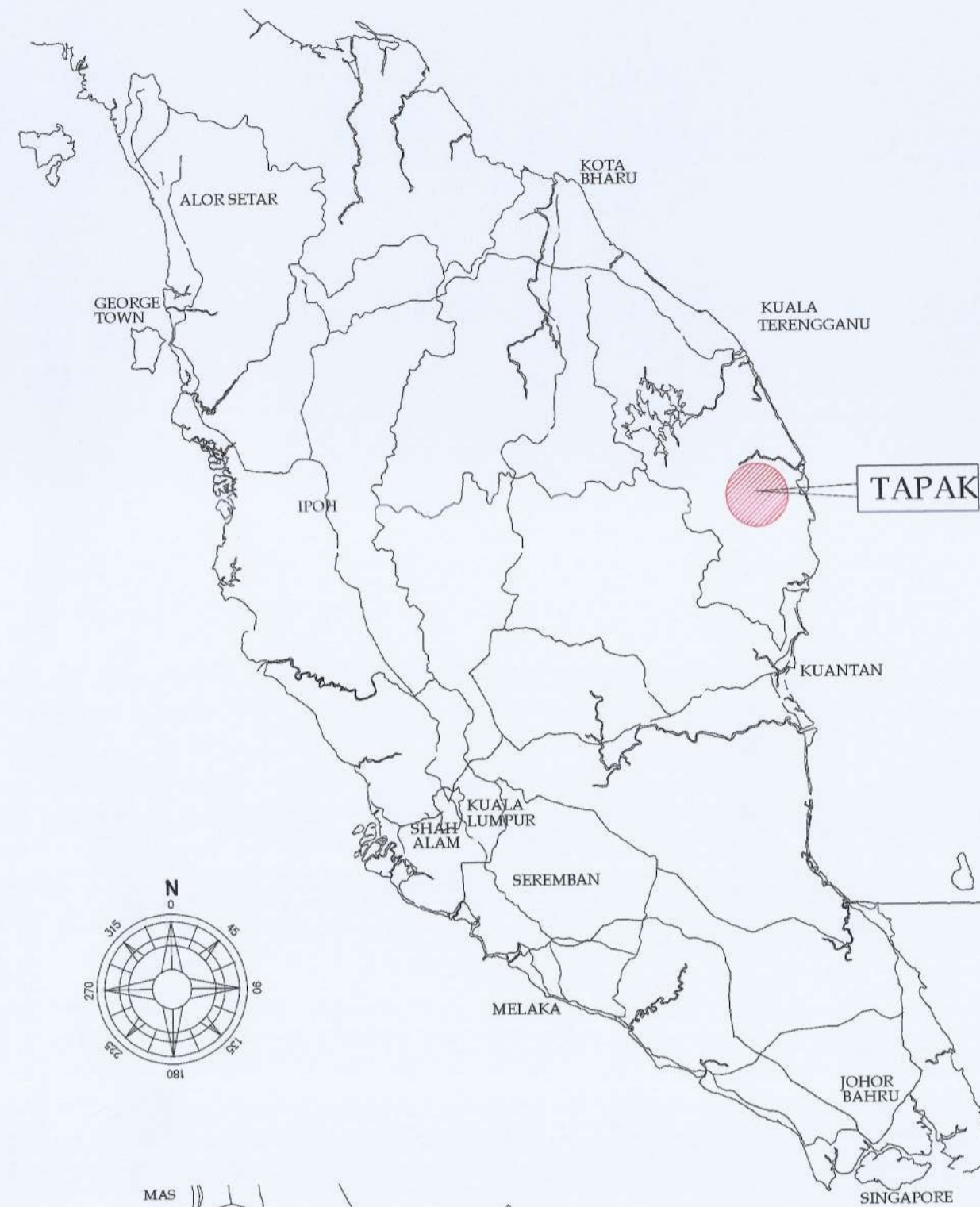


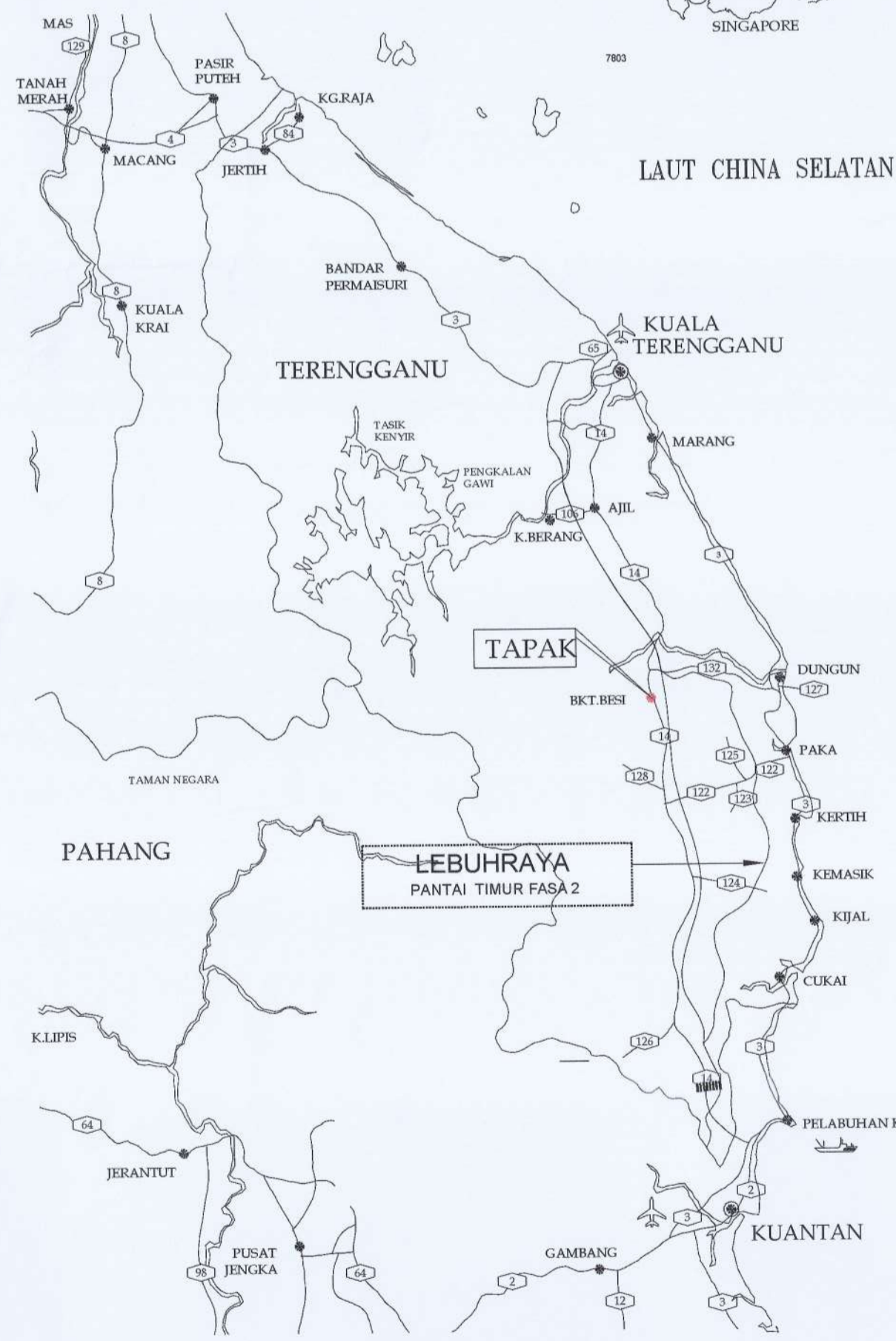
# PELAN PETUNJUK



## CATEGORY OF LOT FINAL DISCHARGE / CONNECTION

LEGEND	TYPE OF CATEGORY	NUMBER OF LOT
①	CATEGORY 0	70
②	CATEGORY 1	83
③	CATEGORY 2	74
④	CATEGORY 3	57
⑤	CATEGORY 4	63
⑥	CATEGORY 5	134

NOTE : 1) PLEASE REFER TO DRAWING NO. AMZA/22/69/BUKIT BESI/SW/DET\_08  
2) CATEGORY 0 MEANS THERE IS NO ANY BUILDING ON THE LOT.



