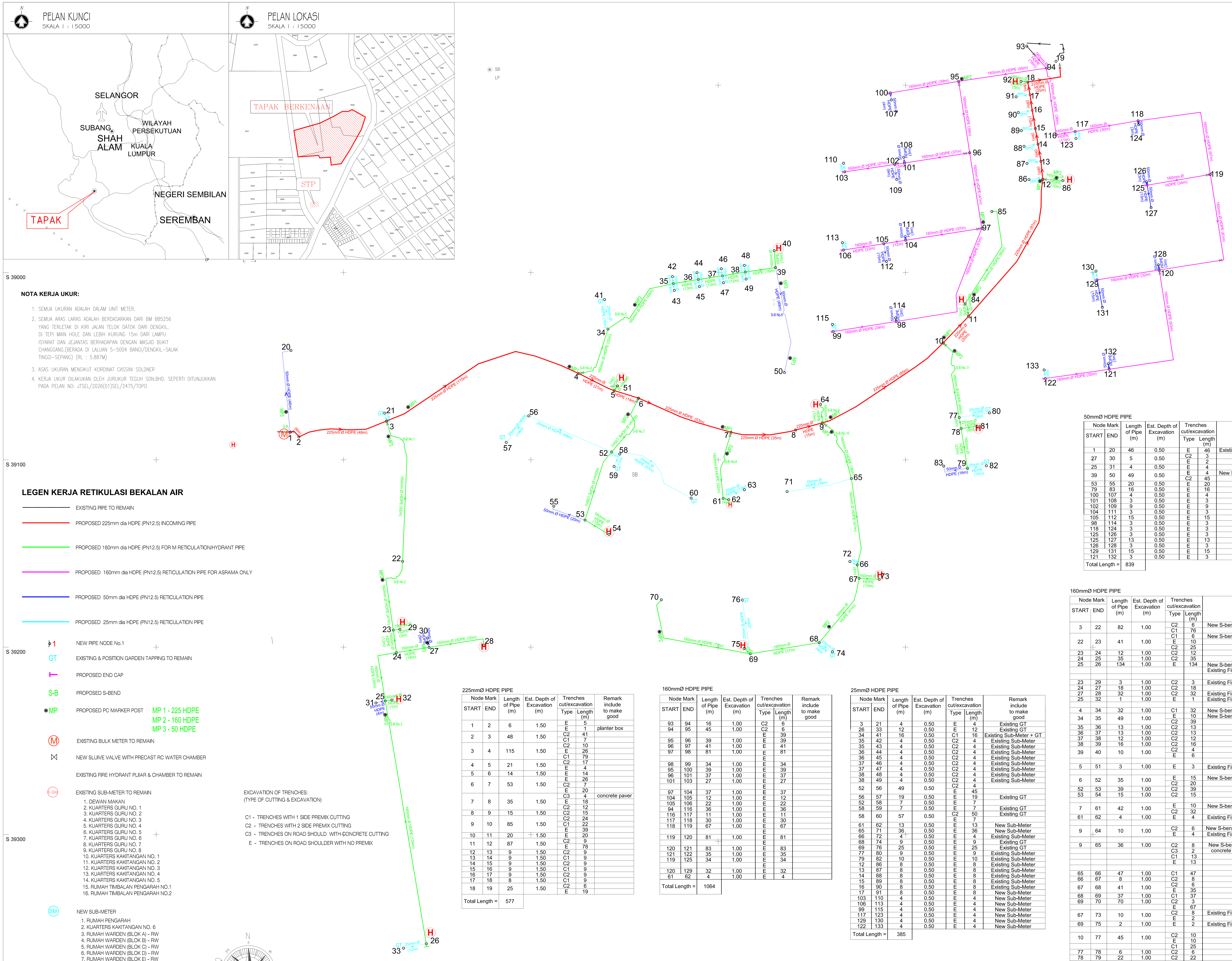

NOTA KERJA UKUR:

1. SEMUA UKURAN ADALAH DALAM UNIT METER.
2. SEMUA ARAS LARAS ADALAH BERDASARKAN DARI BM BB5256 YANG TERLETAK DI KIRI JALAN TELOK DATOK DARI DENGKIL. DI TEPI MAIN HOLE DAN LEBIH KURUNG 15m DARI LAMPU ISYARAT DAN JEJANTAS BERHADAPAN DENGAN MASJID BUKIT CHANGGANG.(BERADA DI LALUAN 5-5004 BANGI/DENGKIL-SALAK TINGGI-SEPANG) (RL : 5.887M)
3. ASAS UKURAN MENGIKUT KORDINAT CASSINI SOLDNER
4. KERJA UKUR DILAKUKAN OLEH JURUKUR TEGUH SDN.BHD. SEPERTI DITUNJUKKAN PADA PELAN NO: JTSEL/2026(01)SEL/2475/TOPO

