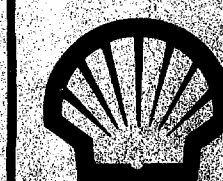


L	PIPE LOCATION ADDED TO DISPENSER	18.5.84
K	GENERAL MODIFICATIONS	14.5.84
J	ADDED DETAIL F: DELETED DETAIL E DETAIL E added	29.5.84
H	DETAIL 'A' General detail only for installation details. For construction see detail sheet	15.7.83
G	DETAIL 'A' REVISED	26.3.83
F	DETAIL 'B' MODIFIED FOR POSSIBLE ELECTRICAL CABLE INSTALLATION	23.3.83
E	DETAIL D ADDED	1-12-82
D	DEPTH OF TRENCH INCREASED BY 220mm. 700mm PIPE COVER SHOWN	20-6-82
C	ASAISO FLANGE IN ANCHOR DETAIL WAS ASA 300 & ELECTRICAL FL ADDED	8-4-82
B	DETAIL CI ADDED	5-11-81
A	COPPER BOND LUG ADDED TO DETAIL A	15-10-81
ISSUED	amendments	date

## Shell Companies in New Zealand

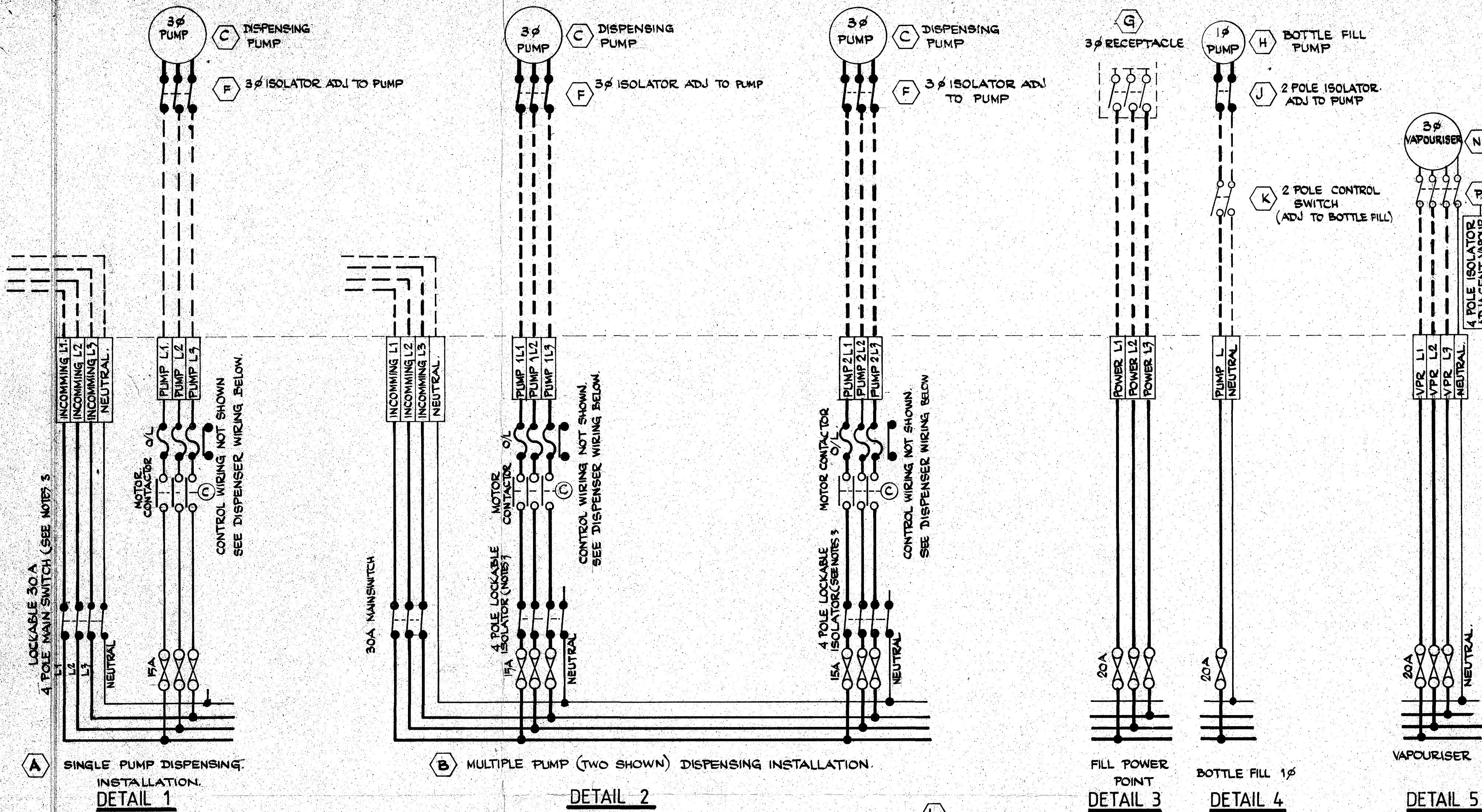
## 96 The Terrace Wellington

L.P.G. STANDARD  
PIPEWORK STANDARD DETAILS



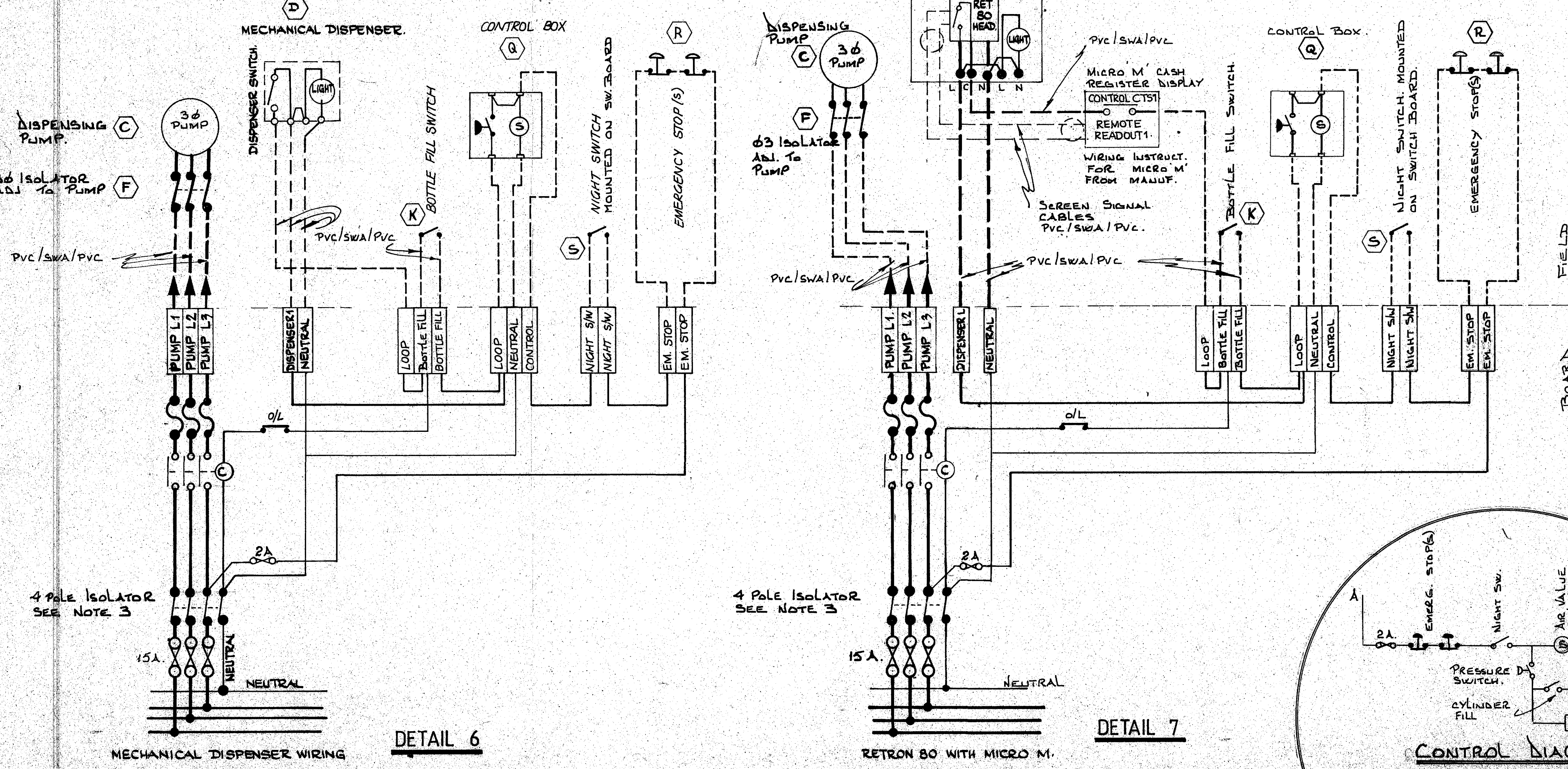
drawn <b>Don Robertson</b>	date <b>15-9-81</b>	drawing number <b>900 P 267</b>
checked <i>C. Anthony</i>	date <b>19/9/81</b>	issue <b>K L</b>
scale <b>1:1</b>	by <b>P. S. Smith</b> a engineering manager	





- NOTES**
1. ALL ELECTRICAL WIRING & EQUIPMENT SHALL COMPLY WITH THE ELECTRICAL WIRING REGULATIONS 1976 & ALL CURRENT AMMENDMENTS.
  2. ALL WIRING IN HAZARDOUS ZONES AS DEFINED IN MPG105:1976 "ELECTRICAL WIRING IN HAZARDOUS LOCATIONS" SHALL COMPLY WITH MPG105 REQUIREMENTS FOR CLASS 1 ZONE 1.
  3. MPG105 REQUIRES THE NEUTRAL CONDUCTOR TO BE ISOLATED ALONG WITH THE LINE CONDUCTORS, (SHELL CO. METHOD PREFERRED) OR REMOVABLE LINK ON THE NEUTRAL. ALTERNATIVE TO ISOLATORS AND FUSES IS TO PROVIDE CIRCUIT BREAKERS.
  4. WHERE A NEW MAINS SUPPLY IS TO BE INSTALLED THE MAIN SWITCH SHALL BE 4 POLE AND LOCKABLE (I.E. NEUTRAL IS BROKEN).
  5. ISOLATORS SHALL BE RATED FOR OCCASIONAL MOTOR STARTING DUTY.
  6. EXTERNAL WIRING SHALL BE GENERALLY RUN IN SERVICES TRENCH BELOW AND AS FAR AS PRACTICABLE FROM THE PIPEWORK.