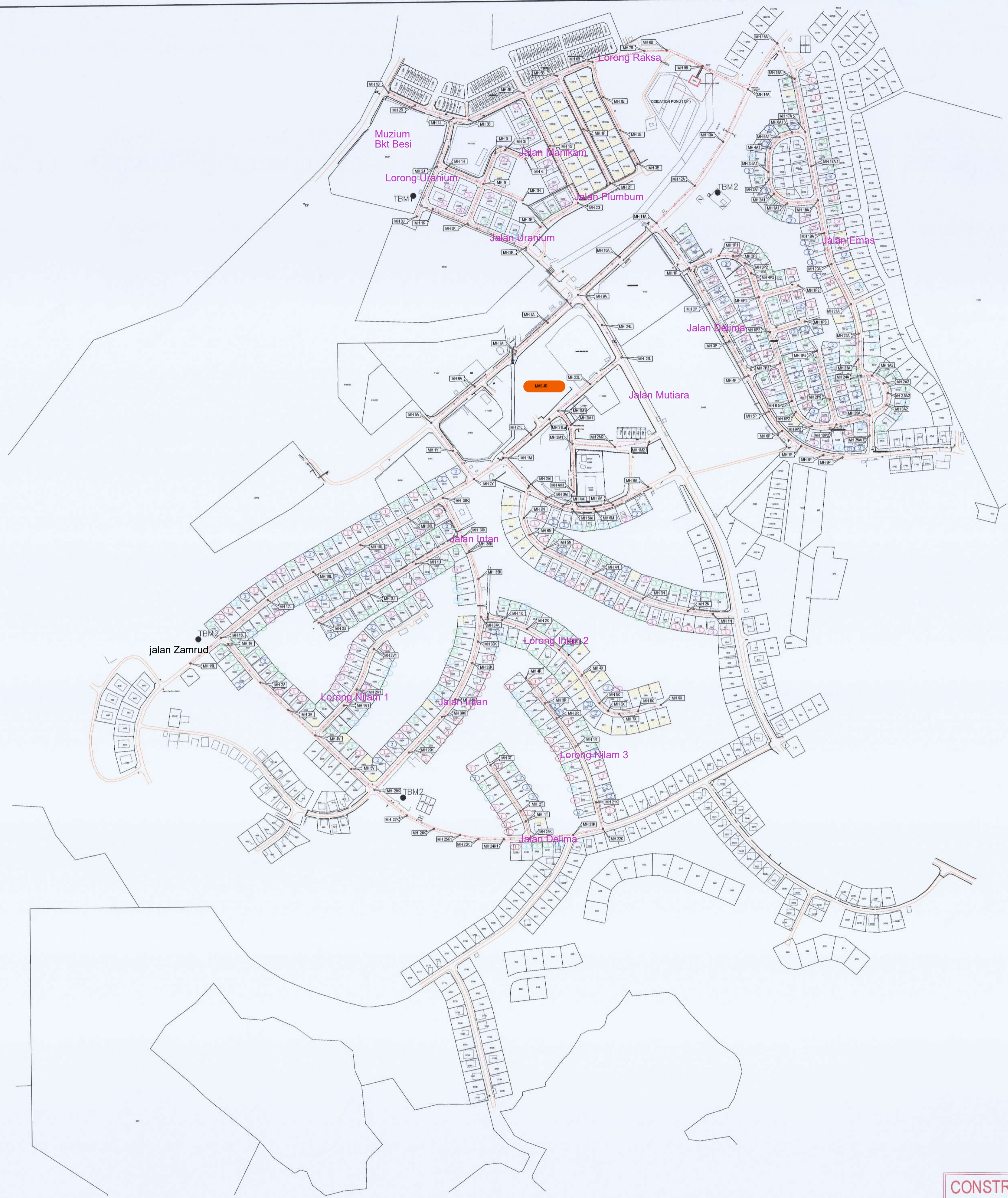
## PELAN LOKASI

(SUMBER : PETA JALAN PERSEKUTUAN, SEMENANJUNG MALAYSIA, PENERBITAN J.K.R.)

### LEGEND :

	: 225mm Ø VCP SEWER PIPE
	: 250mm Ø D.I SEWER PIPE
	: 1200mm Ø MANHOLE
	: NETWORK PUMP STATION
GL	: GROUND LEVEL
IL	: INVERT LEVEL
D	: DEPTH
OP	: OXIDATION POND

	PETUNJUK : LEBUHRAYA TOL
	JALANRAYA TOL
	JALAN PERSEKUTUAN UTAMA
	LAIN-LAIN JALAN PERSEKUTUAN
	SEMPADAN ANTARABANGSA
	SEMPADAN NEGERI
	IBU NEGARA
	IBU NEGERI
	BANDAR PENTING
	BANDAR KECIL
	NOMBOR LALUAN
	PELABUHAN
	TANDA TINGGI UKURAN METER
	LAPANGAN TERBANG



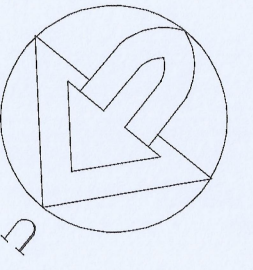
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(3329974)

**CONSTRUCTION DRAWING**

TARIKH	BUTIRAN	RUJUKAN	JURUKUR TANAH :	JURUTERA SIVIL & STRUKTUR :	PEMILIK :	DIREKA OLEH :	PROJEK :
			<b>JURUKUR HARMONI</b> LOT 90293, TINGKAT ATAS, VISMA TENGGU WANGSA BUKIT TUMBUH, 21300 KUALA NERUS, TERENGGANU. Tel: 09-6906437 Fax: 09-6906437	<b>AMZA CONSULT</b> Civil & Structural Consulting Engineers AMZA CONSULT NO. 61/5, TINGKAT 2, BLOK C, PERKAMPARAN LADANG TOK PELAM, JALAN SULTAN ZAINAL ABIDIN, 20000 KUALA TERENGGANU, TERENGGANU DARUL IMAN. TEL : 09-626 5362 FAX : 09-626 5361 EMAIL : amza.consult@gmail.com	<b>KETENGAH</b> PENGURUS BESAR LEMBAGA REBAJUAN TERENGGANU TENGAH KARUNG BERKUNCI NO. 3, 23409 BANDAR AL MUKTAFI BILAH SHAH, TERENGGANU DARUL IMAN. TEL. 09-8221101-105, 09-8221131-136	AMREENSHAH KHAIROL Ir. ZUHAFILLY Ir. ZUHAFILLY	PROJEK : PROJEK MENAIKTARAF SISTEM KUMBAHAN DAN KERJA-KERJA BERKAITAN DI PERBANDARAN KETENGAH JAYA, BUKIT BESI DAN SERI BANDI FASA III WILAYAH KETENGAH, TERENGGANU DARUL IMAN. (BANDAR BUKIT BESI) - OVERALL LAYOUT PLAN FOR CATEGORY OF LOT FINAL DISCHARGE / CONNECTION TARIKH : NOVEMBER 2023 BL. LUKSAN : AMZA/22/69/BUKIT BESI/SW/TP_02 RELAJAN : 04

