. To supply labour, supervisor and all necessary equipment and
machineries for excavation of trenches, laying of all power cables and auxiliary
cables, and complete backfilling with sand and concrete-slabs for Type A and
Type B trenches;

46 2. As for Item 1, but Type C < trenches > , inclusive of encasing PVC
pipes in 150 mm thick concrete (5 Nos. for single circuit and 10 No. for double
circuits)

47 (a) Type C1 (night work between 7 pm to 7 am) (b) Type C2 (day work
between 7 am and 7 pm);

48 3 To excavate joint bay < s > with timber shuttering and backfilling;

49 4. To pull cable through existing pipes, excavated trenches, cable
bridges and cable basement/floor;

50 but excluding:

51 1 Road reinstatement and civil reinstatement works;

52 2. Breaking of road for Type B trench;

53 3. All shuttering materials, steel plates, lifting equipment, swivels,
tension meter, wire rope, winch, concrete slabs, sand, which shall be supplied
by < the defendants > .'

54 The rates for the above items of works for the laying of cables in single
circuit or double circuits were set out in PB1. The following contractual
completion dates were also given in PB1:

55 1st circuit Route K1 & K2:31 January 1986 2nd circuit Route L :31
October 1986.

56 Wan's evidence in his own words on why PB1 was not signed was (NE,
p.3 at D):

57 ` < PB1 > was not signed because we have discussed and agreed but
were unable to get Mr Quah to sign it because every time we contacted him he
was not available. We carried out the works even though the contract was not
signed because it is a national project. Electricity supply was required for the
MRT stations. We knew Mr Quah so long and there was no reason why we
could not trust him. So we got the job started because we knew of the required
completion date. The plaintiffs commenced work on 7 July 1985.'.

58 In cross-examination, Wan said that the plaintiffs carried out the works
for a road crossing prior to 20 July 1985 and the work done was billed to the
defendants in the plaintiffs' invoice No. 0159 dated 18 July 1985 (see PB71 or
DB84). When counsel for the defendants referred him to the Reports of Work
Completed (ROWCs) submitted by Pirelli U. K. to the PUB which showed that
the cable was laid on 16 August 1985, Wan explained that the cable ducts were
laid in July 1985 and cable laying was completed on 16 August 1985.

59 Quah's evidence on PB1 was briefly as follows. PB1 was prepared by
him. On 20 July 1985 the defendants were not aware of any other works apart
from those listed on PB1 that had to be carried out by the plaintiffs. The
plaintiffs' cable installation works commenced on 29 July 1985. The reason why
PB1 was not signed was because the parties needed new rates for the triple
circuit trenches that were not found in PB1. Wan and Raymond Oh had asked

for a rate of \$175 per metre for the triple circuit Type A and B trenches but he did not agree.

60 Wan's evidence on the rates for triple circuit cable installation works was (NE, pp. 5 - 6):

61 `In PB1 - 2, there is only a reference to a single circuit and a double circuit. We were instructed to carry out triple circuit cable installation even before we commenced to install any single or double circuit. We were told to do that because of the space constraint and the lack of time. We were told to carry out the triple circuit cable installation at one go. Triple circuit cable installations were only carried out on certain parts of the route. When we installed the triple circuit cable installation we put together the single circuit and the double circuits. It is therefore a combination of the single circuit and the double circuits.

62 The entire project took us about seventeen months to complete. While we were carrying out the works we billed the defendants progressively after each span of the work. In the invoices we sent to the defendants, we based it on the amount of actual work done. For the single circuit cable we used the single circuit cable rate. For double circuit cable we used the double circuit cable rate. For triple circuit cable, we used a rate which is the sum of the rates for the single circuit cable and the double circuit cable.

63 Mr Quah and I had discussed the rate for triple circuit cable installation. For the triple circuit cable, we were told to dig a trench of 2.25 metres wide. For a single circuit cable, we only need to dig a trench of 750 mm wide. For a double circuit cable, we need to excavate a trench of 1,200 mm wide. The combination

of single circuit and double circuit trenches is only 1,950 mm but we were told to dig a trench 2.25 metres wide for a triple circuit cable excavation. That is the reason we stuck to the single and double circuit rates without claiming any extra.'.

64 In cross-examination, Wan agreed with counsel for the defendants that PB1 was an incomplete contract as no rates for the triple circuit cable installation in Type A and B trenches were stated therein. When he was asked why there were no such rates in PB1, Wan's explanation was that it was agreed between him and Quah that the rates for the Type A and B triple circuit trenches would be the sum of the respective rates for the Type A and B single circuit and the double circuit trenches.

65 Quah's evidence on the remuneration payable to the plaintiffs for the triple circuit cable installation was (NE, p. 56 to 57):

66 'Remuneration was not agreed at the time the triple circuit trenches were installed. We were told by Henry Boot to install triple circuits. They were informed by Pirelli. The instruction came from PUB. I informed the plaintiffs. This was a very important circuit for power supply from Kallang Bahru to Toa Payoh substation and to Bishan substation for the MRT project.

67 Originally route K was intended as a double circuit called K1 and K2 from Kallang Bahru substation to Bishan substation. As for route L, it was intended as a single circuit from Kallang Bahru substation to Toa Payoh substation. Along the common routes wherever possible, we were to install triple circuit trenches. The purpose of installing triple circuits was to speed up

the work. It would be quicker to install a triple circuit trench instead of two separate trenches. Working in different operations would take more time.'

68 Invoices sent by the Plaintiffs to the Defendants

69 Raymond Oh was a director of the plaintiff company and his evidence was briefly as follows. He was in-charge of the plaintiffs' invoicing for the project. During the period when the works were in progress, the plaintiffs had from time to time rendered invoices to the defendants for works carried out by them. He attended to the collection of monies due from the defendants on the invoices that were sent to the defendants. He often called at the defendants' office to collect the payments which were due. In the course of his collection of monies due from the defendants, he did not meet Quah. Whenever the defendants did not agree with the plaintiffs' invoices, they amended them. The defendants would return an amended copy of the plaintiffs' invoice with a cheque for the amended amount shown on the invoice. When no amendment was made to any part of the plaintiffs' invoice, that would be an indication that the defendants agreed with that part of the invoice. The invoices that were returned by the defendants to the plaintiffs with the defendants' payments would show -

70 (a) amendments to the rate, the quantity or both the rate and quantity for an item of work stated therein; or

71 (b) the deletion of an item of work stated therein; or

72 (c) new items of work inserted therein by the defendants together with the amounts due to the plaintiffs for those items of work.

73 Wan said that during the progress of the works, the plaintiffs used the measurements which were given to them by the supervisors of the defendants and Pirelli UK for the plaintiffs' invoices that were sent to the defendants. In cross-examination, Wan said the plaintiffs did not have access to the ROWCs that were submitted by Pirelli to the PUB. He accepted the measurements given in the ROWCs as accurate.

74 Raymond Oh's evidence was that at the time the invoices were sent to the defendants, the plaintiffs did not have the ROWCs and the plaintiffs only managed to obtain them towards the end of the contract, from Pirelli. He also accepted the measurements given in the ROWCs as accurate.

75 Quah said that there was a gentleman's agreement between the parties to use the ROWCs for the measurement of the quantities of work done by the plaintiffs and that he furnished the ROWCs to the plaintiffs the moment he received them from Henry Boot or Pirelli. In cross-examination, Quah said the gentleman's agreement was reached right at the commencement of the works and he agreed with counsel for the plaintiffs that the agreement to use the ROWCs for measurements was an important term of the contract and it was not included in DB5. Quah when he was cross-examined by the plaintiffs' counsel said (NE, p. 78 at C):

76 `Q: You said when DB5 was presented, certain amendments were made?