LEGEN KERJA RETIKULASI BEKALAN AIR

━ (black)	EXISTING PIPE TO REMAIN
🟥 ━	PROPOSED 225mm dia HDPE (PN12.5) INCOMING PIPE
🟩 ━	PROPOSED 160mm dia HDPE (PN12.5) FOR M RETICULATION/HYDRANT PIPE
🟪 ━	PROPOSED 160mm dia HDPE (PN12.5) RETICULATION PIPE FOR ASRAMA ONLY
🟦 ━	PROPOSED 50mm dia HDPE (PN12.5) RETICULATION PIPE
━ (cyan)	PROPOSED 25mm dia HDPE (PN12.5) RETICULATION PIPE
ϕ 1	NEW PIPE NODE No.1
GT	EXISTING & POSITION GARDEN TAPPING TO REMAIN
⊢	PROPOSED END CAP
S-B	PROPOSED S-BEND
◉ MP	PROPOSED PC MARKER POST MP 1 - 225 HDPE MP 2 - 160 HDPE MP 3 - 50 HDPE
Ⓜ	EXISTING BULK METER TO REMAIN
⋈	NEW SLUIVE VALVE WITH PRECAST RC WATER CHAMBER
	EXISTING FIRE HYDRANT PLIIAR & CHAMBER TO REMAIN
E-SM	EXISTING SUB-METER TO REMAIN
SM	NEW SUB-METER

EXISTING SUB-METER TO REMAIN
1. DEWAN MAKAN
2. KUARTERS GURU NO. 1
3. KUARTERS GURU NO. 2
4. KUARTERS GURU NO. 3
5. KUARTERS GURU NO. 4
6. KUARTERS GURU NO. 5
7. KUARTERS GURU NO. 6
8. KUARTERS GURU NO. 7
9. KUARTERS GURU NO. 8
10. KUARTERS KAKITANGAN NO. 1
11. KUARTERS KAKITANGAN NO. 2
12. KUARTERS KAKITANGAN NO. 3
13. KUARTERS KAKITANGAN NO. 4
14. KUARTERS KAKITANGAN NO. 5
15. RUMAH TIMBALAN PENGARAH NO.1
16. RUMAH TIMBALAN PENGARAH NO.2

NEW SUB-METER
1. RUMAH PENGARAH
2. KUARTERS KAKITANGAN NO. 6
3. RUMAH WARDEN (BLOK A) - RW
4. RUMAH WARDEN (BLOK B) - RW
5. RUMAH WARDEN (BLOK C) - RW
6. RUMAH WARDEN (BLOK D) - RW
7. RUMAH WARDEN (BLOK E) - RW
8. RUMAH WARDEN (BLOK F) - RW
9. KAFETERIA
10. DOBI

EXCAVATION OF TRENCHES:
(TYPE OF CUTTING & EXCAVATION)

C1 - TRENCHES WITH 1 SIDE PREMIX CUTTING
C2 - TRENCHES WITH 2 SIDE PREMIX CUTTING
C3 - TRENCHES ON ROAD SHOULD WITH CONCRETE CUTTING
E - TRENCHES ON ROAD SHOULDER WITH NO PREMIX

225mmØ HDPE PIPE

Node Mark START	Node Mark END	Length of Pipe (m)	Est. Depth of Excavation (m)	Trenches cut/excavation Type	Trenches cut/excavation Length (m)	Remark include to make good
1	2	6	1.50	E	5	
				E	1	planter box
2	3	48	1.50	C2	41	
				C1	7	
3	4	115	1.50	C2	10	
				E	26	
				C1	79	
4	5	21	1.50	C2	17	
				E	4	
5	6	14	1.50	E	14	
6	7	53	1.50	E	26	
				C2	7	
				E	20	
7	8	35	1.50	C3	4	concrete paver
				E	18	
				C2	12	
8	9	15	1.50	C2	15	
9	10	85	1.50	C2	24	
				C1	22	
				E	39	
10	11	20	1.50	E	20	
11	12	87	1.50	C2	9	
				E	78	
12	13	9	1.50	C2	9	
13	14	9	1.50	C1	9	
14	15	9	1.50	C2	9	
15	16	9	1.50	C1	9	
16	17	9	1.50	C2	9	
17	18	8	1.50	C1	9	
18	19	25	1.50	C2	6	
				E	19	
Total Length =		577				