UKURAN  
1 : 3600



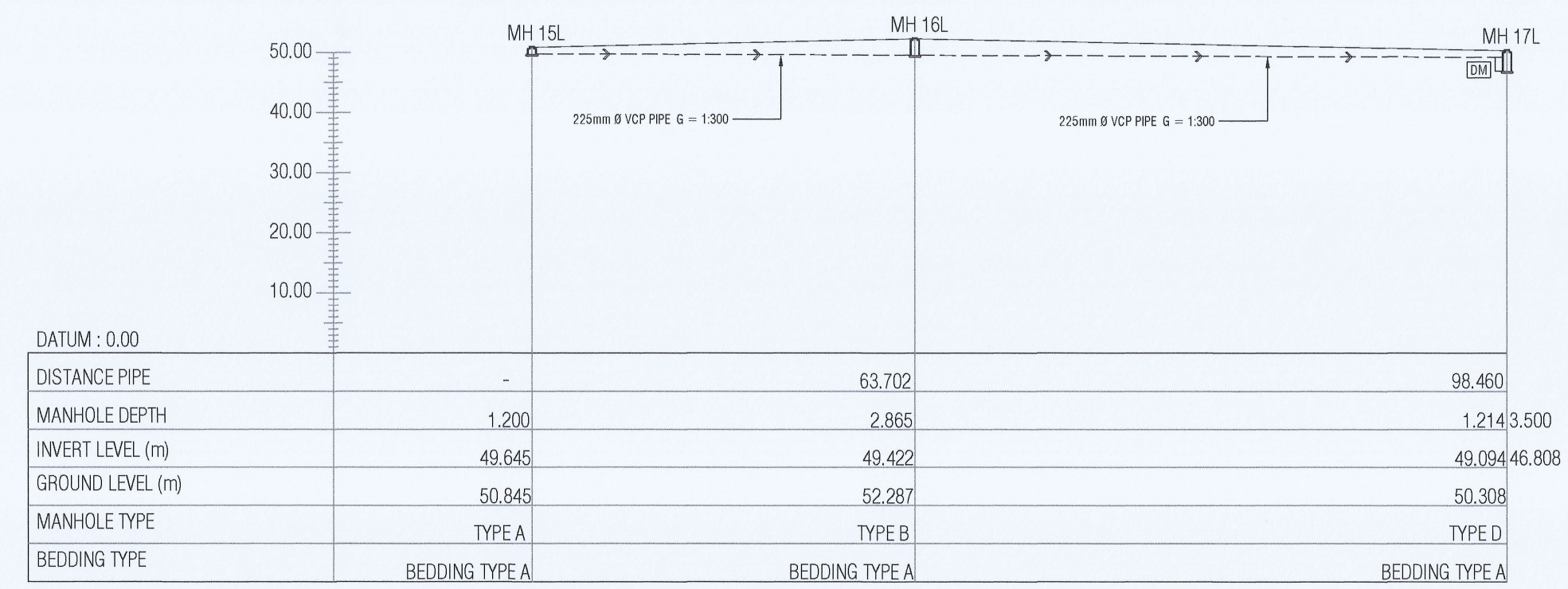


MUKIM BESUL / JERANGAU  
DAERAH DUNGUN  
Syit Piawai : 112-D  
SEKIL 1 : 1000



LEGEND :

- : 225mm Ø VCP (TRIFURFED CLAY PIPE) SEWER PIPE
- : 250mm Ø DI (DUCTILE IRON) SEWER PIPE
- : MH : 1200mm Ø MANHOLE
- : NPS : NETWORK PUMP STATION
- GL : GROUND LEVEL
- IL : INVERT LEVEL
- D : DEPTH
- : DM : DROP MANHOLE
- : OP : OXIDATION POND



LONGITUDINAL SECTION ( MH 2L - MH 17L )