77 A: Yes.

78 Q: Yet you did not include this term which you said was an important term?

79 A: Yes.

80 Q: So there were two opportunities for you to include this important term to include in the contract and you failed to do so. I put it to you that the real reason why it was not included was because there was no gentleman's agreement to use the ROWC.

81 A: Not true.

82 Q: I put it to you that that was the real reason why you failed to provide the plaintiffs with any of the ROWC progress reports.

83 A: Every time as soon as I received a ROWC from Pirelli or Henry Boot, I passed them to the plaintiffs immediately.

84 Q: My instructions are, you did not supply the ROWCs to the plaintiffs?

85 A: Not true.'.

86 Rates for Triple Circuit Cable Installation in Type A and B Trenches

87 The plaintiffs had used the rate of \$174 per metre for triple circuit cable installation works in Type A and B trenches in many of their invoices that were sent to the defendants. The defendants paid the plaintiffs for this item of work on the basis of that rate. The defendants did not make any amendment to that rate which appeared in the following invoices: (a) No. 0175 dated 28 September 1985; (b) No. 0195 dated 9 December 1985; (c) No. 0205 dated 13 January 1985; (d) No. 0206 dated 13 January 1986; (e) No. 0207 dated 13 January 1986; and (f) No. 0208 dated 29 January 1986.

88 It is relevant to note that the plaintiffs had used the rate of \$100 per metre for double circuit cable installation works in Type A & B trenches in invoices Nos. 0217 and 0218 both dated 7 March 1986. Quah amended that item of work in the two invoices to triple circuit cable installation works in Type A & B trenches and he used a rate of \$174 per metre. The defendants paid the plaintiffs for those two items of work in the invoices on the basis of the amended rate of \$174 per metre.

89 In cross-examination, it was put to Wan that the plaintiffs' rates for triple circuit installation in Type A and B trenches as stated in the plaintiffs' invoices were unreasonable. This was denied by Wan.

90 Quah's evidence was (NE, p. 58):

91 `Triple circuit cables were laid on 16 August 1985 and no rates were agreed. This was a very important circuit for power supply to MRT Bishan substation. We had a target date to achieve. I did not wish any dispute to affect the work.

92 On many occasions I tried to resolve the rates for triple circuit Type A and B trenches. I proposed a reasonable market rate of between \$130 to \$145. Mr Wan and Mr Raymond Oh said that they will consider and reconcile the matter at the end of this important project. No reconciliation was reached. To-date I have made payments up to the amount of \$819,619.60. Plaintiffs would submit their invoices to the defendants when they completed the work. In the beginning I made an advance payment to the plaintiffs. Subsequently when I received the official measurements in the ROWCs, I tried to reconcile the measurements with the ROWCs and also the rates in the document.'.

93 In cross-examination, Quah's evidence was (NE, p.76 at F):

94 `Q: Where did you get the rate of \$130 to \$145 from?

95 A: I consulted Henry Boot. I had the same problem with the triple circuit rates with Henry Boot i.e. whether a triple circuit trench is the sum of the rates for the single and double circuit trench. The quantity surveyor of Henry Boot advised me accordingly, based on the single and double circuit rates of \$74 and \$104 respectively.

96 Q: When was this?

97 A: In 1987.'.

98 The quantity surveyor who was mentioned by Quah in his evidence was one Lam Chye Shing ("Lam"), a partner of the firm of Rider Hunt Levett & Bailey. In his evidence-in-chief, Quah said he had obtained an opinion from Lam on what was a reasonable rate for triple circuit cable installation in Type A and B trenches (DB79). I shall revert to the evidence of Lam later.

99 In his evidence-in-chief, Quah also referred to invoice No. 0195 dated 9 December 1985 where the plaintiffs had used the rate of \$174 per metre for triple circuit cable installation in Type A and B trenches and the defendants had made payment to the plaintiffs without making any amendment to that rate. Quah said the reason why the defendants had made the payment was because he expected the parties to come to some agreement on a new rate for triple circuit Type A and B trenches and he also expected both the plaintiffs and the defendants to effect a reconciliation of accounts at the end of the project.

100 Quah also referred to a letter dated 6 June 1988 (DB69) written by the defendants to the plaintiffs on the final reconciliation and settlement of accounts between the parties. Quah said that on page 2 of that letter the defendants attempted to reconcile the rates for triple circuit cable installation for Type A and B trenches on a global basis. In that letter the defendants informed the plaintiffs that an adjustment of \$113,378.40 should be made for the aggregate amounts claimed by the plaintiffs for triple circuit cable installation for Type A and B trenches in all the plaintiffs' invoices. The defendants' explanation for the adjustment is to be found in the following notes at the bottom of a document entitled "Adjustment of Rates for Triple Circuit: (Type A & B trenches Route L, K1 and K2)", which was annexed to DB69:

101 `1. Invoice amount above based upon < a rate of > \$174 per metre for triple circuit.

102 2. The difference between your double circuit rate of \$100 and your single circuit rate of \$74 is \$26. A proportional increase for a triple circuit should be \$39 based on trench widths and cable installations.

103 3. \$174 less 20% = \$139 in accordance with note 2.'.

104 In cross-examination, Raymond Oh said the plaintiffs refused to reconcile the accounts with the defendants because the plaintiffs were not paid for the installation works carried out for Span No. 11.

105 Quah's evidence was that as the works progressed the parties found that they needed more rates because the works that were carried out were beyond the scope of the works described in PB1. He negotiated additional rates with

Raymond Oh and Wan and these were to be found in a document dated 7 November 1985 (DB5). His evidence on DB5 was (NE, p.58 at A to C):

106 `The handwritten words on DB5 for the rate for extra excavation were written by me on 7 November 1985. Mr Raymond Oh and Wan Soon King came to the defendants' office with this document (DB5). We went through the rates again. As for item 7, I proposed to them \$25 instead of \$45, in line with the market rates. This proposal was accepted by them. Therefore I made the alteration. The rate is \$25 per cubic metre. Likewise for the last item on DB5, we agreed the percentage should be 50% instead of 25%. Mr Raymond Oh made the alteration. Subsequent to 7 November 1985 no contract was signed between the parties.'

107 In cross-examination, it was put to Quah by counsel for the plaintiffs that DB5 was not prepared by the plaintiffs. Quah's reply was (NE, p.75 at E):

108 ` < The plaintiffs > prepared this document. The figures "25.00" were mine. The figures "50%" was written by Mr Raymond Oh. The document was typed on the plaintiffs' typewriter.'

109 In cross-examination Wan said that DB5 was prepared by Quah. Wan agreed with counsel for the defendants that 19 out of 25 rates stated in PB5 corresponded with the rates used by the plaintiffs in their invoices but he maintained that he has not seen DB5 until the trial of this action. When it was put to Wan that DB5 was prepared by the plaintiffs, Wan said he could not remember. Wan agreed with the defendants' counsel that DB5 was a more complete version of the works that were done by the plaintiffs as compared with

PB1. In re-examination, Wan said that he did not come across DB5 until the trial of this action.

110 In cross-examination, Raymond Oh said the plaintiffs' agreement to bear 50% of the claims for damage to public services was made orally between Quah and Wan at the beginning of the contract. Raymond Oh also denied that the alteration to the last item on DB5 was made by him in his handwriting. He also DB5 for the first time at the trial.

111 The evidence of the quantity surveyor, Lam, was that by using the pro-rata method and the existing rates agreed upon between the parties, he arrived at a rate of \$135 per metre as the reasonable remuneration payable to the plaintiffs for triple circuit cable installation works for Type A and B trenches. In cross-examination, Lam said his opinion was based on the instructions he received from the defendants. When it was pointed out to Lam that in the defendants' instructions, the width of the excavations for a trench for double circuit cable installation was given as 1.5 metres whereas the actual width of the excavation of such a trench was 1.2 metres, Lam agreed that it would have an impact on his calculations which he had done for the defendants.