SCHEDULE OF ELECTRICAL EQUIPMENT. (ITEMS NOT REQUIRED MAY BE DELETED)					
ITEM	QTY	HAZARD ZONE	POWER	MANUFACTURER & MODEL	NOTES
A SINGLE PUMP SWITCHBOARD	1	SAFE	30A 3 $\phi$	ELECTRICAL CONTRACTOR	
B MULTIPLE PUMP SWITCHBOARD	1	SAFE	30A 3 $\phi$	ELECTRICAL CONTRACTOR	
C 3 $\phi$ DISPENSING PUMP		CLASS 1 ZONE 1	400V 3 $\phi$		SHELL CO. SUPPLY
D MECHANICAL DISPENSER		CLASS 1 ZONE 1	230V 1 $\phi$		SHELL CO. SUPPLY
F 3 $\phi$ PUMP ISOLATOR (ADJ. PUMP)		CLASS 1 ZONE 1	400V, 3 $\phi$ , 15A	SAE FNS 51-1 OR CROUSE HINDS DSA 1010 & DSA 9-A 203	SHELL CO. SUPPLY
G 3 $\phi$ FLAMEPROOF POWER RECEPTACLE	1	CLASS 1 ZONE 1	400V, 3 $\phi$ , 20A	S.A.E. F.N.O.S.	SHELL CO. SUPPLY
H 1 $\phi$ BOTTLE FILL PUMP		CLASS 1 ZONE 1	230V, 1 $\phi$		SHELL CO. SUPPLY
J 1 $\phi$ ISOLATOR		CLASS 1 ZONE 1	230V, 1 $\phi$ , 20A	S.A.E. FNS 1E11 OR CROUSE HINDS DSA 9-169 & DSA 1010	SHELL CO. SUPPLY
K 1 $\phi$ CONTROL SWITCH		CLASS 1, ZONE 1	230V, 1 $\phi$ , 20A	S.A.E. F.N.S. 17-1 OR CROUSE HINDS DSA 9-169 & DSA 1010	SHELL CO. SUPPLY
L DISPENSER		CLASS 1, ZONE 1	230V, 1 $\phi$		SHELL CO. SUPPLY
M MICRO-M-REMOTE READOUT CONSOLE	1	SAFE	230V, 1 $\phi$	PRODUCTION ENGINEERING CO.	SHELL CO. SUPPLY
N VAPOURISER		CLASS 1, ZONE 1	400V 3 $\phi$ K.W.	SAM DICK POWER	SHELL CO. SUPPLY
P 4 POLE ISOLATOR (ADJ. VAPOURISER)		CLASS 1, ZONE 1	400 3 $\phi$ # N 20A	SAE FNS 51-1 OR CROUSE HINDS DSA 1010 & DSA 9-A 203	SHELL CO. SUPPLY
Q EMERGENCY SHUT OFF CONTROL BOX	1	SAFE	230 V 1 $\phi$	MC EWANS	SHELL CO. SUPPLY
R EMERGENCY STOP BUTTON	1 OR 2	SAFE	230 V	TELEMECANIQUE	SHELL CO. SUPPLY
S NIGHT SWITCH	1	SAFE	230 V	ELECTRICAL CONTRACTOR	



KEY			
=====	400V IN BOARD	=====	LOW VOLTAGE IN BOARD
-----	" " FIELD	-----	" " FIELD
-----	230V IN BOARD	-----	NORMALLY OPEN CONTACTS
-----	" " FIELD	-----	" " CLOSE

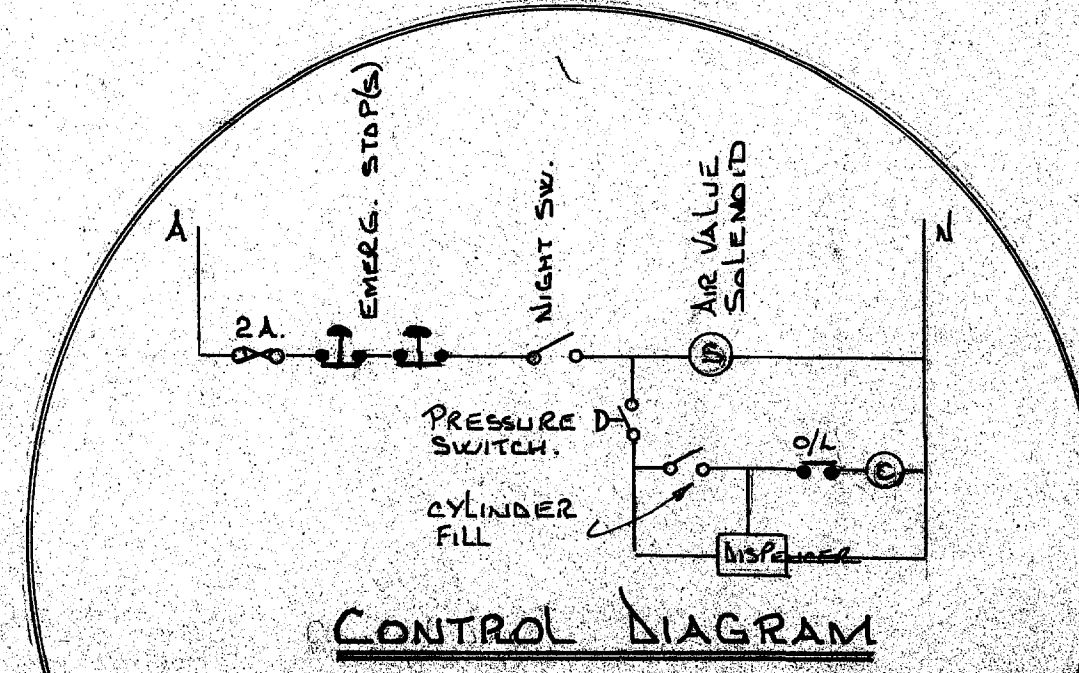
900E 261	O	AMMENDED DISPENSER WIRING. ADDED ITEM R. Note Col. AMMENDED.	10.8.84
"	N	ADDED PNEUMATIC SYSTEM	21.6.84
"	M	ADDED PRESSURE OPERATED SW. @	17.5.84
"	L	MINOR MOD'S TO ELECTRICAL SCHEDULE (MANUF & MODEL)	9.5.84
900E 261	K	AMMENDED SCHEDULE OF ELECTRICAL EQUIP. DELETED LCM 4 WIRING DIAGRAM	30.4.84
900E 261	J	REDRAWN	1.2.84
900E 261	H	ADDED BOTTLE FILL CONNECTIONS	1.11.83
"	G	MINOR REVISIONS	28.7.83
"	F	REVISED	23.9.83
"	E	BOTTLE FILL SWITCH ADDED TO LCM 4 ELECTRONIC DISPENSER WIRING	20.12.82
"	D	VAPOURISER ITEM N & P ADDED	27.7.82
"	C	RETRON 80 DISPENSER & MICRO M ADDED	23.5.82
900E 261	B	REDRAWN FOR 'ELECTRONIC DISPENSER' & PROVISION FOR ISOLATION ADJ. TO PUMP	15.1.82
DRAWING ISSUE		amendments	date