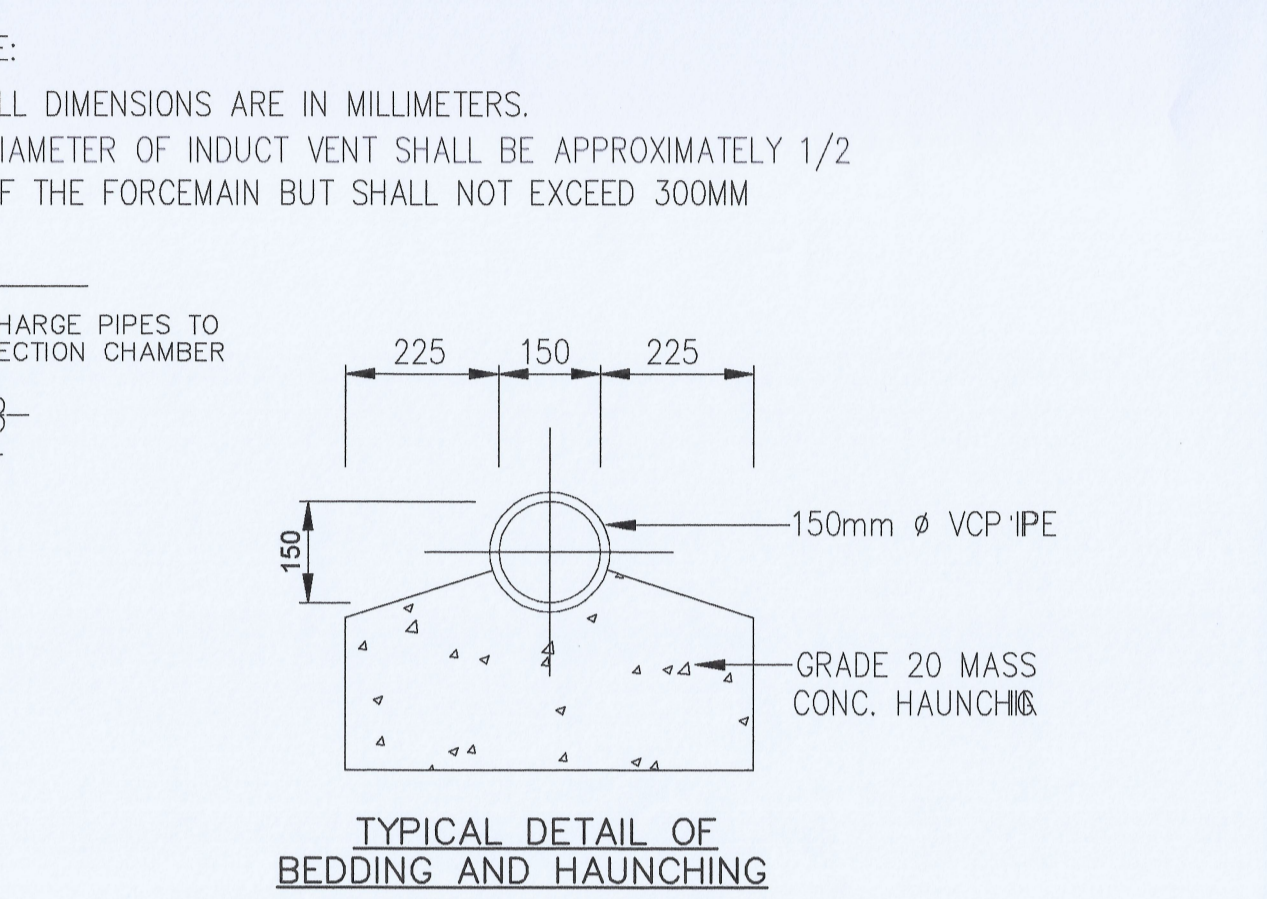
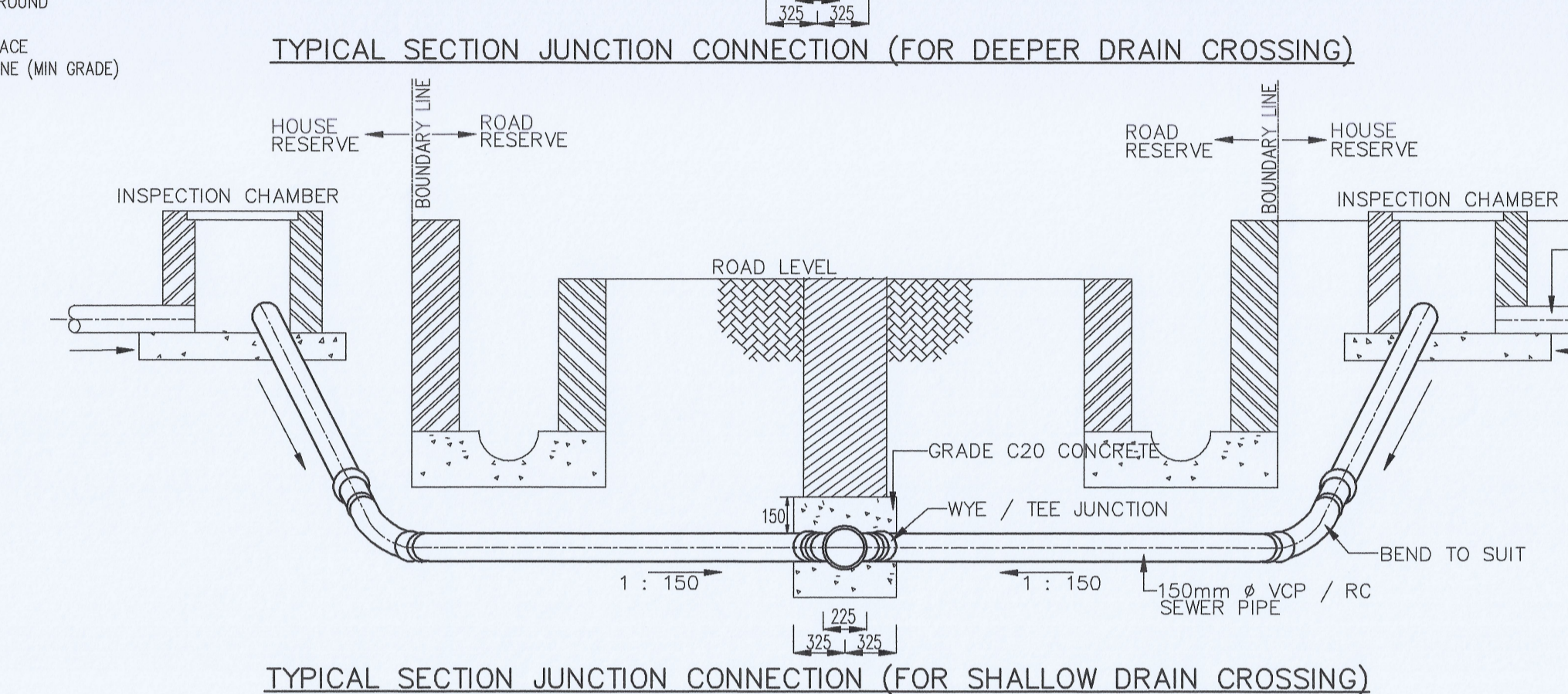
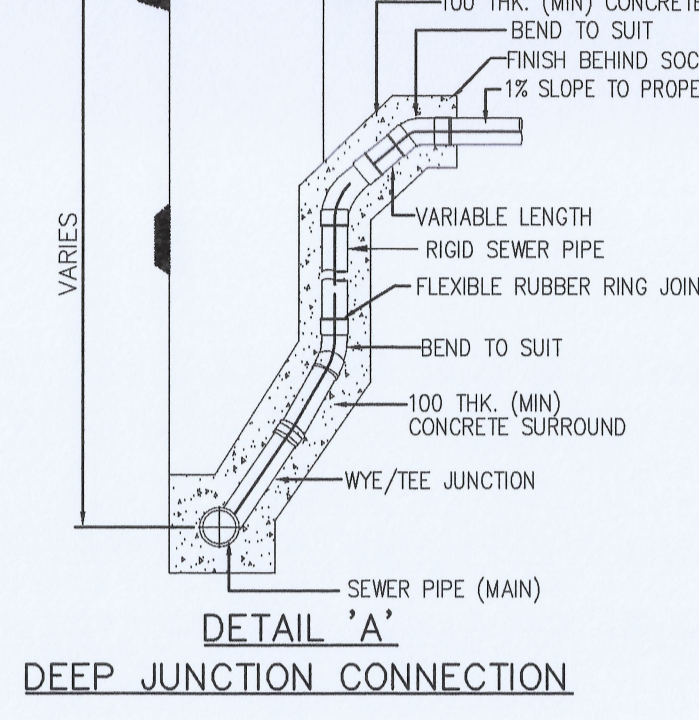
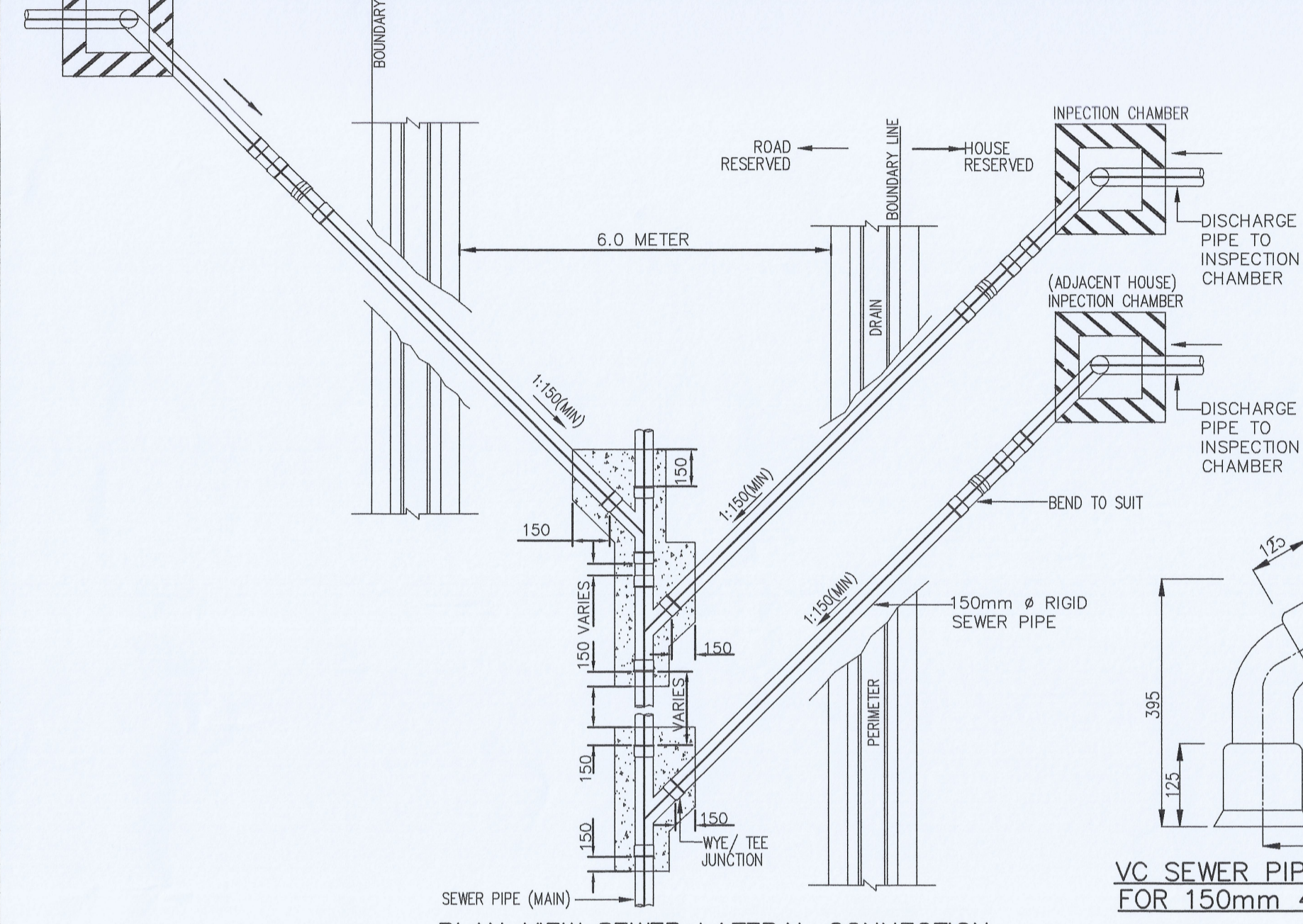
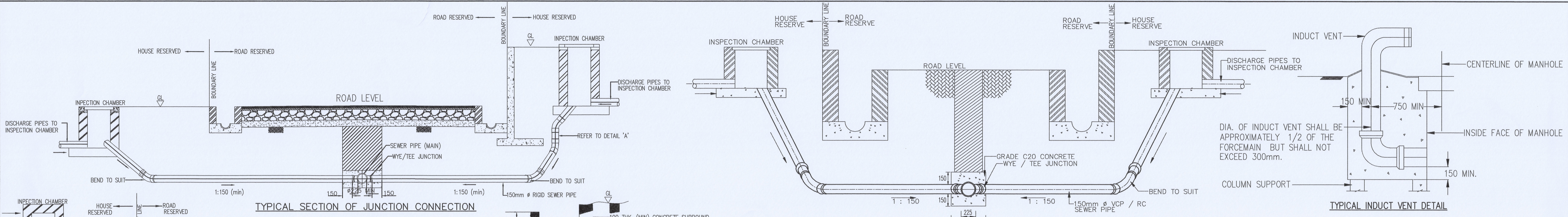
MANHOLE SCHEDULE ( MH 2L - MH 17L )