112 Rates for Triple Circuit Cable Installation in Type C1 and C2 Trenches

113 The plaintiffs' invoice No. 0159 dated 18 July 1985 shows inter alia the plaintiffs' billing for the following items of work or supply of materials for cable Routes L and K at the Geylang Bahru road crossing and other works:

114 Unit Quantity Description Price Amount

115 Item 1:

116 33.5 m. Installation of (2x10) nos. 150mm PVC pipes including supply of concrete \$20,100.00

117 Item 2:

118 Supply of granite dust \$ 1,261.80

119 Item 3:

120 Supply of labourers and supervisor to set up rollers and assist in pulling 1 no. power cable at Keppel Road 500.00

121 \$21,861.80

122 Raymond Oh's evidence was that he took 33.5 m as the quantity from his site supervisors and he arrived at the amount of \$20,100.00 for the first item in invoice No. 0159 by taking the rates from PB1. By dividing \$20,100.00 by 33.5 m, it would appear that Raymond used the rate of \$600.00 per metre for the first item of work in the above invoice.

123 The rates stated in PB1 for Type C trenches, inclusive of encasing PVC pipes in 150 mm thick concrete (5 Nos. for single circuit and 10 Nos. for double circuits) are as follows:

124 (a) Type C1 (night work between 7 pm to 7 am): Single circuits - \$265.00 per metre Double circuits - \$400.00 per metre (b) Type C2 (day work between 7 am and 7 pm): Single circuits - \$200.00 per metre Double circuits - \$300.00 per metre

125 If the rates in PB1 for the single circuit and the double circuit cable installation for Type C1 and C2 trenches are added together, one would arrive at the following rates for triple circuit cable installation:

126 (a) Type C1: $\$265 + \$400 = \$665$; and (b) Type C2: $\$200 + \$300 = \$500$.

127 It is relevant to note that Raymond Oh used the rate of \$600 and not \$665. He explained that he had made an error by using \$600 instead of \$665.

128 On 31 December 1985 the defendants sent to the plaintiffs a cheque for the amount of \$15,121.80 with the invoice No. 0159. The following amendments were made to the invoice:

129 (a) for item No. 1, the defendants put a line across the figure of "33.5 m" under the column "Quantity" and inserted the figure "30.8"; inserted the figures "\$450.00" under the column "Unit Price" and put a line across the amount of \$20,100.00 and inserted the sum of \$13,860.00 in its place; and

130 (b) for item 3, the defendants put a line across the sum of \$500.00.

131 In other words, the defendants paid the plaintiffs in full the sum of \$1,261.80 for item 2 and a sum of \$13,860.00 for the first item in that invoice. They refused to pay the sum of \$500.00 that was claimed by the plaintiffs for item 3.

132 Quah said that item No. 1 in invoice No. 0159 was the triple circuit cable installation works in Type C2 trenches. His evidence was (NE, p. 63 at A to C):

133 `Take < invoice No. 0159 > for example, the plaintiffs invoiced the defendants for 33.5 m of pipes installed for triple circuits. According to the ROWCs the correct measurement < of the quantity > should be 30.8 m. I got the figure 30.8 m from DB85, item 2.3.3b. I inserted the rate of \$450. This is a variation from the normal one where only fifteen pipes were installed. In this case PUB requested five spare pipes to be installed together. The normal rate for fifteen pipes which plaintiffs and the defendants agreed upon is \$400 p.m. The agreement is at DB5, Item 2, Type C2 triple circuits. I arrived at \$50 as the additional rate for installing the additional five pipes which is a variation.'

134 In cross-examination, Quah's evidence on the first item in invoice No. 0159 was (NE, p. 82 - 84):

135 `Q: Look at your evidence at the NE, p. 63. . . . How did you get \$50?

136 A: The plaintiffs were only responsible for digging the trench and installing the pipes to be encased in concrete. I supplied all the materials e.g. concrete, PVC pipes, timber shuttering, etc. The \$50 is based on the agreed rate of \$300. The plaintiffs agreed to this.

137 Q: You said you felt \$50 was fair. It may well be that the plaintiffs felt it is not fair?

138 A: But they agreed.

139 Q: Where is the agreement?

140 A: PB71 < the copy of the invoice No. 0159 in the plaintiffs' bundle of documents > . The handwriting on PB71 is not mine. The handwritten words on

DB84 < the copy of the invoice No. 0159 in the defendants' bundle of documents
> are mine. We discussed invoice No. 0159. They agreed with the rate of \$450
p.m.

141 Q: I put it to you that there was no agreement to the rate of \$450 for this
invoice.

142 A: Not true.

143 Q: I put it to you that the reason why the plaintiffs have not agreed and
have never agreed on this rate is because they are suing you for the balance of
the unpaid amounts on the invoices.

144 A: Not true.

145 Q: This is another instance where you have varied the agreement at your
own whim and fancy, if there was an agreement?

146 A: The rates in DB5 have been used consistently. There is no dispute on
these rates. The plaintiffs have been using these rates for their invoices. The rate
of \$450 is for variation works. Therefore the rate must be different from the rate
in DB5. Therefore this rate is different from the rate in DB5 which is meant for
15 PVC pipes.

147 Q: We have shown various times this morning that you have made
assumptions?

148 A: Not true.

149 Q: And you are a person who changes your mind frequently as and when it suits you?

150 A: That's ridiculous.'.

151 The rates for triple circuit cable installation works in Type C1 and C2 trenches recorded in DB5 are:

152 (a) Type C1 - triple circuits \$525.00 (b) Type C2 - triple circuits \$400.00

153 In invoice No. 0195 at PB76, the plaintiffs' billing for triple circuit cable installation works in Type C trenches was:

154 `Qty Description Unit Price Amount

155 9.0 m Double Cct + Single Cct - Type C S\$450.00 4,050.00'.

156 Raymond Oh said that he made a mistake in the rate used for the above item of work. The rate should have been \$500 not \$450.

157 Raymond Oh's evidence on the rates that were used by the plaintiffs in the other invoices where the plaintiffs submitted claims for triple circuit cable installations works in Type C trenches was (NE, p. 33 to 34):

158 `For invoice No. 0207 < dated 13 Jan 86 > at PB79, we used the rate of \$450 for triple circuit Type C2 trenches. The defendants amended the rate to \$400.

159 At PB76 is the invoice No. 0195 dated 9 Dec 85. PB79 is dated 13 Jan 86. On PB76, the defendants accepted the rate of \$450, and on PB79, the

defendants disallowed the rate of \$450. I had no access to Mr Quah. So I could not ask for any explanation.

160 On invoice No. 0208 dated 29 Jan 86 at PB80, we used the rate of \$450 for triple circuit Type C2 trenches. The defendants amended the rate to \$400.

161 Between Dec 85 and Jan 86, the defendants appeared to have a change of mind about the rates to be used for triple circuit installations for Type C trenches.

162 All our invoices for Type C2 triple circuit installations used a rate of \$450. It should have been \$500. There has been a mistake.

163 As for the rates shown on PB1 for triple circuit Type C1 installation, if we add up the sums of the rates for single circuit and double circuit Type C1 installation, the rate for triple circuit Type C1 installation should be \$665.

164 Our invoice No. 0205 dated 13 Jan 86 at PB77 shows a rate of \$600 for triple circuit Type C1 trenches. We also made a mistake. It should have been \$665.