160mmØ HDPE PIPE

Node Mark START	Node Mark END	Length of Pipe (m)	Est. Depth of Excavation (m)	Trenches cut/excavation Type	Trenches cut/excavation Length (m)	Remark include to make good
93	94	16	1.00	C2	6	
94	95	45	1.00	C2	6	
				E	39	
95	96	39	1.00	E	39	
96	97	41	1.00	E	41	
97	98	81	1.00	E	81	
				E		
98	99	34	1.00	E	34	
95	100	39	1.00	E	39	
96	101	37	1.00	E	37	
101	103	27	1.00	E	27	
				E		
97	104	37	1.00	E	37	
104	105	12	1.00	E	12	
105	106	22	1.00	E	22	
94	116	36	1.00	E	36	
116	117	11	1.00	E	11	
117	118	30	1.00	E	30	
118	119	67	1.00	E	67	
				E		
119	120	81	1.00	E	81	
				E		
120	121	83	1.00	E	83	
121	122	35	1.00	E	35	
119	125	34	1.00	E	34	
				E		
120	129	32	1.00	E	32	
61	62	4	1.00	E	4	
Total Length =		1064				

25mmØ HDPE PIPE

Node Mark START	Node Mark END	Length of Pipe (m)	Est. Depth of Excavation (m)	Trenches cut/excavation Type	Trenches cut/excavation Length (m)	Remark include to make good
3	21	4	0.50	E	4	Existing GT
26	33	12	0.50	E	12	Existing GT
34	41	16	0.50	C1	16	Existing Sub-Meter + GT
35	42	4	0.50	C2	4	Existing Sub-Meter
35	43	4	0.50	C2	4	Existing Sub-Meter
36	44	4	0.50	C2	4	Existing Sub-Meter
36	45	4	0.50	C2	4	Existing Sub-Meter
37	46	4	0.50	C2	4	Existing Sub-Meter
37	47	4	0.50	C2	4	Existing Sub-Meter
38	48	4	0.50	C2	4	Existing Sub-Meter
38	49	4	0.50	C2	4	Existing Sub-Meter
52	56	49	0.50	C2	4	
				E	45	
56	57	19	0.50	E	19	Existing GT
52	58	7	0.50	E	7	
58	59	7	0.50	E	7	Existing GT
58	60	57	0.50	C2	50	Existing GT
				E	7	
61	62	13	0.50	E	13	New Sub-Meter
65	71	36	0.50	E	36	New Sub-Meter
66	72	4	0.50	E	4	Existing Sub-Meter
68	74	9	0.50	E	9	Existing GT
69	76	25	0.50	E	25	Existing GT
77	80	9	0.50	E	9	Existing Sub-Meter
79	82	10	0.50	E	10	Existing Sub-Meter
12	86	8	0.50	E	8	Existing Sub-Meter
13	87	8	0.50	E	8	Existing Sub-Meter
14	88	8	0.50	E	8	Existing Sub-Meter
15	89	8	0.50	E	8	Existing Sub-Meter
16	90	8	0.50	E	8	Existing Sub-Meter
17	91	8	0.50	E	8	New Sub-Meter
103	110	4	0.50	E	4	New Sub-Meter
106	113	4	0.50	E	4	New Sub-Meter
99	115	4	0.50	E	4	New Sub-Meter
117	123	4	0.50	E	4	New Sub-Meter
129	130	4	0.50	E	4	New Sub-Meter
122	133	4	0.50	E	4	New Sub-Meter
Total Length =		385				

50mmØ HDPE PIPE

Node Mark START	Node Mark END	Length of Pipe (m)	Est. Depth of Excavation (m)	Trenches cut/excavation Type	Trenches cut/excavation Length (m)	Remark include to make good
1	20	46	0.50	E	46	Existing S-bend to remain
27	30	5	0.50	C2	3	
				E	2	
25	31	4	0.50	E	4	
39	50	49	0.50	E	4	New S-bend & Air Valve No.6
				C2	45	
53	55	20	0.50	E	20	
79	83	16	0.50	E	16	
100	107	4	0.50	E	4	
101	108	3	0.50	E	3	
102	109	9	0.50	E	9	
104	111	3	0.50	E	3	
105	112	15	0.50	E	15	
98	114	3	0.50	E	3	
118	124	3	0.50	E	3	
125	126	3	0.50	E	3	
125	127	13	0.50	E	13	
126	128	3	0.50	E	3	
129	131	15	0.50	E	15	
121	132	3	0.50	E	3	
Total Length =		839				