**Shell Companies in New Zealand**  
96 The Terrace, Wellington

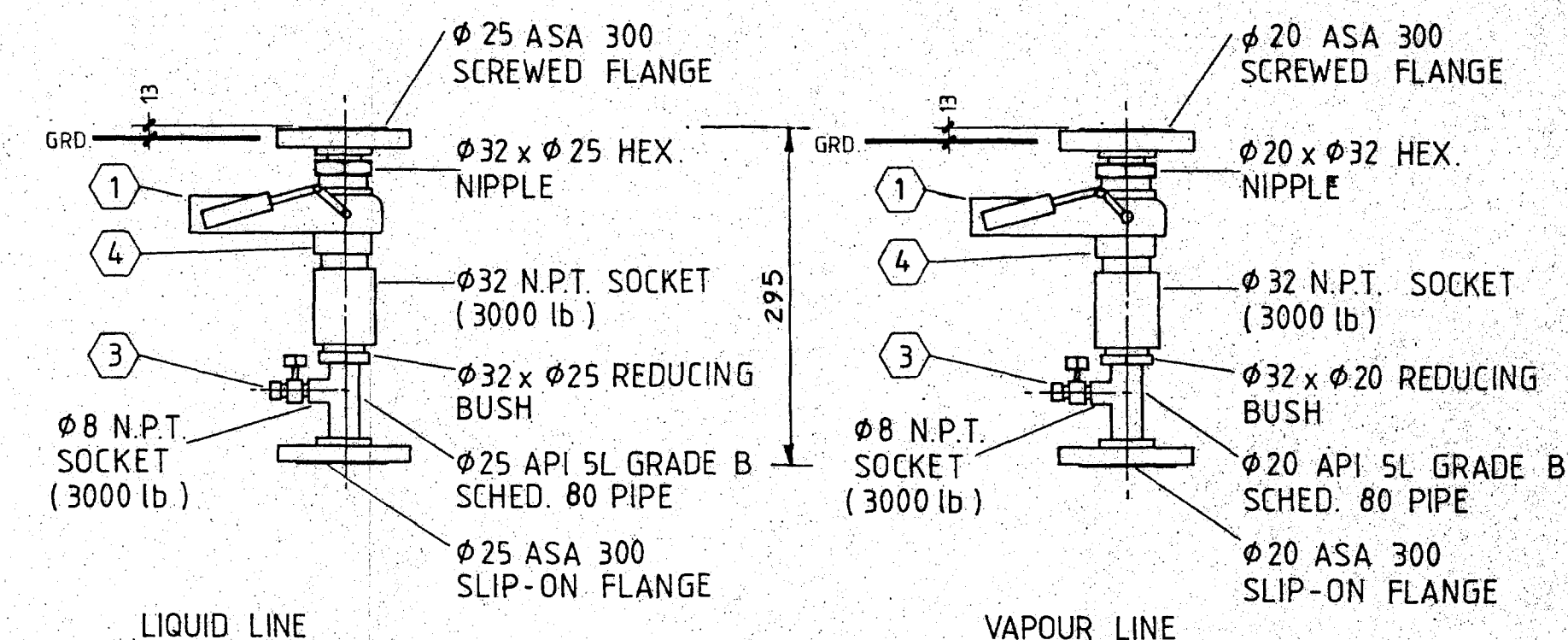
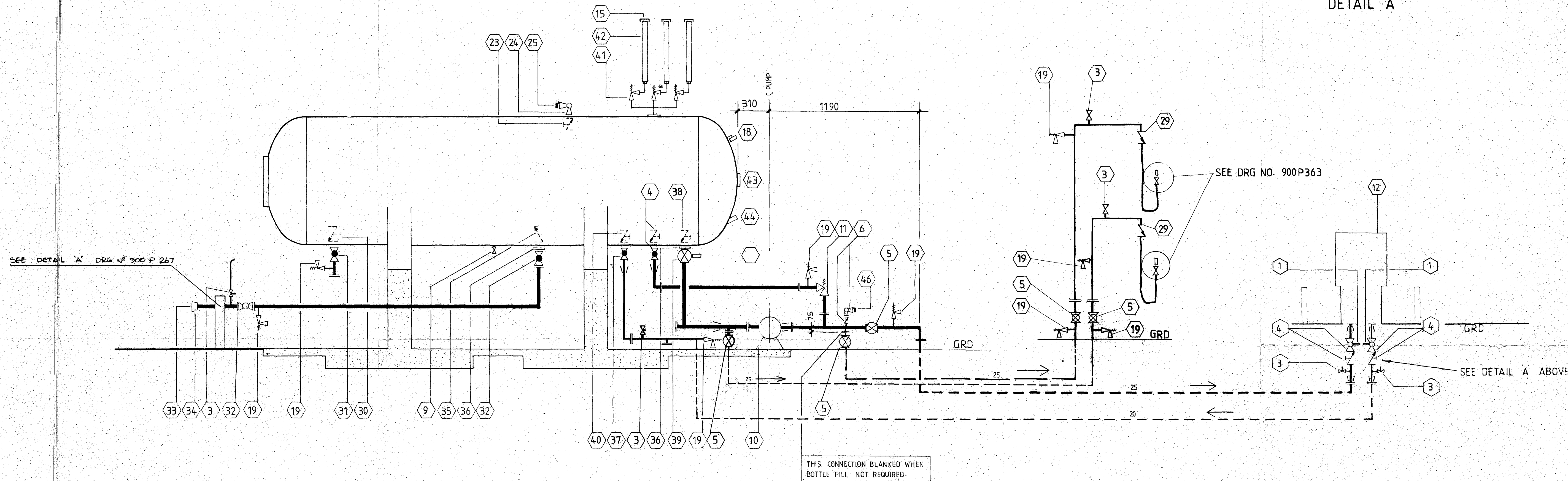
**L.P.G. STANDARD ELECTRICAL SCHEMATIC**

drawn: A.R.Q. THOMSON date: 1.2.84  
checked: [Signature] date: 20.4.84  
scale: [Signature]  
engineering manager: [Signature]