165 I refer to our invoice No. 0208 dated 29 Jan 86 at PB80. We also used the rate of \$600 for the triple circuit Type C1 installation. The mistake is repeated throughout all the invoices. We only discovered the mistake after we stopped work on the project. . . .

166 Joint Bays

167 A joint bay is a specially constructed pit, normally of closed shuttering on all its sides, concreted completely at the base and usually 2,200 mm deep. This is the place where two consecutive spans or sections of cables meet and works for connecting the cables together are carried out. There are different types of joint bays depending on whether the cables are laid in single circuit, double circuits or triple circuits.

168 In Invoice No. 0251 dated 25 June 1986 (DB83) the plaintiffs billed the defendants for the sum of \$43,200.00 in respect of work done in twelve joint bays for triple circuit cable installation. In arriving at the sum of \$43,200.00, the plaintiffs used the rate of \$3,600.00 for each joint bay:

169 $\$3,600.00 \times 12 = \$43,200.00$

170 In cross-examination Raymond Oh said that between Kallang Bahru and Toa Payoh, there were eleven spans of cables and there were ten joint bays. He also gave the following evidence in cross-examination (NE, p. 46 at E):

171 `Q: Look at invoice No. 251 dated 25 Jun 86 at PB26. Why is there an invoice for twelve joint bays?

172 A: I think it should be eleven.

173 Q: I suggest to you that it should be ten. A: Between span 11 and 12, we did part of the joint bay, we should bill for 50% of that joint bay.

174 Q: Swisflex dug the joint bay with you?

175 A: We dug it. They covered it up.'.

176 The defendants refused to pay the sum of \$43,200.00 claimed by the plaintiffs for the work done for joint bays. Quah's evidence was that he refused to pay for the laying of cables in joint bays because he was informed by Henry Boot that PUB would not be paying its contractors for laying cables within the joint bays. Since the defendants had a gentleman's agreement with the plaintiffs to use the ROWC as the basis for measurement, he therefore deducted that item of work from the plaintiffs' invoices accordingly.

177 In cross-examination, Quah's evidence was (NE, pp. 80 to 81):

178 `Q: Your evidence on the joint bays is that the plaintiffs are not entitled to payment because PUB said so?

179 A: Yes.

180 Q: Look at your evidence at NE p. 62 at the letter E?

181 A: Yes.

182 Q: Assuming that the ROWC does not apply between you and the plaintiffs, would the plaintiffs be entitled to payment?

183 A: It depends on the agreement.

184 Q: Look at DB5. You see item 3:

185 "Joint Bay (No supply of sand)

(a) Single circuit	S\$1,600.00
(b) Double circuit	S\$2,200.00
(c) Triple circuit	S\$2,800.00"?

186 A: Yes. This refers to the work on the construction of the joint bay. The cable must be pulled to the joint bay. The PUB said their rates for construction of the joint bay must include the pulling of the cable.

187 Q: Do you agree that the plaintiffs have no contractual relationship with PUB?

188 A: Yes.

189 Q: At the time the plaintiffs undertook this work, did you tell them that they will be subject to PUB's directions or rulings?

190 A: I think I did not have to tell them at all. The plaintiffs had in the past done many works of this kind with PUB's main contractors. There is no reason why they do not know the work for joint bays.

191 Q: You assume quite a lot, don't you?

192 A: I don't think so.

193 Q: You assumed that the plaintiffs know that the ROWC must apply and therefore you felt you did not include it in DB2 or DB5 and now you are assuming that the plaintiffs are subject to PUB's rulings and directions, is that how you normally conduct your business?

194 A: No. If the plaintiffs do not use the ROWC as the basis of the record and that they had not had any measurements taken together with the defendants, then there is no basis for any measurement.

195 Q: You agree you normally would not make assumptions?

196 A: We don't.

197 Q: I put it to you that the reason why these two items were not included in DB2 or DB5 is that these two terms never existed.

198 A: Not exactly. It is understood.'

199 One Fabian Wong Ek Kee who was an Executive Engineer with the PUB gave evidence for the defendants. He was responsible for supervising the works. His evidence was that in 1985 PUB paid Pirelli for the cable installation works within the joint bays. Subsequently there was a dispute between PUB and Pirelli as to whether Pirelli was entitled to the payment. PUB subsequently asked Pirelli to refund the amounts paid for that item of work.

200 Gallop's evidence during his examination-in-chief on the joint bays was (NE, pp. 99 - 100):

201 `Q: Look at DB59, para 1.0 which reads:

202 "Cable laying within jointbays has until recently been paid for on this contract as Schedule Item 7.0 - Cable installation without excavation.

203 < Henry Boot > explained that at the time of quotation they had taken this payment into account when arriving at their price for jointbays. They had since been informed that this was not the case and any payments already made for cable in jointbays would be deducted from future invoices.

204 < Pirelli U.K. > regretted the need for this deduction but explained that PUB had informed them that payments for cable in jointbays had been made in

error, as clause 7.0 of the Guidance for submission of rates clearly stated that the rate is not applicable to jointbays. It is also stated in section 2 of the technical specification clause 31 that "the rate quoted for joint holes shall include the cable pulling within the jointbay", < Pirelli U.K. > considered any further approach to PUB would not change the contract conditions especially as all contractors installing cables were bound by the same conditions. < Pirelli U.K. > therefore rejected the claim."

205 Can you explain the background leading to this meeting?

206 A: Cl. 7.0 was a new clause which escaped our attention. We had to refund the money we claimed from PUB and thus we had to recover it from our sub-contractors. Cl. 7.0 was in my sub-contract with Henry Boot.'.

207 The Additional Works

208 The additional works comprised works carried out by the plaintiffs for the defendants outside the Kallang Bahru/Toa Payoh/Bishan routes. In Invoice No. 0164 (DB193) the plaintiffs billed the defendants for a sum of \$19,200.00 at the unit rate of \$30.00 per metre for the additional works. Quah disputed the quantity of 640 metres that was stated in the invoice. He said that the quantity should be 619.90 m as recorded in the ROWC reproduced at DB195. He did not challenge the rate used by the plaintiffs for the additional works.

209 The Defendants' Counterclaim

210 The defendants produced a document (exh. D3) containing all the adjustments that they had made to the plaintiffs' invoices using the measurements given in the ROWCs and the rates that Quah alleged were the

agreed rates or, if there were no agreed rates, the reasonable rates applicable to the items of works appearing in the plaintiffs' invoices. Exh. D3 shows that the defendants had overpaid the plaintiffs a sum of \$46,401.42. Quah's evidence was that the defendants had made an offer to the plaintiffs to waive their claim for a refund of the overpayment, if the plaintiffs agreed to accept their adjustments. Since the plaintiffs rejected his offer, the defendants are now making a counterclaim for that sum.

211 Since the plaintiffs accepted the measurements in the ROWCs as accurate, I directed them to submit a response to exh. D3 to indicate whether they accept the adjustments made by the defendants to their invoices as shown in exh. D3. On 2 February 1993 the plaintiffs filed a document which indicated either their acceptance or rejection of the adjustments made to the sums claimed by them in their invoices. I shall revert to the defendants' adjustments to the plaintiffs' invoices later.

212 Damage to turf and public services.

213 After the completion of the works, the plaintiffs gave a credit to the defendants of a sum of \$19,933.00. Raymond Oh's evidence was that the adjustment was made because the plaintiffs had agreed to reimburse the defendants for 50% of the damage caused in the course of carrying out the works to public services and for some materials ordered by the defendants on the plaintiffs' behalf.

214 Quah's evidence was that the total cost of damage to public services along routes K & L was \$15,013.65 and he claimed 50% of the said sum (i.e. \$7,506.83) from the plaintiffs. In addition he also claimed the sum of

\$14,977.34 for the damage caused to turf whilst the plaintiffs' works were in progress.