160mmØ HDPE PIPE

Node Mark START	Node Mark END	Length of Pipe (m)	Est. Depth of Excavation (m)	Trenches cut/excavation Type	Trenches cut/excavation Length (m)	Remark include to make good
3	22	82	1.00	C2	6	New S-bend & Air Valve No.1
				C1	76	
22	23	41	1.00	C1	6	New S-bend & Air Valve No.2
				E	10	
				C2	25	
23	24	12	1.00	C2	12	
24	25	35	1.00	C2	35	
25	26	134	1.00	E	134	New S-bend & Air Valve No.3
						Existing Fire Hydrant remain
23	29	3	1.00	C2	3	Existing Fire Hydrant remain
24	27	18	1.00	C2	18	
27	28	32	1.00	C2	32	Existing Fire Hydrant remain
25	32	1	1.00	E	1	Existing Fire Hydrant remain
4	34	32	1.00	C1	32	New S-bend & Air Valve No.4
34	35	49	1.00	E	10	New S-bend & Air Valve No.5
				C2	39	
35	36	13	1.00	C2	13	
36	37	13	1.00	C2	13	
37	38	12	1.00	C2	12	
38	39	16	1.00	C2	16	
39	40	10	1.00	C2	4	
				E	6	
5	51	3	1.00	E	3	Existing Fire Hydrant remain
6	52	35	1.00	E	15	New S-bend & Air Valve No.7
				C2	20	
52	53	39	1.00	C2	39	
53	54	15	1.00	C2	15	
7	61	42	1.00	E	10	New S-bend & Air Valve No.8
				C2	32	
61	62	4	1.00	E	4	Existing Fire Hydrant remain
9	64	10	1.00	C2	6	New S-bend & Air Valve No.10
				E	4	Existing Fire Hydrant remain
9	65	36	1.00	C2	8	New S-bend & Air Valve No.9
				C3	2	concrete slab to re-instate
				C1	13	
				E	13	
65	66	47	1.00	C1	47	
66	67	8	1.00	C2	8	
67	68	41	1.00	C2	6	
				E	35	
68	69	37	1.00	C1	37	
69	70	70	1.00	C2	3	
				E	67	
67	73	10	1.00	C2	8	Existing Fire Hydrant remain
				E	2	
69	75	2	1.00	E	2	Existing Fire Hydrant remain
10	77	45	1.00	C2	10	
				E	10	
				C1	25	
77	78	6	1.00	C2	6	
78	79	22	1.00	C2	22	
78	81	9	1.00	E	9	Existing Fire Hydrant remain
11	84	7	1.00	E	7	Existing Fire Hydrant remain
84	85	60	1.00	C2	6	
				E	54	
12	86	10	1.00	C2	6	Existing Fire Hydrant remain
				E	4	
18	92	3	1.00	E	3	Existing Fire Hydrant remain
18	19	25	1.00	C2	6	Existing Suction Tank remain
				E	19	
Total Length =		1082				

LUKISAN INI ADALAH HAKCIPTA JURUTERA
Kontraktor hendaklah mengikut ukuran di dalam rajah. Segala ukuran hendaklah diperiksa di tapak dan sebarang selisihan yang terdapat hendaklah dilaporkan dengan segera kepada arkitek sebelum kerja-kerja pembangunan dilaksanakan.

TAJUK PROJEK :

CADANGAN PENGGANTIAN SALURAN PAIR AIR UTAMA JENIS HDPE SERTA KERJA-KERJA BERKAITAN DI KOLEJ MARA (KM)
BANTING, SELANGOR DARUL EHSAN

UNTUK TETUAN
MAJLIS AMANAH RAKYAT (MARA)

PEMILIK :

MAJLIS AMANAH RAKYAT (MARA)

No 21, Jln Raja Laut, Chow Kit,
50609 Kuala Lumpur,
Wilayah Persekutuan Kuala Lumpur
MARA Hotline : 03-26132000

JURUTERA STRUKTUR & SIVIL :

PAKATAN RUNDING
ZAIN SPENCER SDN BHD
(607057—D)
36-B Jalan SG 3/2,
Pusat Bdr Sri Gombak,
68100 Batu Caves,
Selangor Darul Ehsan
Tel: 603-6186 1209 Fax: 603-6185 4552
email : przs_kl@yahoo.com.my

I HEREBY CERTIFY THAT THESE WORKS HAS BEEN DESIGNED BY ME IN ACCORDANCE WITH SOUND ENGINEERING PRACTICE AND THAT I TAKE FULL RESPONSIBLITY FOR THE DESIGN AND PROPER PERFORMANCE OF THE SAME

JURUTERA MEKANIKAL & ELEKTRIKAL :

DFR CONSULT SDN. BHD.
DFR CONSULT SDN BHD
(BEM REG. NO: 1605 B/C) (1324927-D)
NO 8-3B, JALAN UP 1/1, UKAY PERDANA,
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E-mail : aasqsconsult@gmail.com

TAJUK LUKISAN :

RETIKULASI BEKALAN AIR
- PLAN SKEMATIK

TARIKH : MAC 2026
SKALA : AS SHOWN
DILUKIS OLEH : AZRIL
DISEMAK OLEH : IR SPENCER KLUMAI
DILULUSKAN OLEH : IR SPENCER KLUMAI
NO LUKISAN :
PRZS(159-25)-KMBanting-002