drawing number: 900 E 261  
issue: 4th NO







DETAIL A

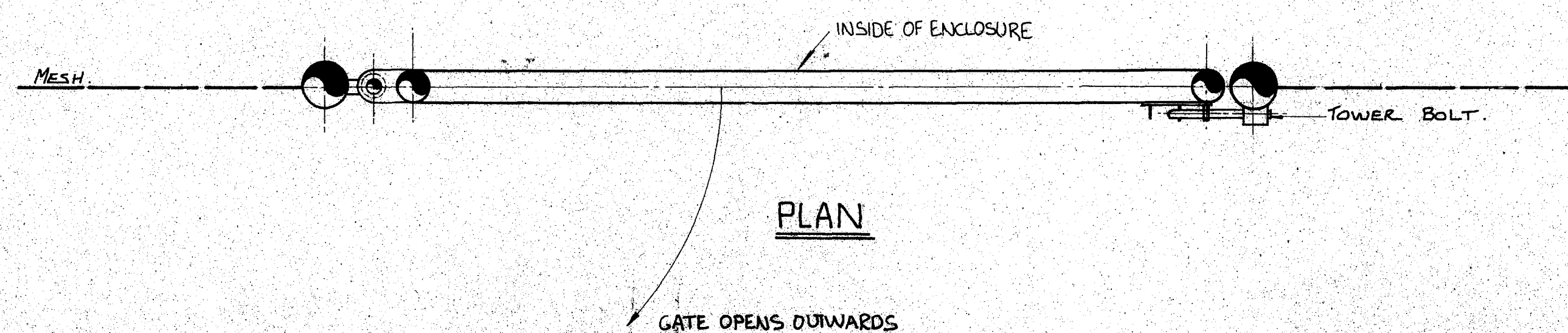
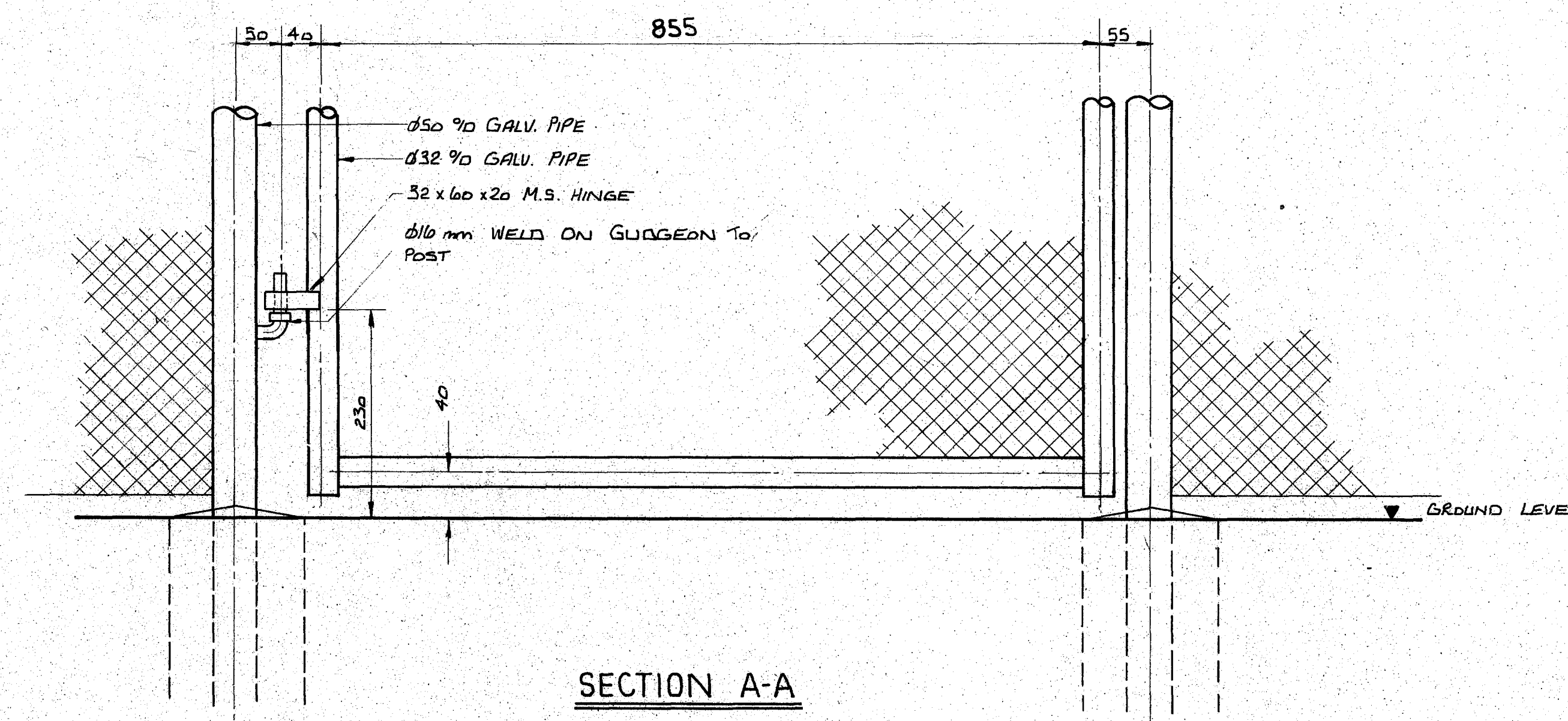
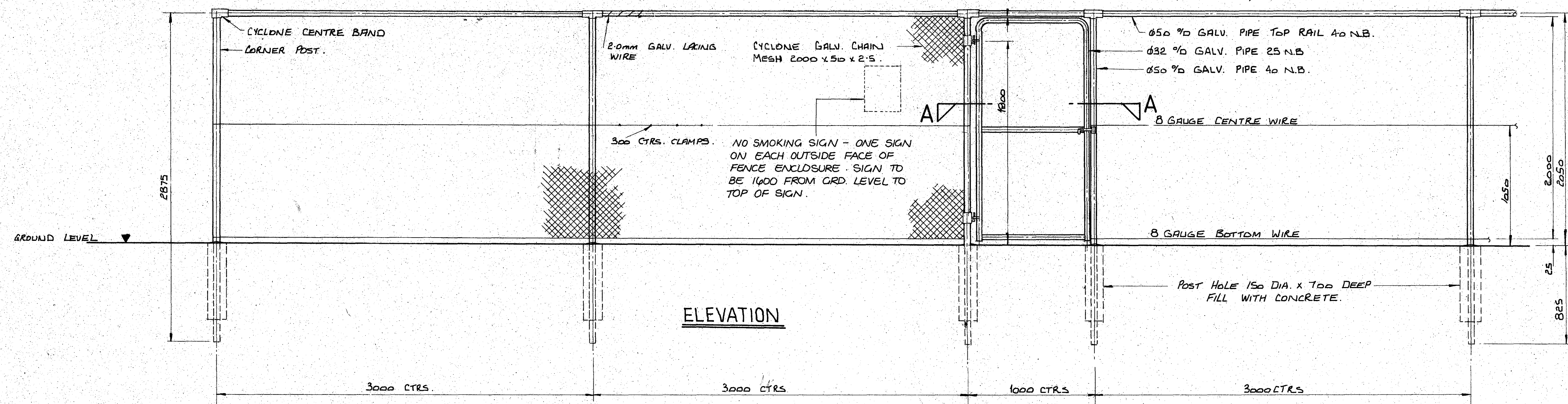
40	1 1/4" N.P.T. EXCESS FLOW VALVE	REGO A3282 C	41	100mm FLANGED SAFETY RELIEF VALVE (ASA 300)	REGO 8573 M225
39	50mm FLANGE BALL VALVE (BS 1560) WITH ACTUATOR	WORCESTER AF 52	42	3" N.P.T. FLARE TUBE 2000 LG.	
38	2" N.P.T. EXCESS FLOW VALVE	REGO A3500 L4	43	FLOAT GAUGE	MAGNATEL 6342/8
37	1 1/4" N.P.T. GLOBE VALVE	REGO A7509 BP	44	THERMOMETER WELL	PLUG
36	50mm PLATE FLANGE DRILLED AND TAPPED (ASA 300)	SPECIAL			
35	2" N.P.T. CHECK VALVE	REGO A3400 L4	46	3/4" N.P.T. PLUG	
34	2 1/4" ACME TANK FILLING ADAPTOR	REGO A5767 F			
33	2 1/4" ACME DUST COVER AND CHAIN	REGO A3184-90			
32	50mm FLANGED GLOBE VALVE (ASA 300)	REGO A7513 FP			
31	1" N.P.T. GLOBE VALVE	REGO A7507 AP			
30	1 1/4" N.P.T. EXCESS FLOW VALVE	REGO A8013 DA			
29	3/4" N.P.T. EXCESS FLOW VALVE	REGO A3272 G			
25	1 1/4" N.P.T. PLUG				
24	1 1/4" N.P.T. ANGLE VALVE	REGO A7510 BP	12	DISPENSER (TYPE TO BE ADVISED)	SEE SITE PLAN
23	1 1/4" N.P.T. EXCESS FLOW VALVE	REGO A8525	11	1" N.P.T. BY-PASS VALVE	BLACKMER BV 1
			10	PUMP N.P.T.	BLACKMER LG 1
			9	1/4" N.P.T. ULLAGE VALVE	REGO 3165
19	1/4" HYDROSTATIC RELIEF VALVE (312 PSIG)	REGO 3127 T			
	1/4" N.P.T. PRESSURE GAUGE 0-2500 kPa	REGO 948 U	6	3/4" N.P.T. TRANSFER / EXCESS FLOW VALVE	REGO 7550 PX
			5	1" SOCKET WELD BALL VALVE	TO BS 3351
			4	1 1/4" N.P.T. THREADED INTERNAL VALVE	FISHER C208-10-050
15	P.V.C. RAIN CAP		3	1/4" N.P.T. BLEED VALVE & CAP	REGO 1224 W
			1	AIR CYLINDER	McEWANS M 778/140
					MANUFACTURERS FIG N°

A REDUCER WAS IN VERTICAL LEG OF LIQUID OUT LINE		11/84
Issue	amendments	date
<b>Shell Companies in New Zealand</b> 96 The Terrace Wellington		
<b>LPG STANDARD</b> STANDARD SCHEMATIC FOR 12 TONNE L.P.G. DYE TANK		
drawn R.A. Cargou checked scale N.A.	date JUL 84 date engineering manager	drawing number <b>900 P 360</b>







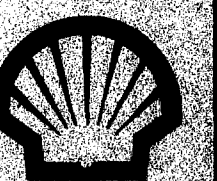


D	ADDED NO SMOKING SIGN.	14.2.84
C	GATE DIMENSION CHANGED FROM 1000 TO 855	
B	DIRECTION OF OPENING GATE SHOWN.	
A	RENEWED WITH MAJOR MODS.	11.6.81
Issue	amendments	date