215 In cross-examination, Quah's evidence was (NE, p. 73 - 74):

216 `Q: Look at Exh D3, p. 7. Why are you charging the plaintiffs \$14,977.34 for "re-instatement of turf, etc"?

217 A: This is not related directly to the plaintiffs' work but I am charging the plaintiffs for the unnecessary damage of turf at an area which the plaintiffs used for their storage of materials.

218 Q: I put it to you that this is yet another instance where you have changed your mind about the terms of your contract.

219 A: Not true. The plaintiffs at their own liberty used that particular area for storing their materials. I did not think I should pay for the re-instatement for their convenience. Moreover I charged them a reduced rate for turfing out of good will.'.

220 Findings of the Court

221 The first question which arises is whether there was a contract between the parties for the carrying out of the cable installation works along routes K & L. On the evidence before me, I have no doubt in my mind that there was such a contract and it is evidenced by the unsigned contract document dated 20 July 1985 (PB1) which is not in dispute.

222 The next question which arises is whether the defendants had requested the plaintiffs to carry out the works pursuant to the terms of the subcontract made between Henry Boot and the defendants. I think not. PB1 makes no reference to the subcontract that was made between the defendants and Henry Boot. Furthermore Quah said that under the defendants' subcontract with Henry Boot, they were given the work of installing cables along sixteen routes. The plaintiffs only secured the work for the laying of cables along two of the sixteen routes.

223 Were the triple circuit cable installation works and the additional works outside the scope of the works that the plaintiffs had agreed to carry out for the defendants? PB1 states that the plaintiffs agreed to carry out the works for the excavation of trenches and the laying of cables along routes K1, K2 & L. In so far as the triple circuit cable installation works were concerned, Wan's evidence was that the triple circuit cable installations were carried out along certain parts of the cable routes K1, K2 and L due to time and space constraint. Works for the triple circuit trenches were carried out prior to 20 July 1985, i.e. the date of the unsigned contract document, PB1. The defendants were billed for those works in invoice No. 0159 dated 18 July 1985. Gallop's evidence was that on 7 July 1985 it was envisaged that the two cable routes would run in a common trench after the PUB carried out trial holing to establish that there was sufficient room to install two cable routes in a common trench. Quah's evidence was that on 20 July 1985 the defendants were not aware of any other works that had to be carried out apart from those listed on PB1. I accept Wan's evidence that the triple circuit cable installation works were carried out prior to 20 July 1985 and that the installation of triple circuit trenches was required by PUB. In my judgment, the triple circuit cable installation works and the additional works were not outside the scope of the works that the plaintiffs had agreed to carry

out for the defendants. The defendants were aware by 20 July 1985 that triple circuit cable installation works were required by PUB.

224 Was there an agreement between the parties on the rates for triple circuit cable installation works? PB1 does not have any rates for the triple circuit cable installation works. Wan's evidence was that both he and Quah had discussed the triple circuit rates and there was an agreement that the rates for triple circuit cable installations would be the sum of the rates for the single circuit cable installation and the rates for the double circuit installation set out in PB1. Quah denied that there was any such agreement. I accept Wan's evidence. The invoices which were sent by the plaintiffs to the defendants during the progress of the works used a rate for triple circuit cable installations in Type A and B trenches which was the sum of the following rates for cable installation works in Type A and B trenches which are found in PB1: (a) Single circuit \$ 74.00 per metre; and (b) Double circuits \$100.00 per metre.

225 The rate of \$174 for triple circuit Type A and B trenches was also accepted by the defendants.

226 In some of the plaintiffs' invoices (e.g. invoice No. 175 at PB72) the defendants had amended the rate of \$100 wrongly used for triple circuit installations without excavation to the rate of \$103 which is the sum of the following rates given in item 4 under the heading of "Price" in PB1 for the laying of cables without excavation:

227 (a) Single circuit - \$43.00 (b) Double circuits - \$60.00

228 I do not accept Quah's evidence that there was a meeting which took place at the office of the defendants on 7 November 1985 and that both Wan

and Raymond Oh had brought DB5 to his office and they went through the rates set out in DB5. I accept the evidence of Wan and Raymond Oh that they have not seen DB5 until after this action was instituted. I reject Quah's opinion that DB5 was typed on the plaintiffs' typewriter. He did not see DB5 being typed in the plaintiffs' office and in my judgment he is not qualified to give such an opinion. I do not accept the rates set out in DB5 for triple circuit cable installation works as the rates that were agreed between Quah and Wan on 7 November 1985.

229 On the evidence before me I find that there was an agreement between the parties that the following rates should apply to the following triple circuit cable installation works:

(a) Triple circuit Type A and B trenches	\$ 174.00
(b) Triple circuit Type C1 trenches	\$ 600.00
(c) Triple circuit Type C2 trenches	\$ 450.00
(d) Triple circuit Joint Bays	\$3,600.00
(e) To pull triple circuit cable through existing excavated trenches, cable bridges and cable basement/floor	\$ 103.00

230 For the triple circuit Type C1 trenches, the sum of the single circuit rate and the double circuit rate is \$665 (i.e. \$265 + \$400 = \$665). However, the plaintiffs had been using the rate of \$600 in their the invoices and were prepared to accept the rate of \$600 for this item of work. I have therefore adopted \$600 and not \$665 as the rate for this item of work. Similarly, the sum of the single circuit rate and the double circuit rate for type C2 trenches is \$500 (i.e. \$200 +

\$300 = \$500). As the plaintiffs had been using the rate of \$450 and are prepared to accept this rate, I adopt the rate of \$450 for the triple circuit type C2 trenches.

231 Since I have made a finding that there was an oral agreement between the parties on the rates for triple circuit cable installations, the question of what is the reasonable remuneration to be paid to the plaintiffs for triple circuit cable installation works does not arise at all. Keating on Building Contracts 5th Edition at p. 78 states:

232 The expression quantum meruit means "the amount he deserves" or "what the job is worth" and in most instances denotes a claim for a reasonable sum. It is used to refer to various circumstances where the court awards a money payment whose amount at least is not determined by a contract. In some instances, the basis for the payment also is less than contractual.

233 . . .

234 A claim on a quantum meruit cannot arise if there is an existing contract between the parties to pay an agreed sum: *Gilbert & Partners v. Knight* < 1968 > 2 All E R 248 (C.A.).'

235 It is the defendants' case that the plaintiffs are not entitled to payment for the pulling of cables within the joint bays since there was a gentleman's agreement to use the ROWCs as the basis of measurement and since PUB did not pay Pirelli for the work and Pirelli in turn did not pay its subcontractors, the plaintiffs are not entitled to payment for this item of work. PB1 states, inter alia, that the following rates would apply to the pulling of cables through existing pipes, excavated trenches, cable bridges and cable basement/floor:

236 (a) Single circuit \$43.00 (b) Double circuit \$60.00

237 On the evidence before me, I find that there was an agreement between the parties that the plaintiffs should be paid for this item of work and the rate for the pulling of triple circuit cables is, for reasons which I have already given, \$103.00.

238 Can this contractual term be unilaterally varied by the defendants simply because their employer (i.e. Henry Boot) did not pay them for this item of work? I think not. The fact that PUB did not pay Pirelli for this item of work, Pirelli in turn did not pay Henry Boot and Henry Boot did not pay the defendants is irrelevant. There is no contractual relationship between the plaintiffs and PUB or Henry Boot. Furthermore Quah had admitted that at the time when they engaged the plaintiffs to carry out the works, PUB's contract with Pirelli was not shown to the plaintiffs. There is no evidence before me that the plaintiffs had agreed to abide by the terms of the contract between PUB and Pirelli. Therefore, I find that the plaintiffs are entitled under the terms of their contract with the defendants to be paid for this item of work.