MANHOLE TYPE	GROUND LEVEL (m)	MANHOLE INVERT LEVEL (m)	DEPTH (m)	MANHOLE TYPE	LENGTH (m)	DIAMETER PIPE (mm)	GRADIENT	REMARKS
MH 15L	50.845	49.645	1.200	A	-	225	-	
MH 16L	52.287	49.422	2.865	B	63.702	225	1:300	
MH 17L	50.308	49.094/46.808	1.214/3.500	D	98.460	225	1:300	

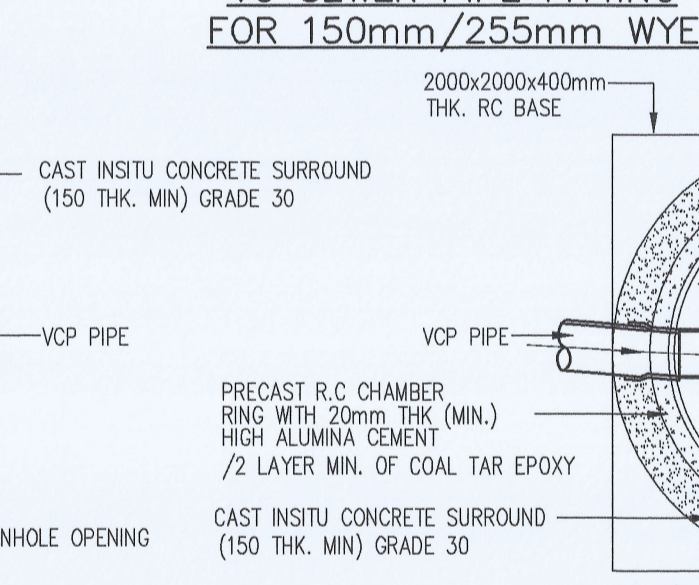
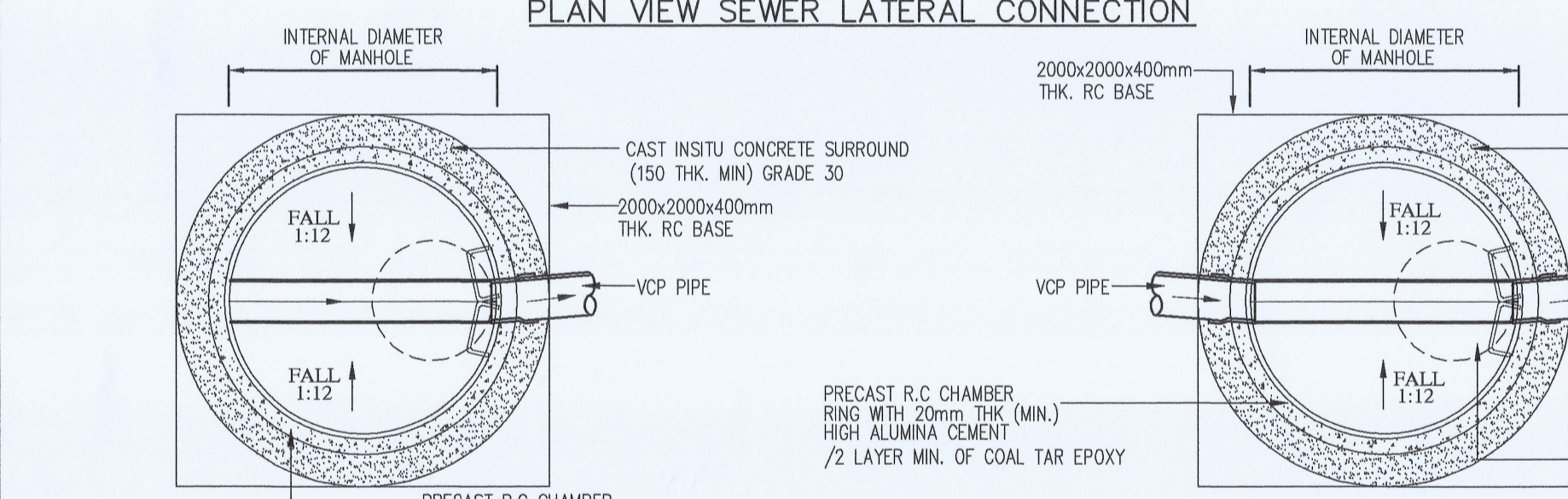
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(332897-4)