**Shell Companies in New Zealand**

96 The Terrace Wellington

**L.P.G. STANDARD**  
STD. FENCE AND GATE FOR L.P.G. TANK ENCLOSURE

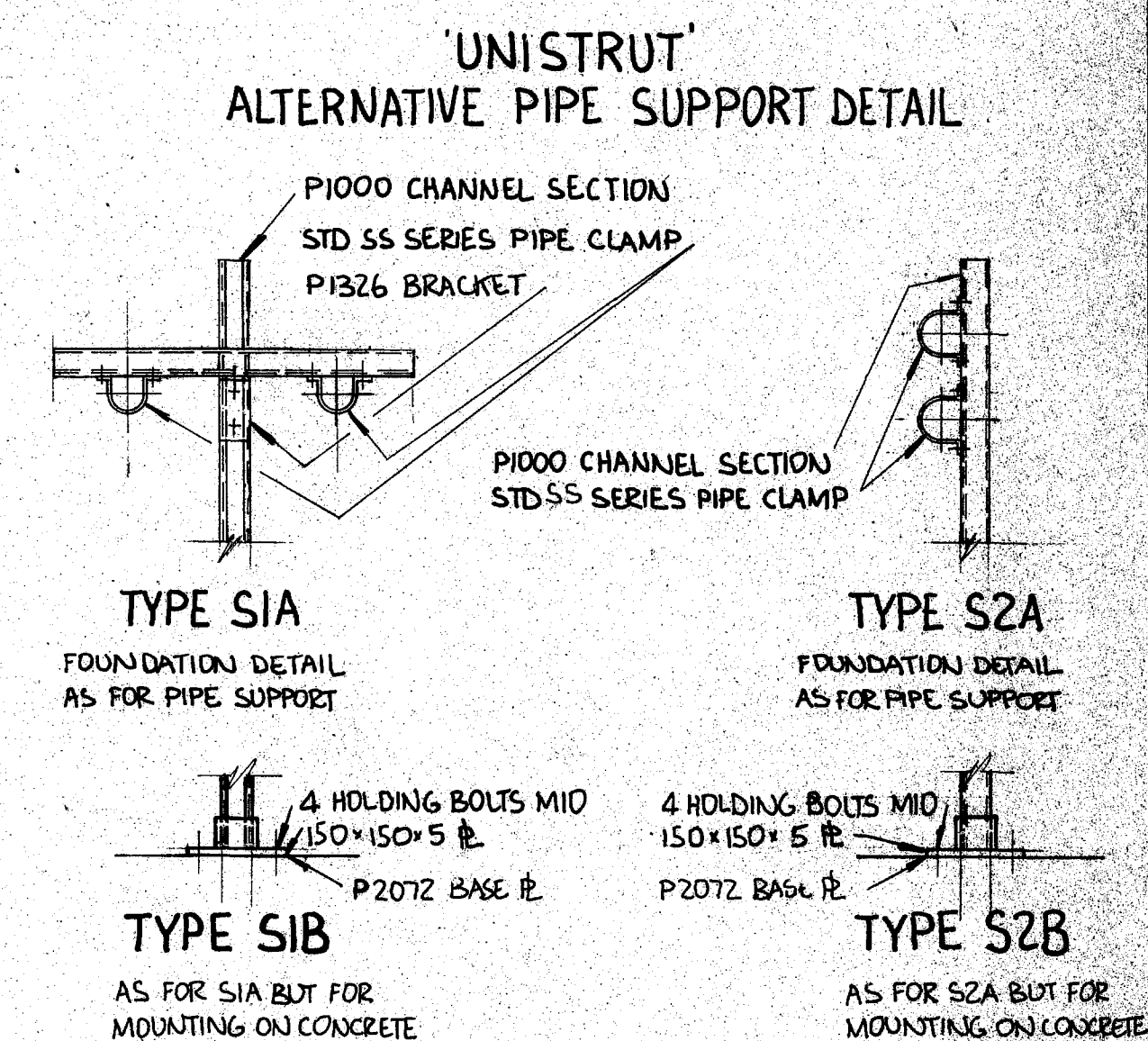
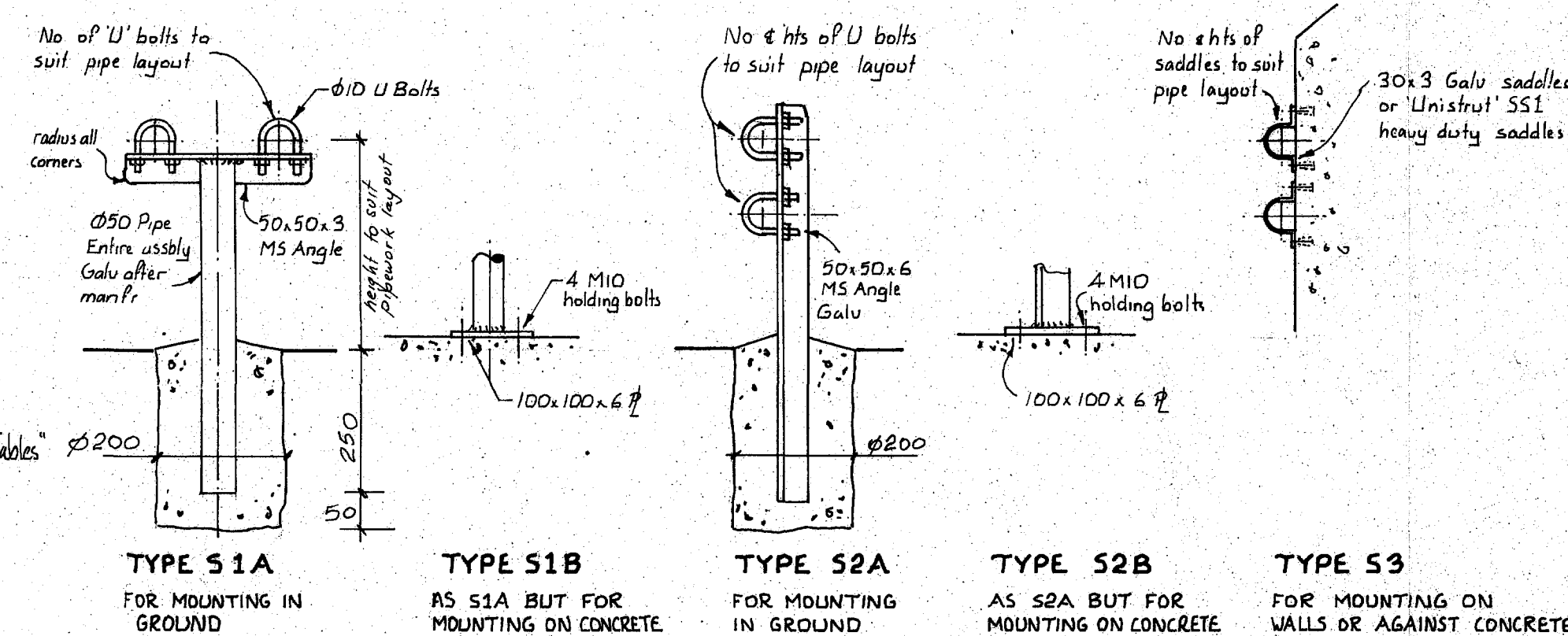
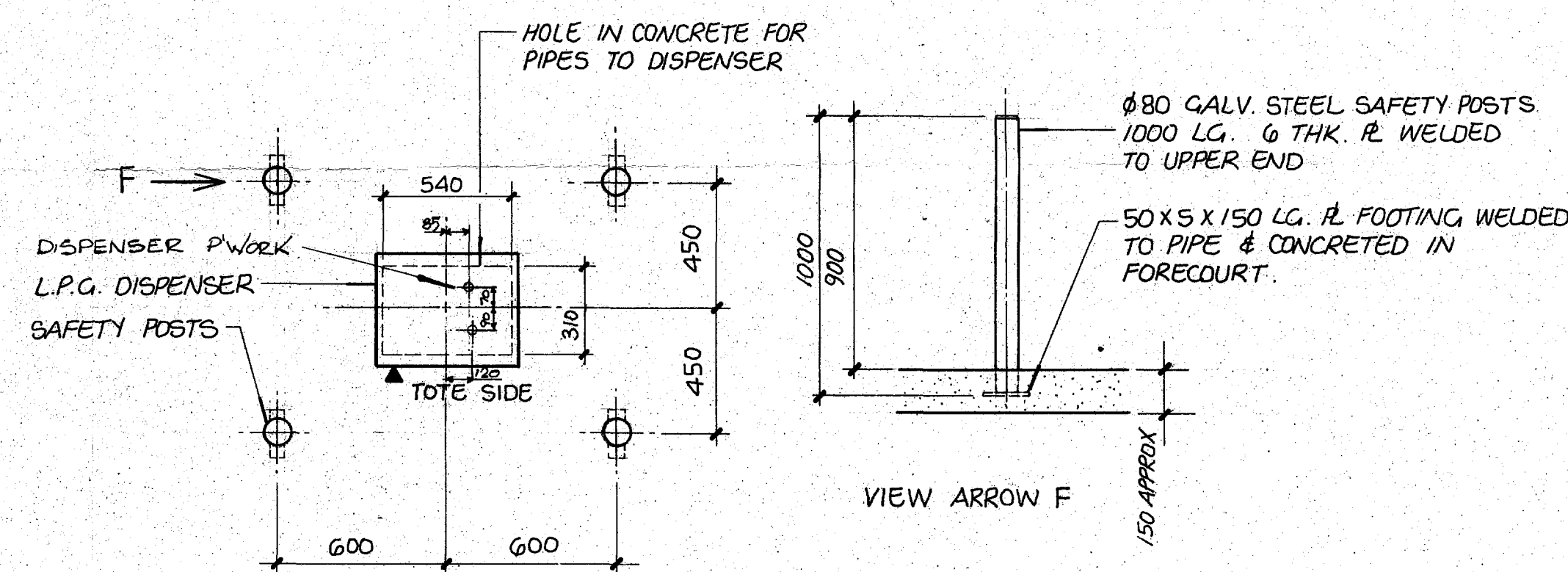
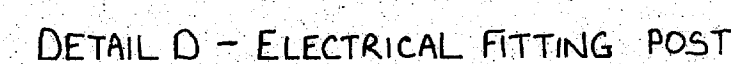
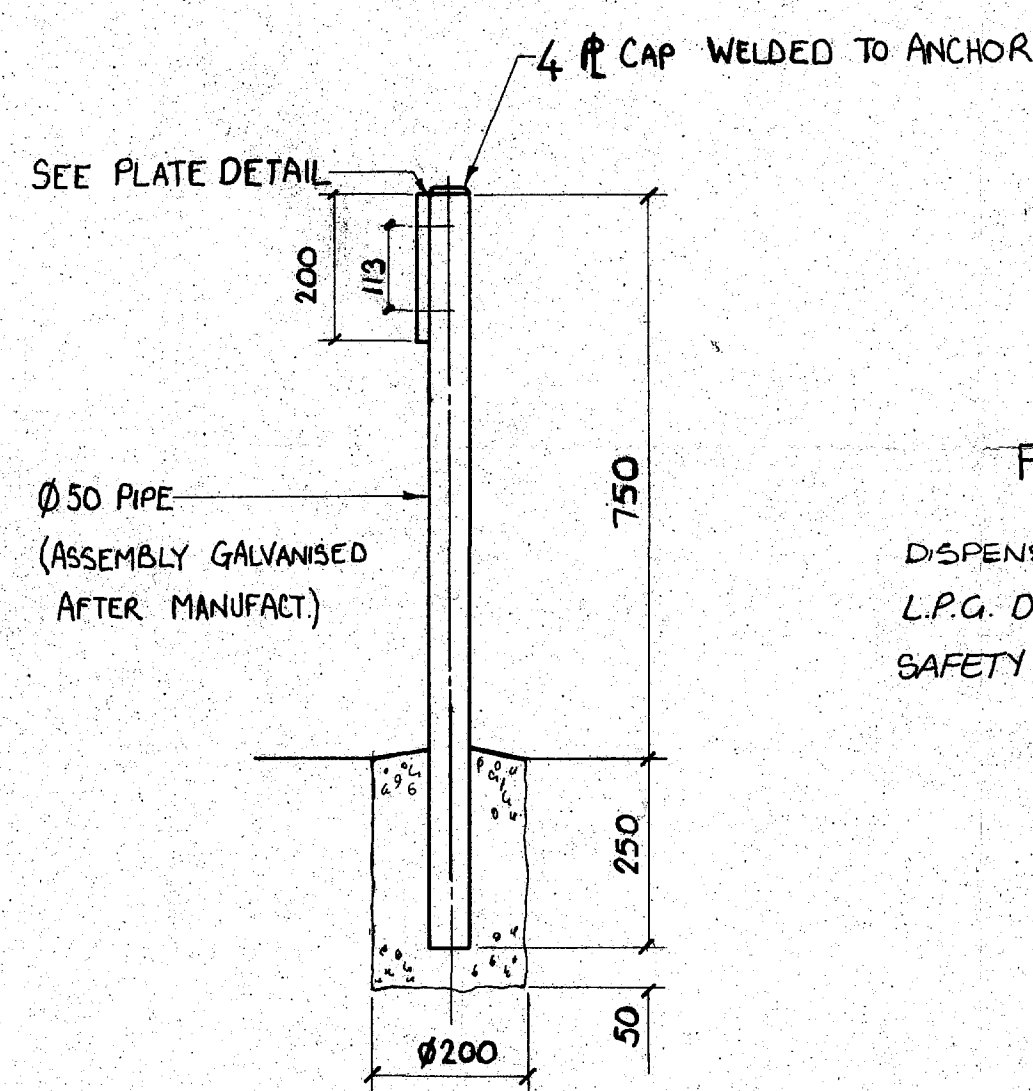
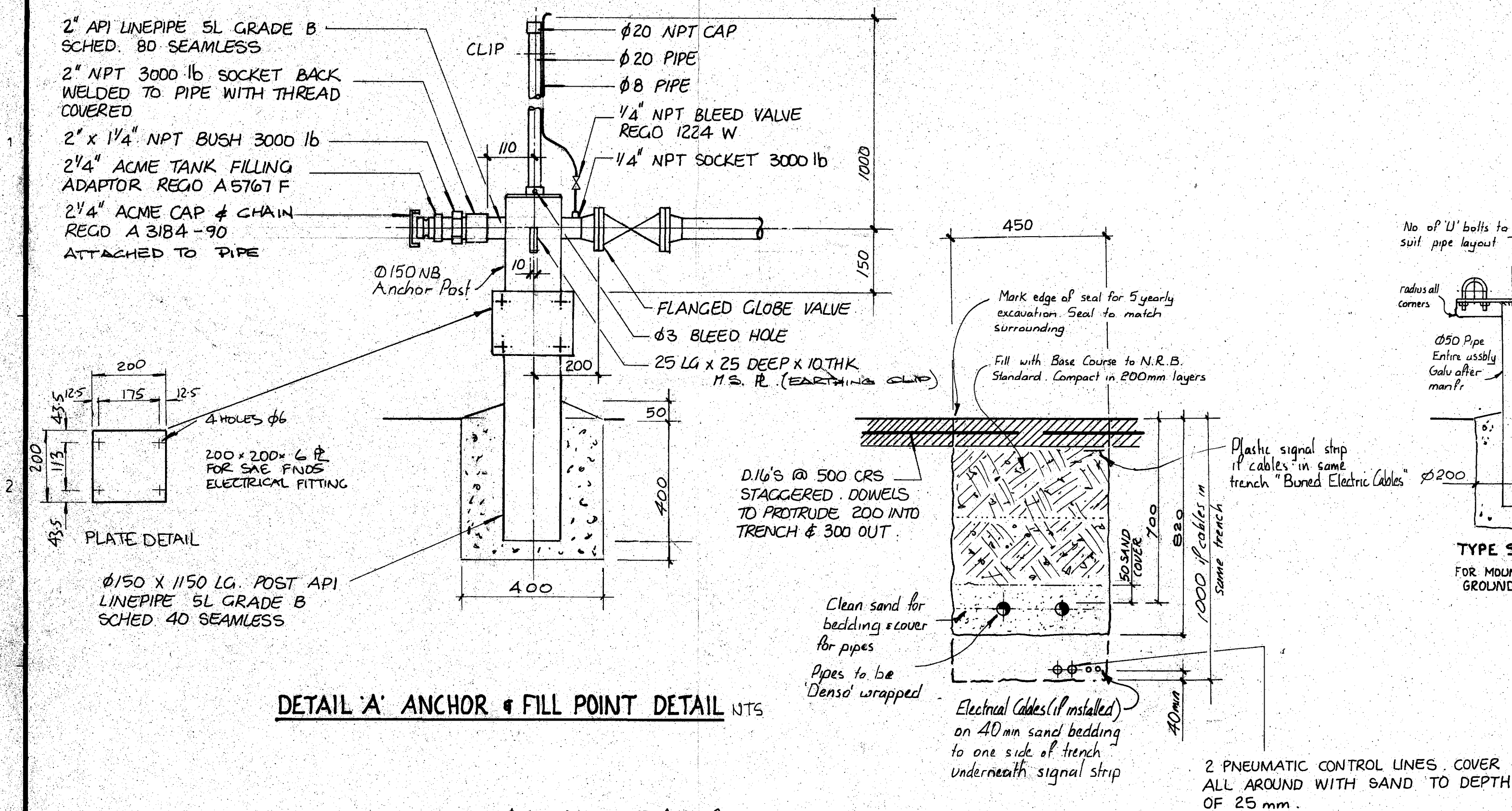