239 I now deal with the quantities of work carried out by the plaintiffs. Should the measurements in the ROWCs be used for billing purposes? At the hearing both Wan and Raymond Oh agreed that the measurements in the ROWCs should be used for this purpose. They explained that the quantities stated in their invoices were taken from the site supervisors and they were unable to use the measurements in the ROWCs because they only obtained copies of the ROWCs sometime in 1986 towards the end of the completion of the works. Quah said that there was a gentleman's agreement at the commencement of the works to use the ROWCs and that everytime he received

a ROWC from Pirelli or Henry Boot he would immediately forward them to the plaintiffs. I do not believe Quah. I accept the evidence of Wan and Raymond Oh who gave their evidence in a frank and straightforward manner.

240 As for the defendants' claim for reimbursement for damage to turf and public services, there was an agreement that the plaintiffs would reimburse the defendants for 50% of damages caused to public services. In my view, this agreement does not apply to damage caused to turf. Therefore, the defendants are entitled to the full sum of \$14,977.34 claimed by them for the reinstatement of turf in addition to a sum of \$7,506.83 claimed by them for damages caused to government services.

241 In Exh. D3, the defendants set out their proposed adjustments to the various sums claimed by the plaintiffs in their invoices for the works carried out or materials supplied by them. Having regard to the defendants' proposed adjustments and the plaintiffs' response thereto, my findings on the adjustments which should be made to the sums claimed in each of the plaintiffs invoices which are in dispute and a breakdown of the said sums are set out in the Appendix hereto.

242 To sum up, the sums payable to the plaintiffs on each of the plaintiffs' invoices are as follows:

Invoice No.	Amount payable as determined by the Court
	\$
0159	17,161.80
0164	18,597.00
0175	74,115.80
0181	92,717.40
0185	81,320.40
0193	750.00

0195	89,699.90
0205	95,526.00
0206	78,343.40
0207	79,389.00
0208	98,554.80
0209	-
0214	6,602.10
0217	81,127.40
0218	66,184.20
0226	68,492.60
0242/3/4	16,190.00
0245	1,340.00
0246	665.00
0251	47,000.00
Total	1,013,776.80

243 Less:

Amount paid by defendants	819,619.60	
Damage to government services	7,506.83	
Reinstatement of turf	14,977.34	842,103.77
Amount due to plaintiffs		171,673.03

244 Conclusion

245 I give judgment in favour of the plaintiffs in the sum of \$171,673.03. The defendants' counterclaim is dismissed. The plaintiffs are awarded the costs of this action and the counterclaim. The plaintiffs have been kept out of their money for a very long time. Having regard to the circumstances of the present case, I award the plaintiffs interest on the judgment sum at the rate of 8% per annum from the date of the writ to the date of judgment.

246 _____

247 Adjustments to the Plaintiffs' Invoices

248 Invoice No. 0159

249 The plaintiffs claimed, inter alia, a sum of \$20,100.00 for the installation of 33.5 metres of (2x10) nos. 150 mm. PVC pipes including supply of concrete. This item of work relates to triple circuit trenches.

250 In Exh. D3, the defendants say that the length of pipes should be amended to 30.8 m., which is the quantity recorded in the ROWCs. The plaintiffs accept the proposed adjustment. The defendants further say that the unit rate for this item of work should be \$400.00, which is the rate stated in DB5 for Type C2 triple circuit trenches, and since there are five additional pipes installed, they say the plaintiffs are entitled to another \$50.00 for the additional pipes and hence the rate for this item of work should be \$450.00 per metre. I reject the rate proposed by the defendants since I did not accept Quah's evidence on how DB5 came into existence. For this item of work, I am of the view that the rate of \$450, which is the rate for Type C2 triple circuit trenches, should apply. Since there are five additional pipes, there should be added to this rate another \$50. Hence the rate is \$500 per metre. Based on this rate, I find that the plaintiffs are entitled to a payment of \$15,400.00 for this item of work. The total of the amounts payable to the plaintiffs under this invoice, after making the adjustments is \$17,161.80.

251 Invoice No. 0164

252 In this invoice, the plaintiffs claimed for a sum of \$19,200 being payment for the additional works carried out by them. The defendants say that the quantity shown in the plaintiffs' invoice should be amended to 619.9 m. as

this is the quantity recorded in the ROWC. I accept this amendment. As the defendants do not dispute the rate of \$30 used by the plaintiffs, the total amount payable to the plaintiffs on this invoice after making the adjustments is \$18,597.00.

253 Invoice No. 0175

254 In this invoice the plaintiffs claimed the following sums:

Quantity	Description	Rate	Amount
m.	Span No. 1	\$	\$
262.3 18.3 15.0	Double Circuit and single circuit combine type A/B	174.00	51,434.40
76.4 11.5	Double circuit type A/B	100.00	8,790.00
104.9	Single circuit type A/B	74.00	7,762.60
151.6	Single circuit - laying of cable in substation	43.00	6,518.80
		Total	74,505.80

255 The plaintiffs used the term "double cct and single cct combine" to refer to triple circuits. In Exh. D3, the defendants say that the rate for triple circuit Type A and B trenches should be \$135 and not \$175. I reject this rate for reasons already given by me.

256 In Exh. D3, the defendants also say that the ROWCs only show the quantities of 262 m. and 18.3 m. for triple circuit Type A and B trenches. Quah's evidence was that the remaining 15 metres are for the pulling of triple circuit cables in joint bays which should have been priced at \$103 per metre and the amount billed should have been \$1,545.00: see NE, p. 62 at B. However, since

the defendants were not paid by Henry Boot for cable laying in joint bays, the defendants say that the plaintiffs are not entitled to payment for this item of work. For reasons already given by me, I am of the view that the plaintiffs are entitled to be paid for cable laying in joint bays at the rate of \$103 per metre.

257 Having regard to the adjustments proposed by the defendants to the above invoice in Exh. D3 the measurements given in the ROWCs and the findings which I have made earlier, in my judgment the total of the amounts payable to the plaintiffs in this invoice is \$74,115.80.

Quantity m.	Description Span No. 1	Rate \$	Amount \$
280.6	Triple circuit type A/B	174.00	48,824.40
87.9	Double circuit type A & B	100.00	8,790.00
104.9	Single circuit type A & B	74.00	7,762.60
1.5	Triple circuit type C3	450.00	675.00
151.6	Single circuit - laying of cable in substation	43.00	6,518.80
15.0	Triple circuit - without excavation	103.00	1,545.00
		Total	74,115.80

258 Invoice No. 0181

259 In this invoice the plaintiffs claimed the following sums:

Quantity m.	Description Span No. 4	Rate \$	Amount \$
418.6	Double circuit and single	174.00	72,836.40

	circuit type A/B		
34.8	Double circuit and single circuit type C1	450.00	15,660.00
		Total	88,496.40

260 Having regard to the defendants' proposed adjustments to the above invoice and the plaintiffs' response thereto, I make the following adjustments to the above invoice and the total of the amounts due to the plaintiffs on the above invoice is \$92,717.40.