**CONSTRUCTION DRAWING**

TARIKH	BUTIRAN	RUJUKAN	JURUKUR TANAH : <b>JURUKUR HARMONI</b> LOT 6082, TINGKAT ATAS, WISMA TENGGU WANGSA BUKIT TUMBUK, 21300 KUALA NERUS, TERENGGANU. TEL: 08-6986437 Fax: 08-6986437	JURUTERA SIVIL & STRUKTUR : <b>AMZA CONSULT</b> Civil & Structural Consulting Engineers AMZA CONSULT NO.4016, TINGKAT 2, BLOK C, PERKAMPARAN LADANG TOK PELAM, JALAN SULTAN ZAINAL ABIDIN, 20000 KUALA TERENGGANU, TERENGGANU DARUL IMAN. TEL : 09-628 3382 FAX : 09-628 3381 EMAIL : amza.consult@gmail.com	Ir. ZUHAFILLY BIN AB. RAHMAN PROFESSIONAL ENGINEER WITH PRACTISING CERTIFICATE REG. NO. CH16582 HEREBY CONFIRM THAT THE DESIGNS SHOWN IN THIS CALCULATION DRAWING SPECIFICATIONS WAS DESIGNED BY ME OR UNDER MY DIRECTION AND SUPERVISION AND TO THE BEST OF MY KNOWLEDGE COMPLY WITH THE RELEVANT ENGINEERING STANDARD AND CODES OF PRACTICE AND LOCAL AUTHORITIES BY LAW AND REGULATIONS.  Ir. ZUHAFILLY BIN AB. RAHMAN B.Eng (Hons) Civil, MEM, P.Eng, P.Tech REG. NO. : C116582	PEMILIK : <b>KETENGAH</b>  PENGURUS BESAR LEMBAGA KEMAJUAN TERENGGANU TENGAH KARUNG BERKUNJUNG NO.3, 23400 BANDAR AL-MUKTAFI BILAH SHAH, TERENGGANU DARUL IMAN. TEL: 09-6221191-105, 09-6221151-136	DIREKA OLEH : AMREENSHAH DILUKISKAN OLEH : KHAIRUL DISEMAK OLEH : Ir. ZUHAFILLY DILULUSKAN OLEH : Ir. ZUHAFILLY	PROJEK : PROJEK MENAIKTARAF SISTEM KUMBAHAN DAN KERJA-KERJA BERKAITAN DI PERBANDARAN KETENGAH JAYA, BUKIT BESI DAN SERI BANDI FASA III WILAYAH KETENGAH, TERENGGANU DARUL IMAN. (BANDAR BUKIT BESI) - PELAN JAJARAN DARI CH 780 L - CH 1503.4 L - LONGITUDINAL SECTION ( MH 2L - MH 17L ) - MANHOLE SCHEDULE ( MH 2L - MH 17L )	TARikh : NOVEMBER 2023 BIL. LUKSIAN : AMZA/22/89/BUKIT BESI/SW/IP_03 HELAHAN : 05
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NOTE:  
 1. ALL DIMENSIONS ARE IN MILLIMETERS.  
 2. DIAMETER OF INDUCT VENT SHALL BE APPROXIMATELY 1/2 OF THE FORCEMAIN BUT SHALL NOT EXCEED 300MM