drawn	R.A. CAIGOU.	date	11.6.81	drawing number	900 P 196
checked	<i>[Signature]</i>	date	9.7.81	issue	A B O D
scale	1:20 1:5	engineering manager	<i>[Signature]</i>		







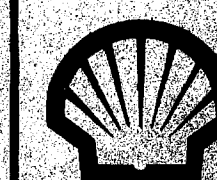


L	PIPE LOCATION ADDED TO DISPSER	18.5.84
K	GENERAL MODIFICATIONS	14.5.84
J	ADDED DETAIL F. DELETED DETAIL E DETAIL E added	29.3.84
H	DETAIL 'A' General detail only for installation details. For construction see detail sheet	15.7.83
G	DETAIL 'A' REVISED	26.3.83
F	DETAIL 'B' MODIFIED FOR POSSIBLE ELECTRICAL CABLE INSTALLATION	23.3.83
E	DETAIL 'D' ADDED	1-12-80
D	DEPTH OF TRENCH INCREASED BY 220MM. TOWN PIPE COVER SHOWN	20-6-80
C	ASASO FLANGE IN ANCHOR DETAIL WAS ASA 300 & ELECTRICAL FL ADDED	8-4-82
B	DETAIL CI ADDED	5-11-81
A	COPPER BOND LUG ADDED TO DETAIL A	15-10-81
ISSUE	amendments	date