Quantity m.	Description Span No. 4	Rate \$	Amount \$
400.6	Double circuit type A/B	100.00	40,060.00
409.6	Single circuit type A/B	74.00	30,310.40
34.8	Triple circuit type C1	600.00	20,880.00
9.0	Single circuit - without excavation	43.00	387.00
18.0	Double circuit - without excavation	60.00	1,080.00
		Total	92,717.40

261 Invoice No. 0185

262 In this invoice, the plaintiffs claimed the following sums:

Quantity m.	Description Span No. 4	Rate \$	Amount \$
448.1	Single circuit type A/B	74.00	33,159.40
6.0	Single circuit type C	200.00	1,200.00

446.6	Double circuit type A/B	100.00	44,660.00
12.0	Double circuit type C	300.00	3,600.00
	Total		82,619.40

263 The defendants say that the quantities of the single and double circuit type A and B trenches should be amended to 190.5 m. and 180 m. respectively. They also say that the quantity of the double circuit type C2 trench should be amended to 6 m. I accept the amendments. However, in their adjustments in Exh. D3, it is noted that no reference is made to the quantities of triple circuit trenches which are recorded in the ROWCs. Having regard to the defendants' proposed adjustments, the plaintiffs' response thereto, the measurements as given in the ROWCs and my findings on the rates to be applied for the triple circuit cable installation works, the total of the amounts due to the plaintiffs on this invoice is \$81,320.40.

Quantity m.	Description Span No. 4	Rate \$	Amount \$
190.5	Single Circuit type A/B	74.00	14,097.00
180.0	Double circuit type A/B	100.00	18,000.00
248.6	Triple circuit type A/B	174.00	43,256.40
6.0	Double circuit type C2	300.00	1,800.00
6.0	Triple circuit type C2	450.00	2,700.00
9.0	Single circuit - no excavation	43.00	387.00
18.0	Double circuit - no excavation	60.00	1,080.00
	Total		81,320.40

264 Invoice No.0195

265 In this invoice the plaintiffs claimed the following sums:

Quantity m.	Description Span No. 4	Rate \$	Amount \$
322.6 19.3	Double circuit type A/B	100.00	34,190.00
14.3	Double circuit type C2	300.00	4,290.00
41.3 7.1	Double circuit & Single circuit type A/B	174.00	8,421.60
9.0	Double circuit & Single circuit type C	450.00	4,050.00
77.8	Double circuit - without excavation	60.00	4,668.00
357.2 21.6	Single circuit type A/B	74.00	28,031.20
24.5 2.0	Single circuit type C	200.00	5,300.00
68.7	Single circuit - without excavation	43.00	2,954.10
		Total	91,904.90

266 The defendants say that the quantity of the double circuit trench type C2 should be amended from 14.3 m. to 13 m. I accept this amendment. However I am also of the view that the plaintiffs are entitled to be paid for a quantity of 1.3 m. of double circuit trench type C3 which is recorded in the ROWC. The rates for the triple circuit trenches types A/B and C2 are also disputed. In view of my findings on the rates, the rates to be applied are \$174 and \$450 respectively.

267 Having regard to the defendants' proposed adjustments, the plaintiffs' response thereto, the measurements as given in the ROWCs and my findings on

the rates for the triple circuit cable installation works, the total of the amounts payable to the plaintiffs on this invoice is \$89,699.90.

Quantity m.	Description Span No. 4	Rate \$	Amount \$
322.6 19.3	Double circuit type A/B	100.00	34,190.00
13.0	Double circuit type C2	300.00	3,900.00
1.3	Double circuit type C3	300.00	390.00
41.3 7.1	Double circuit & Single circuit type A/B	174.00	8,421.60
9.0	Triple circuit type C2	450.00	4,050.00
77.8	Double circuit - without excavation	60.00	4,668.00
357.2 21.6	Single circuit type A/B	74.00	28,031.20
24.5 2.0	Single circuit type C	200.00	5,300.00
68.7	Single circuit - without excavation	43.00	2,954.10
		Total	89,699.90

268 Invoice No. 0205

269 In this invoice the plaintiffs claimed the following sums:

Quantity m.	Description Span No. 4	Rate \$	Amount \$
427.5	Triple circuit type A	174.00	74,385.00
34.0	Triple circuit type C1	600.00	20,400.00

27.0	Triple circuit - without excavation	93.00	2,511.00
		Total	97,296.00

270 The defendants in Exh. D3 say that the rate for the triple circuit trench type A should be \$135. I reject this rate for the reasons which I have already given. The defendants also say that the quantity and rate for the triple circuit trench type C1 should be 20.4 m. and \$525 respectively and that the plaintiffs are not entitled to payment for the 27 m. of triple circuit without excavation ie cable laying in joint bays.

271 Having regard to the defendants' proposed adjustments, the plaintiffs' response, the measurements as given in the ROWC and my findings, the total of the amounts payable to the plaintiffs on this invoice is \$95,526.00.

Quantity m.	Description Span No. 4	Rate \$	Amount \$
427.5	Triple circuit type A	174.00	74,385.00
20.4	Triple circuit type C1	600.00	12,240.00
13.6	Triple circuit type C3	450.00	6,120.00
27.0	Triple circuit - without excavation	103.00	2,781.00
		Total	95,526.00

272 Invoice No. 0206

273 In this invoice the plaintiffs claimed the following sums:

Quantity m.	Description Span No. 4	Rate \$	Amount \$
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432.8	Triple circuit trench	174.00	75,307.20
9.0	Triple circuit - without excavation	93.00	837.00
2.2	Double circuit type A	100.00	220.00
9.0	Double circuit - without excavation	60.00	540.00
		Total	76,904.20

274 Having regard to the defendants' proposed adjustments to the above invoice, the plaintiffs' response thereto and the measurements given in the ROWCs, the total of the sums due to the plaintiffs on this invoice is \$78,343.40.

Quantity m.	Description Span No. 4	Rate \$	Amount \$
434.3	Triple circuit type A/B	174.00	75,562.40
9.0	Triple circuit - without excavation	103.00	927.00
18.0	Triple circuit - without excavation	103.00	1,854.00
		Total	78,343.40

275 Invoice No. 0207

276 In this invoice the plaintiffs claimed the following sums:

Quantity m.	Description Span No. 4	Rate \$	Amount \$
417.0	Triple circuit type A/B	174.00	72,558.00
9.0	Triple circuit type C2	450.00	4,050.00

27.0	Triple circuit - without excavation	93.00	2,511.00
		Total	79,119.00

277 The defendants dispute the rate used for the triple circuit trench type A/B and C2. They say that the rates should be \$135 and \$400 respectively. I reject these rates for the reasons which I have already given. The defendants also say that the plaintiffs are not entitled to payment for the 27 m. of triple circuit without excavation. For the reasons given earlier, I am of the view that the plaintiffs are entitled to payment for this item of work.

278 Having regard to the defendants' proposed adjustments, the plaintiffs' response, the measurements as given in the ROWC and the findings which I have made earlier, the total of the sums due to the plaintiffs on this invoice is \$79,389.00.

Quantity m.	Description Span No. 4	Rate \$	Amount \$
417.0	Triple circuit type A/B	174.00	72,558.00
9.0	Triple circuit type C2	450.00	4,050.00
27.0	Triple circuit - without excavation	103.00	2,781.00
		Total	79,389.00

279 Invoice No. 0208

280 In this invoice the plaintiffs claimed the following sums:

Quantity m.	Description Span No. 4	Rate \$	Amount \$
408.0	Triple circuit type A	174.00	70,992.00

47.9	Triple circuit type C1	600.00	28,740.00
7.1	Triple circuit type C2	450.00	3,195.00
27.0	Triple circuit - without excavation	103.00	2,781.00
	Total		105,708.00

281 In Exh. D3, the defendants say that the rates for the triple circuit trench types A/B, C1 and C2 should be \$135, \$525 and \$400 respectively which are the rates stated in DB5. I reject these rates for the reasons which I have already given. They also say that the quantities for the triple circuit trench types A/B, C1 and C2 should be amended to 386.2 m., 13.2 m. and 38.9 m. respectively, which are the quantities recorded in the ROWCs. The plaintiffs accept this proposed adjustment. The defendants also say that the plaintiffs are not entitled to payment for the 27 m. of triple circuit without excavation. For the reasons given earlier, I am of the view that the plaintiffs are entitled to payment on this item of work.