**Table 3**

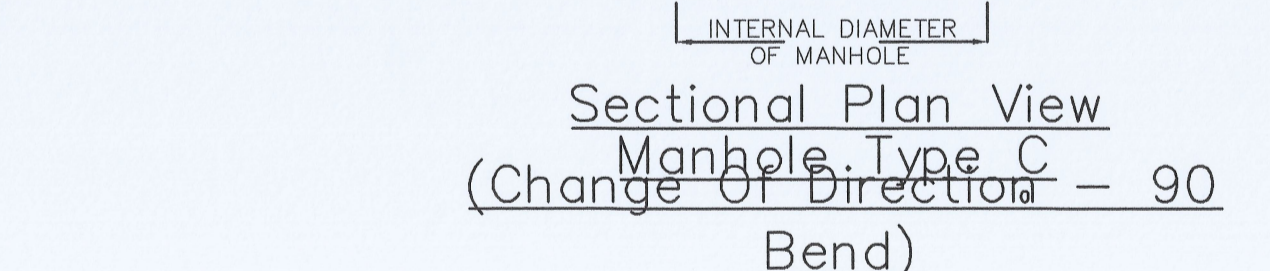
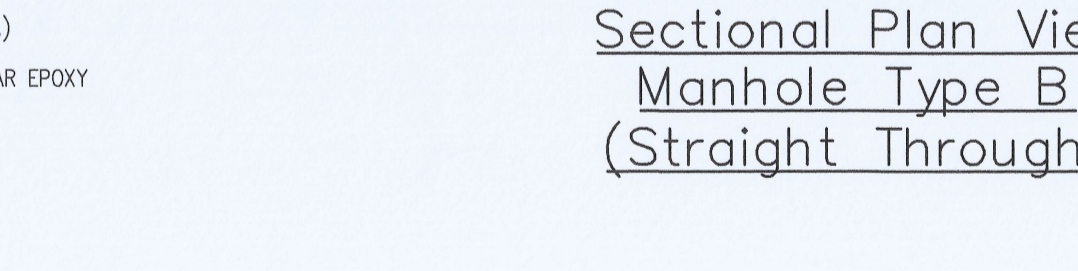
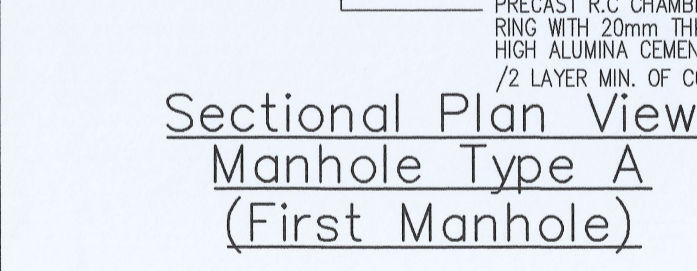
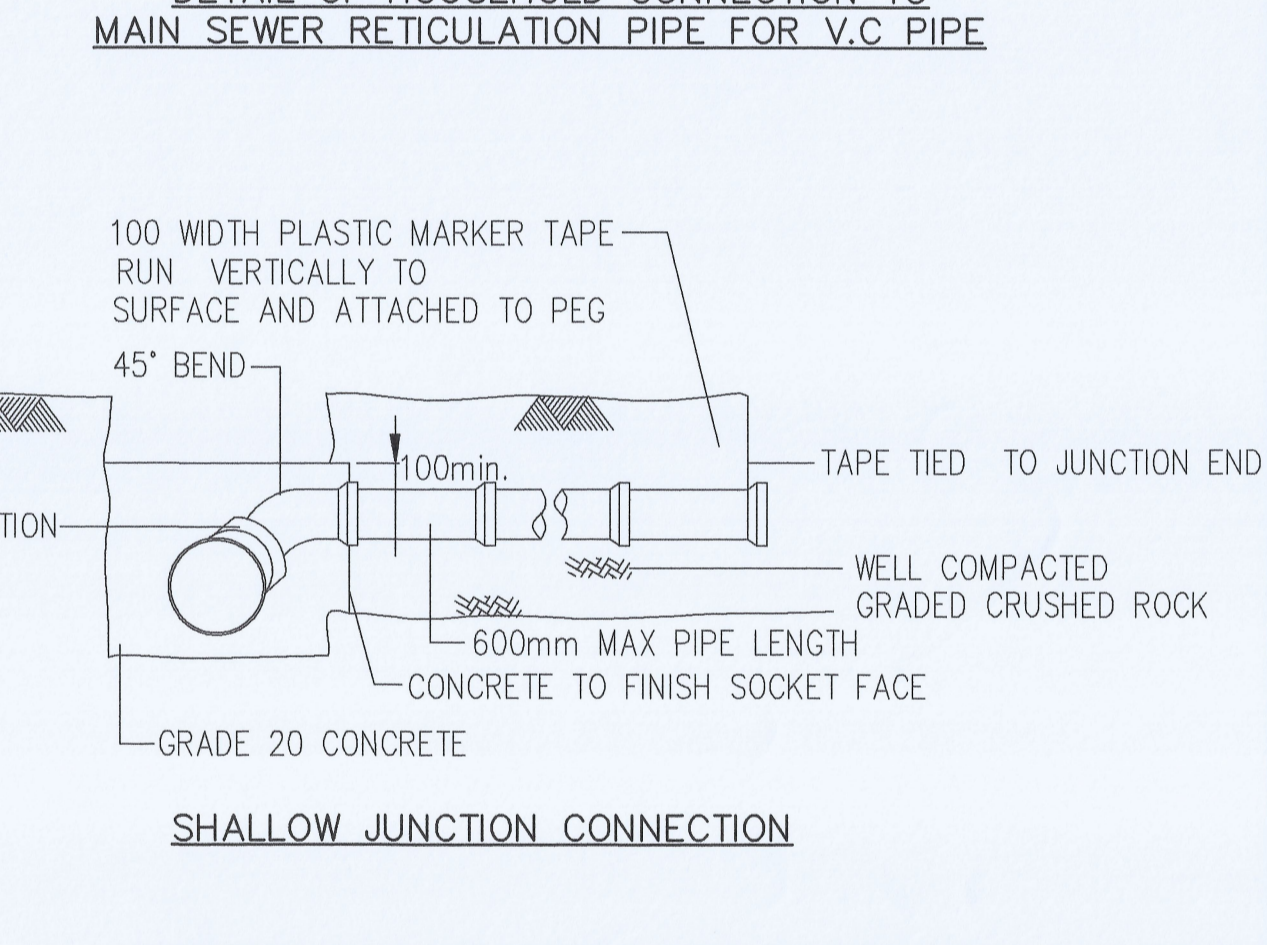
SEWER PIPE DIAMETER	MIN. INTERNAL DIAMETER OF MANHOLE (mm)
225 - 300	1200
375 - 450	1350
525 - 600	1500

**Table 1**

PIPE SIZE	MAXIMUM TRENCH WIDTH, W
100mm DIA.	700mm
150mm DIA.	750mm
225mm DIA.	825mm
300mm DIA.	900mm
375mm DIA.	975mm