## Shell Companies in New Zealand

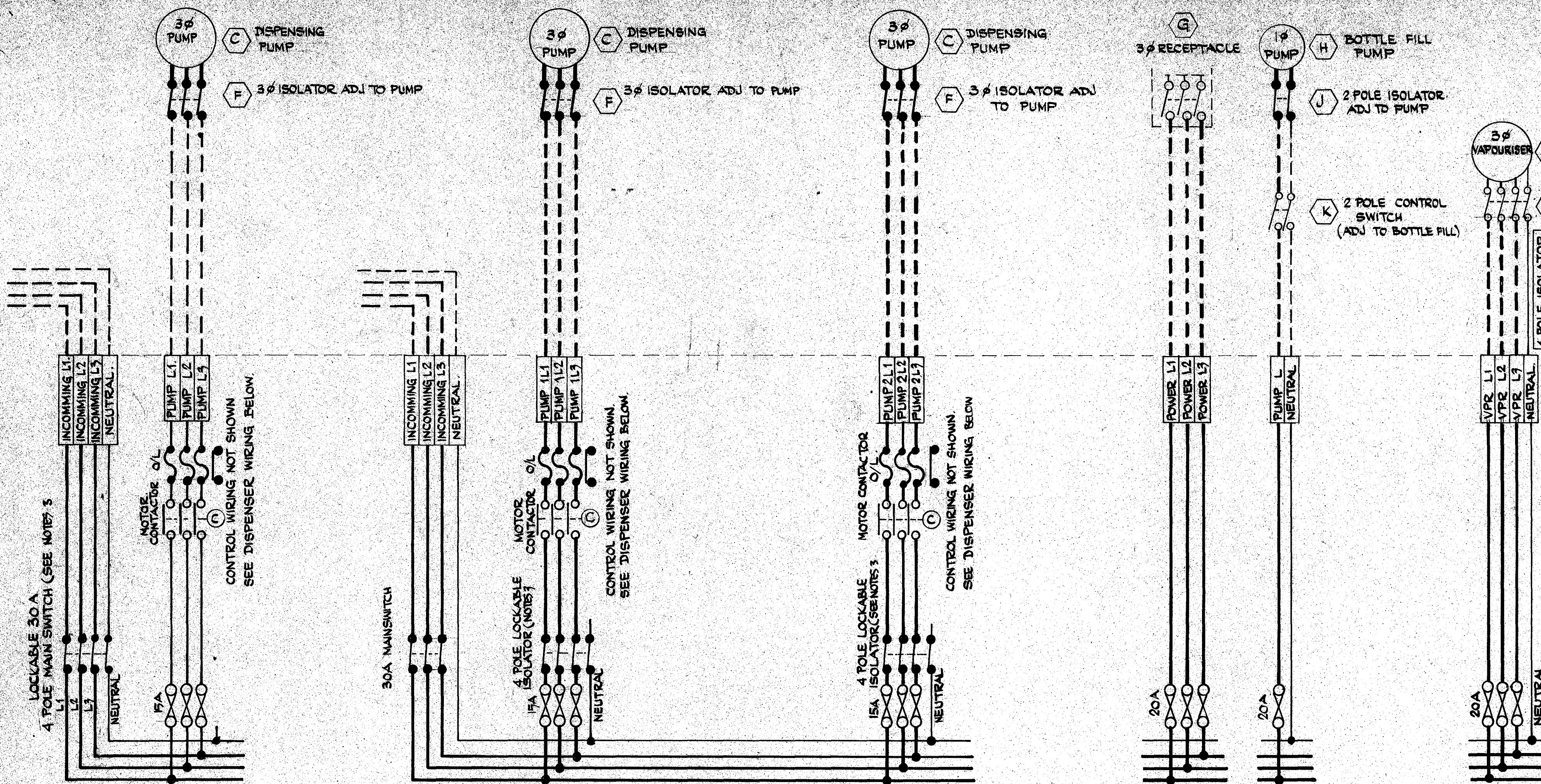
## 96 The Terrace Wellington

L.P.G. STANDARD  
PIPEWORK STANDARD DETAILS



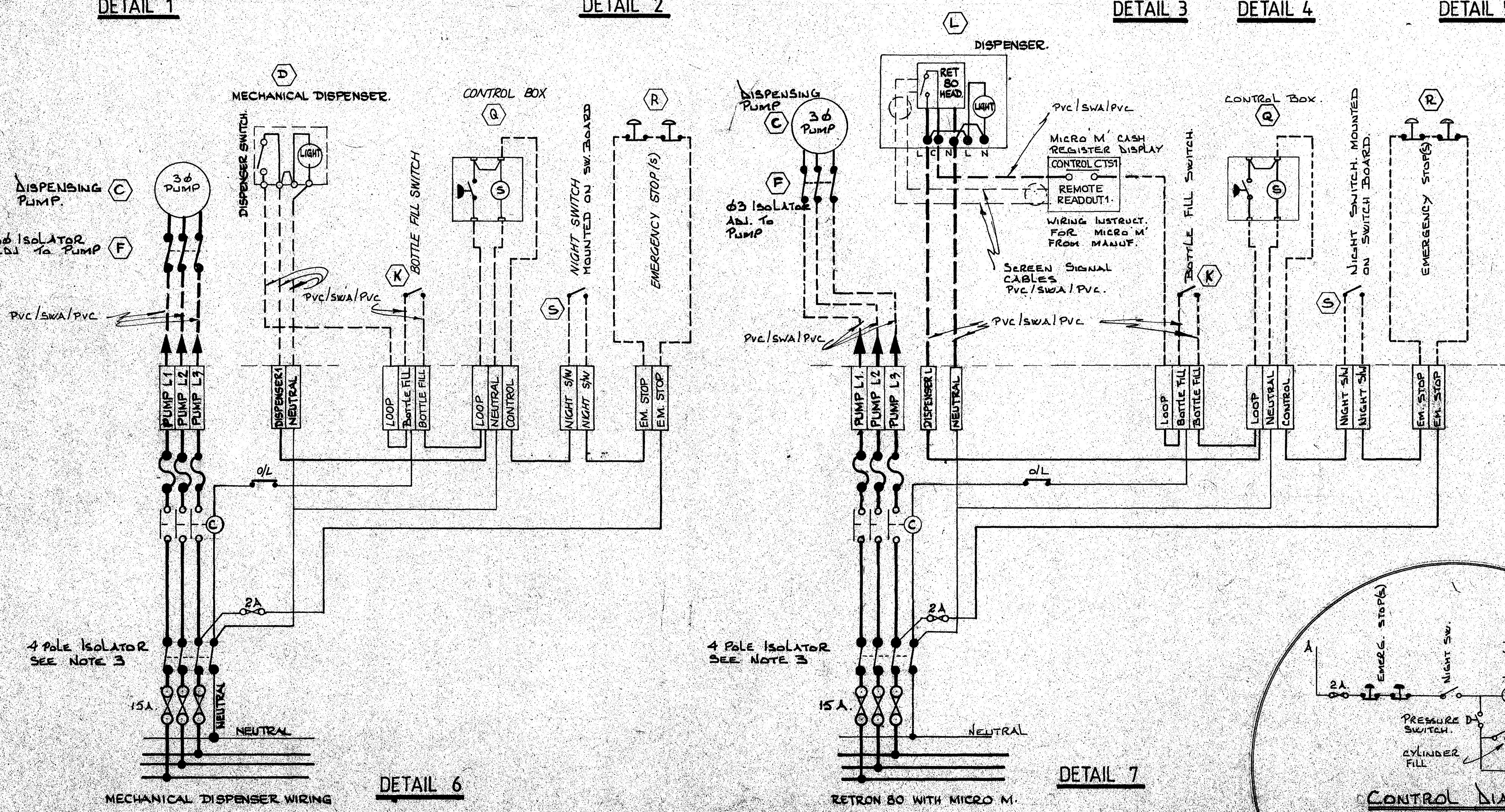
drawn <b>Don Robertson</b>	date <b>15-9-81</b>		drawing number <b>900 P 267</b>
checked 	date <b>19/9/81</b>		
scale 			





- NOTES**
1. ALL ELECTRICAL WIRING & EQUIPMENT SHALL COMPLY WITH THE ELECTRICAL WIRING REGULATIONS 1976 & ALL CURRENT AMENDMENTS.
  2. ALL WIRING IN HAZARDOUS ZONES AS DEFINED IN MP6105: 1976 "ELECTRICAL WIRING IN HAZARDOUS LOCATIONS" SHALL COMPLY WITH MP6105 REQUIREMENTS FOR CLASS 1 ZONE 1.
  3. MP6105 REQUIRES THE NEUTRAL CONDUCTOR TO BE ISOLATED ALONG WITH THE LINE CONDUCTORS, (SHELL CO. METHOD PREFERRED) OR REMOVABLE LINK ON THE NEUTRAL. ALTERNATIVE TO ISOLATORS AND FUSES IS TO PROVIDE CIRCUIT BREAKERS.
  4. WHERE A NEW MAINS SUPPLY IS TO BE INSTALLED THE MAIN SWITCH SHALL BE 4 POLE AND LOCKABLE (I.E. NEUTRAL IS BROKEN).
  5. ISOLATORS SHALL BE RATED FOR OCCASIONAL MOTOR STARTING DUTY.
  6. EXTERNAL WIRING SHALL BE GENERALLY RUN IN SERVICES TRENCH BELOW AND AS FAR AS PRACTICABLE FROM THE PIPEWORK.

SCHEDULE OF ELECTRICAL EQUIPMENT. (ITEMS NOT REQUIRED MAY BE DELETED)					
ITEM	QTY	HAZARD ZONE	POWER	MANUFACTURER & MODEL	NOTES
A SINGLE PUMP SWITCHBOARD	1	SAFE	30A 3φ	ELECTRICAL CONTRACTOR.	
B MULTIPLE PUMP SWITCHBOARD	1	SAFE	30A 3φ	ELECTRICAL CONTRACTOR.	
C 3φ DISPENSING PUMP		CLASS 1 ZONE 1	400V 3φ		SHELL CO. SUPPLY.
D MECHANICAL DISPENSER		CLASS 1 ZONE 1	230V 1φ		SHELL CO. SUPPLY.
F 3φ PUMP ISOLATOR (ADJ. PUMP)		CLASS 1 ZONE 1	400V, 3φ, 15A	SAE FNS 51-1 OR CROUSE HINDS DSA 9-100 & DSA 9-A203	SHELL CO. SUPPLY.
G 3φ FLAMEPROOF POWER RECEPTACLE	1	CLASS 1 ZONE 1	400V, 3φ, 20A	S.A.E. F.N.O.B.	SHELL CO. SUPPLY.
H 1φ BOTTLE FILL PUMP		CLASS 1 ZONE 1	230V, 1φ		SHELL CO. SUPPLY.
J 1φ ISOLATOR		CLASS 1 ZONE 1	230V, 1φ, 20A	S.A.E. FNS 15-1 OR CROUSE HINDS DSA 9-109 & DSA 100	SHELL CO. SUPPLY.
K 1φ CONTROL SWITCH		CLASS 1, ZONE 1	230V, 1φ, 20A	S.A.E. F.N.S. 15-1 OR CROUSE HINDS DSA 9-109 & DSA 100	SHELL CO. SUPPLY.
L DISPENSER		CLASS 1, ZONE 1	230V, 1φ		SHELL CO. SUPPLY.
M MICRO-M-REMOTE READOUT CONSOLE	1	SAFE	230V, 1φ	PRODUCTION ENGINEERING CO.	SHELL CO. SUPPLY.
N VAPOURISER		CLASS 1, ZONE 1	400V 3φ K.W.	SAM DICK POWER	SHELL CO. SUPPLY.
P 4 POLE ISOLATOR (ADJ. VAPOURISER)		CLASS 1, ZONE 1	400 3φ # N 20A.	SAE FNS 51-1 OR CROUSE HINDS DSA 9-100 & DSA 9-A203	SHELL CO. SUPPLY.
Q EMERGENCY SHUT OFF CONTROL BOX	1	SAFE	230 V 1φ	M'EWANS	SHELL CO. SUPPLY.
R EMERGENCY STOP BUTTON	1 or 2	SAFE	230 V	TELEMECANIQUE	SHELL CO. SUPPLY.
S NIGHT SWITCH	1	SAFE	230 V	ELECTRICAL CONTRACTOR	



**KEY**

—	400V IN BOARD	—	LOW VOLTAGE IN BOARD
---	" " FIELD	---	" " " FIELD
- - -	230V IN BOARD	- - -	NORMALLY OPEN CONTACTS
- . -	" " FIELD	- . -	" " CLOSE