282 Having regard to the measurements as given in the ROWC and the findings which I have made earlier, the following adjustments are made to the invoice:

Quantity m.	Description Span No. 4	Rate \$	Amount \$
386.2	Triple circuit type A/B	174.00	67,198.80
13.2	Triple circuit type C1	600.00	7,920.00
38.9	Triple circuit type C2	450.00	17,505.00
7.0	Triple circuit type C3	450.00	3,150.00

27.0	Triple circuit - without excavation	103.00	2,781.00
		Total	98,554.80

283 Invoice No. 0214

284 In this invoice the plaintiffs claimed, inter alia, a sum of \$2,942.10 for the extra excavation works carried out by them. The defendants say that the unit rate for this item should be \$25. As I do not accept Quah's evidence on DB5, I reject the rate proposed by the defendants. I am of the view that the rate of \$45 should apply for this item of work. The plaintiffs are therefore entitled to the sum of \$2,942.10 for the extra excavation work. The total amount due to the plaintiffs on this invoice is \$6,602.10.

285 Invoice No. 0217

286 In this invoice the plaintiffs claimed the following sums:

Quantity m.	Description Span No. 4	Rate \$	Amount \$
445.6	Double circuit type A/B	100.00	44,560.00
459.6	Single circuit type A/B	74.00	34,010.40
29.3	Triple circuit type C2	450.00	13,185.00
27.0	Triple circuit - without excavation	103.00	2,781.00
		Total	94,536.40

287 In Exh. D3, the defendants refer to the lengths of 445.6 m. of double circuit type A/B and the 459.6 m. single circuit type A/B as 450.27 m. of triple circuit type A/B at a rate of \$135 per metre. I accept the quantity and description

used by the defendants as they correspond with the ROWCs. I reject the rate of \$135 for reasons already given. The defendants also say that works relating to triple circuits type C2 were not done by the plaintiffs. The plaintiffs have accepted this. A similar argument is advanced by the defendants for triple circuit works without excavation. As I have already dealt with this item in the other invoices, my findings would apply similarly. Accordingly the total of the amounts payable to the plaintiffs on this invoice is \$81,127.40.

Quantity m.	Description Span No. 4	Rate \$	Amount \$
450.27	Triple circuit type A/B	174.00	78,346.40
27.0	Triple circuit - without excavation	103.00	2,781.00
		Total	81,127.40

288 Invoice No. 0218

289 In this invoice the plaintiffs claimed the following sums:

Quantity m.	Description Span No. 4	Rate \$	Amount \$
297.7	Double circuit type A	100.00	29,770.00
310.0	Single circuit type A	74.00	22,940.00
24.2	Triple circuit type C2	450.00	10,890.00
27.0	Triple circuit - without excavation	103.00	2,781.00
		Total	66,381.00

290 In Exh. D3, the defendants say the double and single circuit type A trenches should be amended to 301.8 m. of triple circuit type A trench. I accept

the amendments proposed by the defendants in Exh. D3. However, I reject the defendants proposed rate of \$135 per metre for the triple circuit type A trenches for reasons given earlier. The defendants also say that the quantity of the triple circuit trench type C2 should be amended to 18.2 m. I accept this quantity which is the quantity recorded in the ROWC. The ROWCs also show a quantity of 6 m. for triple circuit trench type C3 and I am of the view that the plaintiffs are entitled to payment for this item. The rates for the triple circuit trench types C2 and C3 have already been dealt with in this judgment and the findings made apply to this invoice as well.

291 Accordingly, having regard to the adjustments proposed by the defendants, the plaintiffs response, the measurements as recorded in the ROWCs and the findings made earlier, the total of the amounts payable to the plaintiffs on this invoice is \$66,184.20.

Quantity m.	Description Span No. 4	Rate \$	Amount \$
301.8	Triple circuit type A	174.00	52,513.20
18.2	Triple circuit type C2	450.00	8,190.00
6.0	Triple circuit type C3	450.00	2,700.00
27.0	Triple circuit - without excavation	103.00	2,781.00
		Total	66,184.20

292 Invoice No. 0226

293 In this invoice the plaintiffs claimed the following sums:

Quantity m.	Description Span No. 4	Rate \$	Amount \$
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13.5	Single circuit type A	74.00	999.00
26.0	Double circuit type A	100.00	2,600.00
279.7	Triple circuit type A	174.00	48,667.80
13.4	Triple circuit type C1	600.00	8,040.00
19.0	Triple circuit type C2	450.00	8,550.00
4.5	Single circuit - without excavation	43.00	193.50
9.0	Double circuit - without excavation	60.00	540.00
13.5	Triple circuit - without excavation	103.00	1,390.50
		Total	70,980.80

294 The defendants say that the quantity of the triple circuit trench type A should be amended to 265.4 m. and that the rate to be applied is \$135. I accept the quantity used by the defendants but reject the rate of \$135 per metre. The defendants also say that the quantity of the triple circuit trench type C2 should be amended to 13.4 m. I accept this amendment. I am also of the view that the plaintiffs are entitled to payment for a quantity of 5.6 m. of triple circuit trench type C3 which is recorded in the ROWC. The defendants dispute the rates for the triple circuit trench types C2 and C3. I have dealt with the rates earlier in the judgment. I am also of the view that the plaintiffs are entitled to payment for the works done within joint bays. Accordingly, having regard to the adjustments proposed by the defendants, the plaintiffs response, the measurements as recorded in the ROWCs and the findings made earlier, the total amounts payable to the plaintiffs on this invoice is \$68,492.60.

Quantity m.	Description Span No. 4	Rate \$	Amount \$
13.5	Single circuit type A	74.00	999.00
26.0	Double circuit type A	100.00	2,600.00
265.4	Triple circuit type A	174.00	46,179.60
13.4	Triple circuit type C1	600.00	8,040.00
13.4	Triple circuit type C2	450.00	6,030.00
5.6	Triple circuit type C3	450.00	2,520.00
4.5	Single circuit - without excavation	43.00	193.50
9.0	Double circuit - without excavation	60.00	540.00
13.5	Triple circuit - without excavation	103.00	1,390.50
		Total	68,492.60

295 Invoice No 0251

296 In this invoice the plaintiffs claimed the following sums:

Quantity m.	Description Span No. 4	Rate \$	Amount \$
12 nos.	Joint bays (Triple circuit)	3,600.00	43,200.00
34 m.	Type C (Double circuit)	300.00	10,200.00
		Total	53,400.00

297 The defendants say that the quantity of the triple circuit joint bays should be amended to 14. They also say that of the 14 joint bays, 4 nos. are single circuit, 4 nos. are double circuit and the remaining 6 nos. are triple circuit. The plaintiffs accept this proposed amendment. The defendants dispute the rates for the above-mentioned items of work. As these have already been dealt with, the total of the amounts payable to the plaintiffs on this invoice is \$47,000.00.

Quantity m.	Description Span No. 4	Rate \$	Amount \$
4 nos.	Joint bays (Singlecircuit)	1,600.00	6,400.00
4 nos.	Joint bays (Double circuit)	2,200.00	8,800.00
6 nos.	Joint bays (Triple circuit)	3,600.00	21,600.00
34 m.	Double circuit type C2	300.00	10,200.00
		Total	47,000.00

Goh Phai Cheng JC

Phua Siow Choon (Michael Khoo & B B Ong) for the plaintiffs
Clement Lopez with Magdalene Hsia (Wee, Ramayah & Partners) for
the defendants