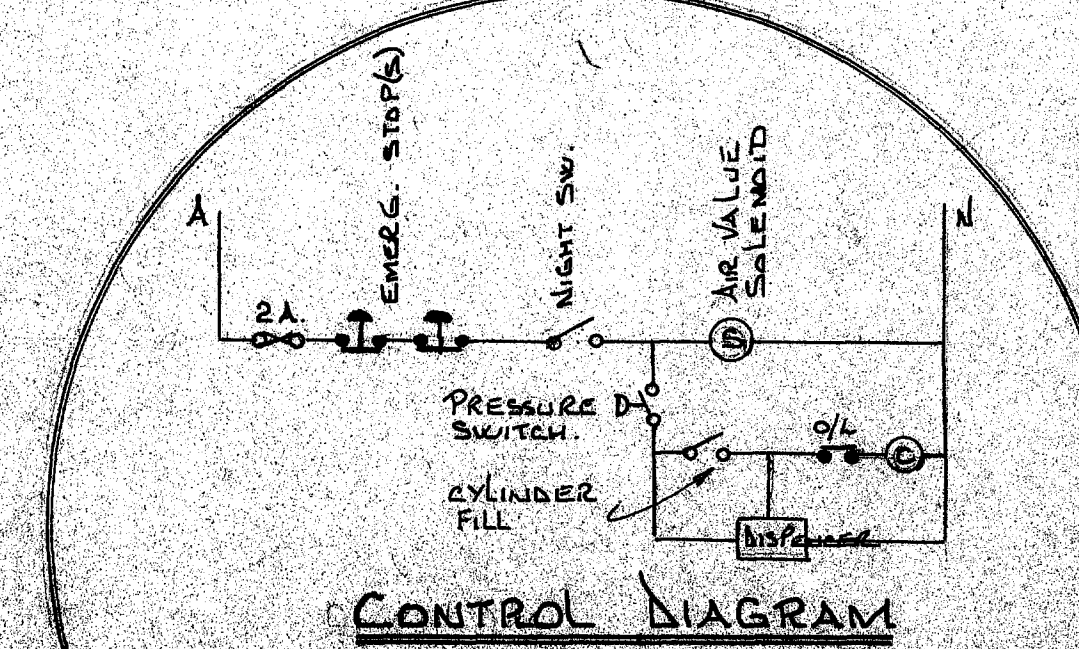
900E261	O	AMENDED DISPENSER WIRING. ADDED ITEM R. NOTE COL. AMENDED.	10.8.84
"	N	ADDED PNEUMATIC SYSTEM.	21.6.84
"	M	ADDED PRESSURE OPERATED SW. @	17.5.84
"	L	MINOR MODS. TO ELECTRICAL SCHEDULE (MANUF. & MODEL)	9.5.84
900E261	K	AMENDED SCHEDULE OF ELECTRICAL EQUIP. DELETED LCM4 WIRING DIAGRAM.	30.4.84
900E261	J	REDRAWN.	1.2.84
900E261	H	ADDED BOTTLE FILL CONNECTIONS.	1.11.83
"	G	MINOR REVISIONS.	22.7.83
"	F	REVISED.	23.9.83
"	E	BOTTLE FILL SWITCH ADDED TO LCM4 ELECTRONIC DISPENSER WIRING	26.12.82
"	D	VAPOURISER # ITEM N & P ADDED.	21.7.82
"	C	(D) RETRON 80 DISPENSER & MICRO M ADDED.	23.4.82
900E261	B	REDRAWN FOR 'ELECTRONIC DISPENSER & PROVISION FOR ISOLATION ADJ. TO PUMP	17.1.82

**Shell Companies in New Zealand**  
96 The Terrace Wellington

**L.P.G. STANDARD ELECTRICAL SCHEMATIC**

drawn: A.R.G. THOMSON date: 12.2.84  
checked: [signature] date: [signature]  
scale: [signature] engineering manager

drawing number: 900 E 261  
issue: 2.4.84



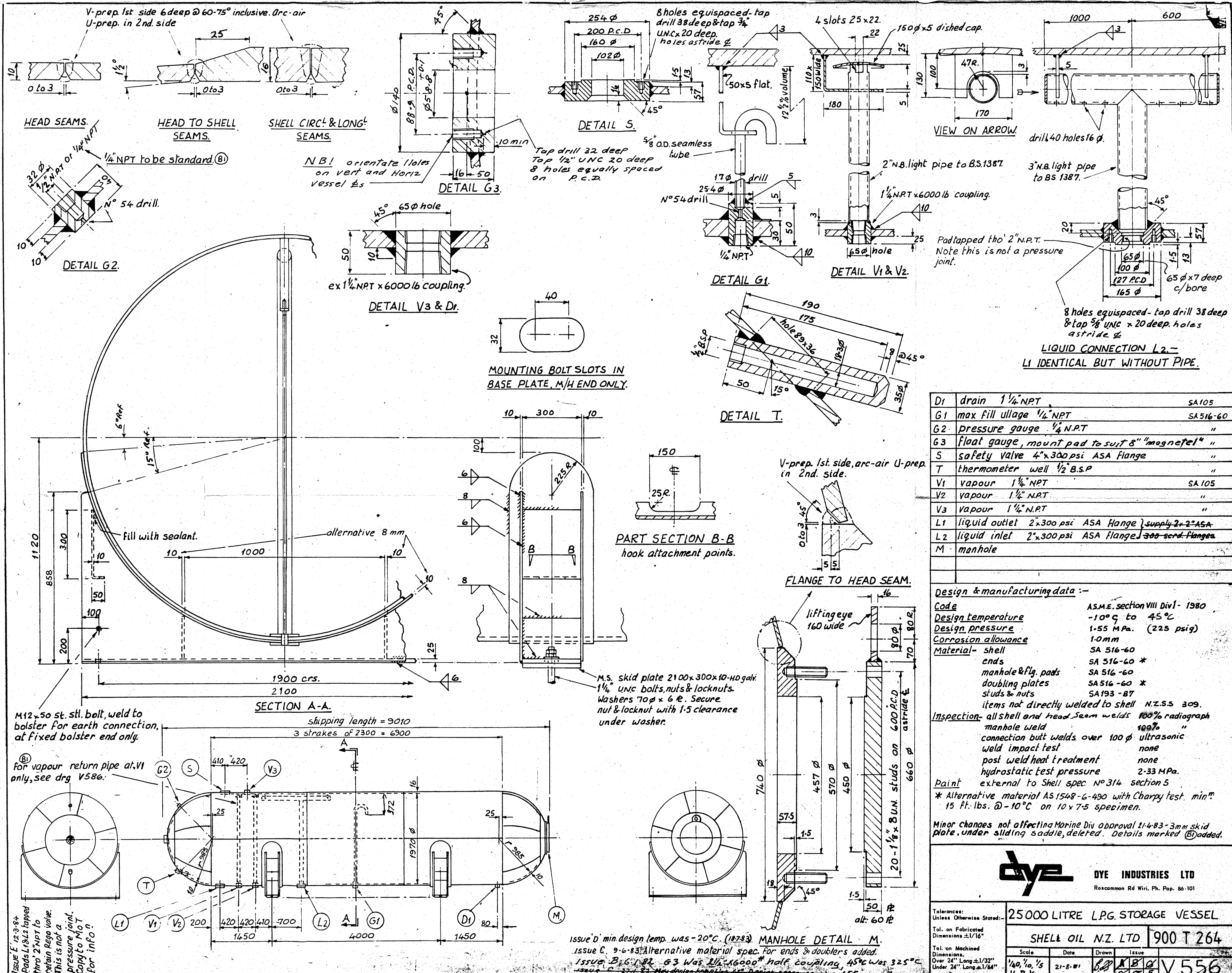












D1	drain 1 1/4" NPT	SA 105
G1	max fill ullage 1/4" NPT	SA 516-60
G2	pressure gauge 1/4" NPT	"
G3	float gauge, mount pad to suit 8" "magnetel"	"
S	safety valve 4"x300psi ASA Flange	"
T	thermometer well 1/2" B.S.P	"
V1	vapour 1 1/4" NPT	SA 105
V2	vapour 1 1/4" NPT	"
V3	vapour 1 1/4" NPT	"
L1	liquid outlet 2"x300psi ASA Flange	supply 2"x2" ASA
L2	liquid inlet 2"x300psi ASA Flange	300-std. flange
M	manhole	

**Design & manufacturing data :-**

**Code** AS.M.E. section VIII Div 1 - 1980

**Design temperature** -10°C to 45°C

**Design pressure** 1.55 MPa. (225 psig)

**Corrosion allowance** 1.0 mm

**Material:-** shell SA 516-60

ends SA 516-60 \*

manhole & fly. pads SA 516-60 \*

doubling plates SA 516-60 \*

studs & nuts SA 193-B7

items not directly welded to shell N.Z.S.S 309.

**Inspection:-** all shell and head seam welds 100% radiograph

manhole weld 100% "

connection butt welds over 100 φ ultrasonic

weld impact test none

post weld heat treatment none

hydrostatic test pressure 2.33 MPa.

**Paint** external to shell spec. N° 314 section 5

\* Alternative material AS 1548-6-490 with Charpy test. min 15 ft. lbs. @ -10°C on 10 x 7.5 specimen.

Minor changes not affecting Marine Div approval 21-4-83-3mm skid plate, under sliding saddle, deleted. Details marked (B) added.

**dye INDUSTRIES LTD**  
Roscommon Rd Wiri, Ph. Pop. 86-101

Tolerances: Unless Otherwise Stated:-		25000 LITRE L.P.G. STORAGE VESSEL	
Tol. on Fabricated Dimensions ±1/16"		SHELL OIL N.Z. LTD 900 T 264	
Tol. on Machined Dimensions: Over 24" Long ±1/32" Under 24" Long ±1/64"		Scale	Date
		1/40, 1/10, 1/5	21-8-81
		1/8, 1/4	1/8, 1/4
		V556	