**Table 2**

PIPE DIA. (mm)	SAND THICKNESS (mm)
150	75
200	100
225	125
250	150
300	175

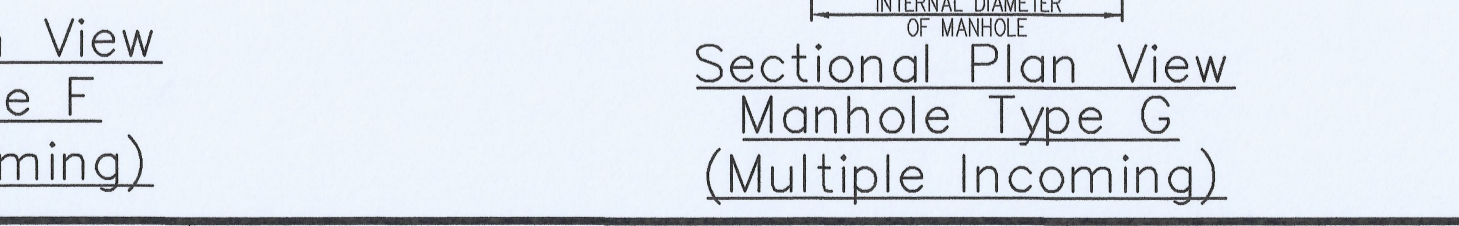
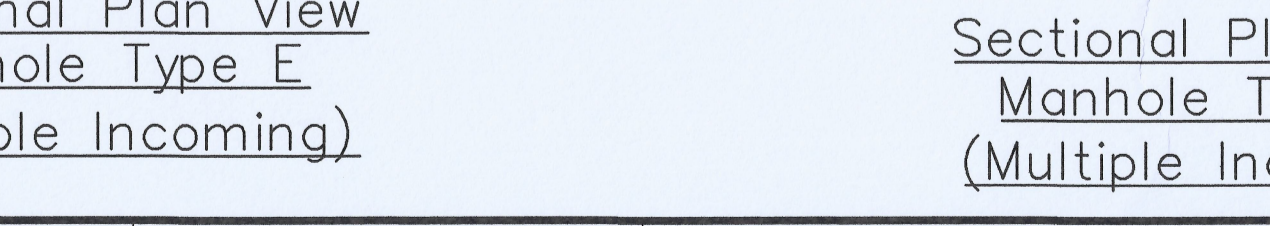
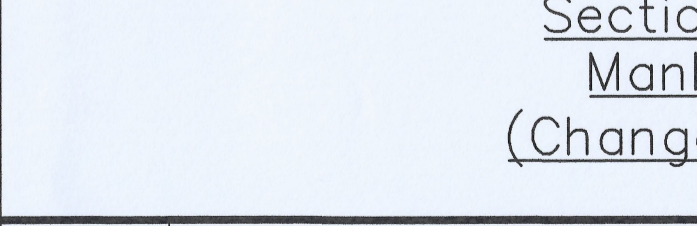
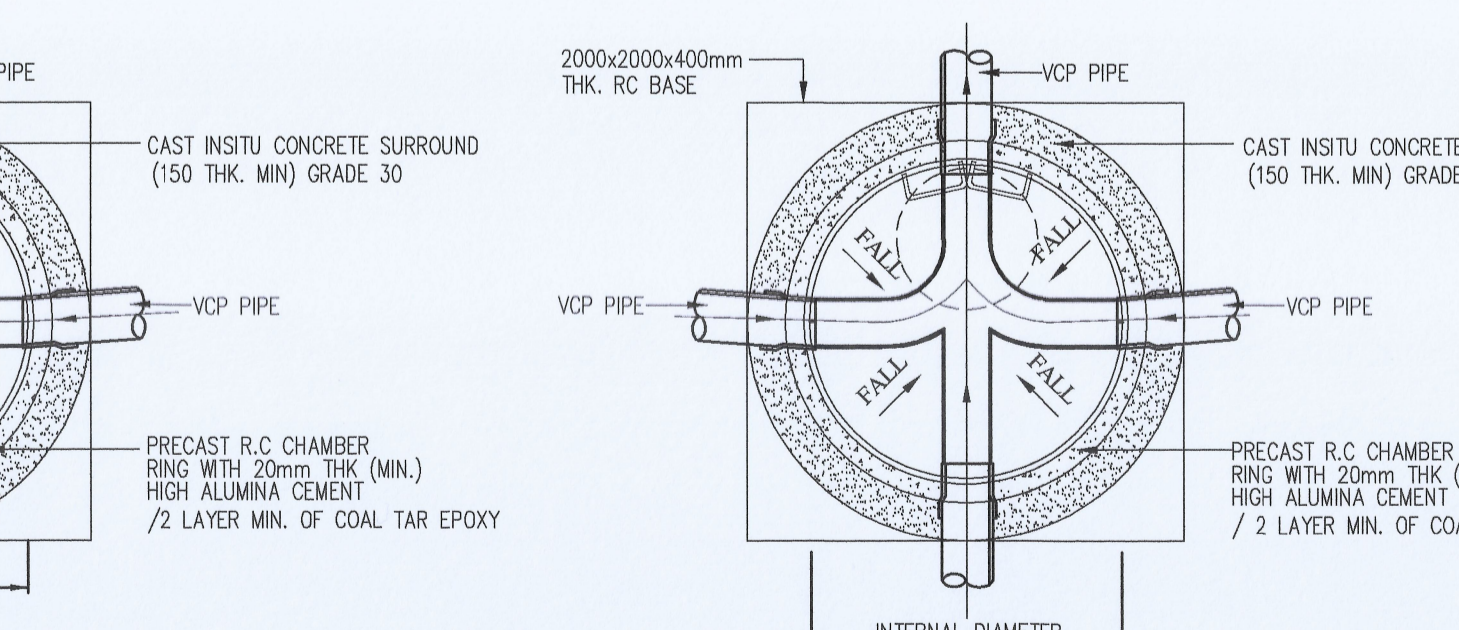
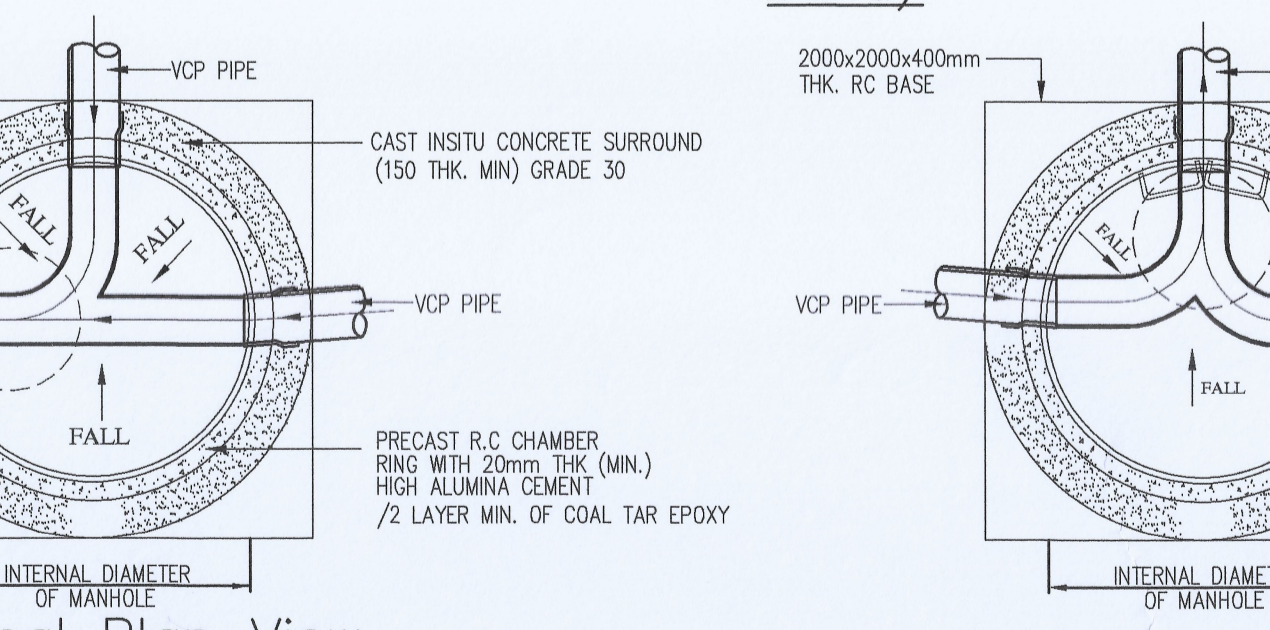
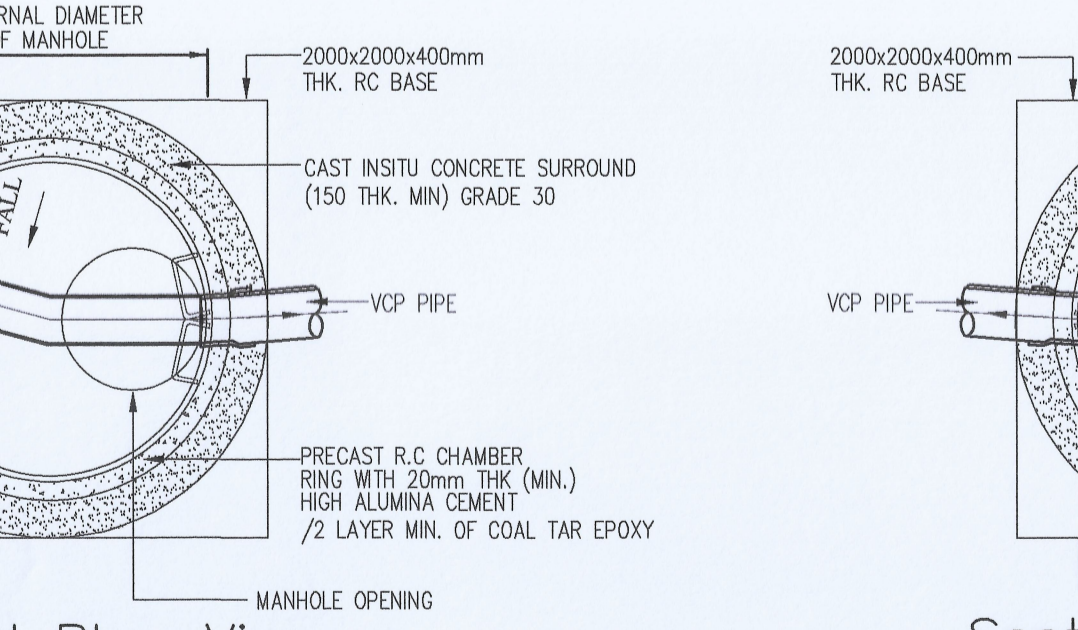
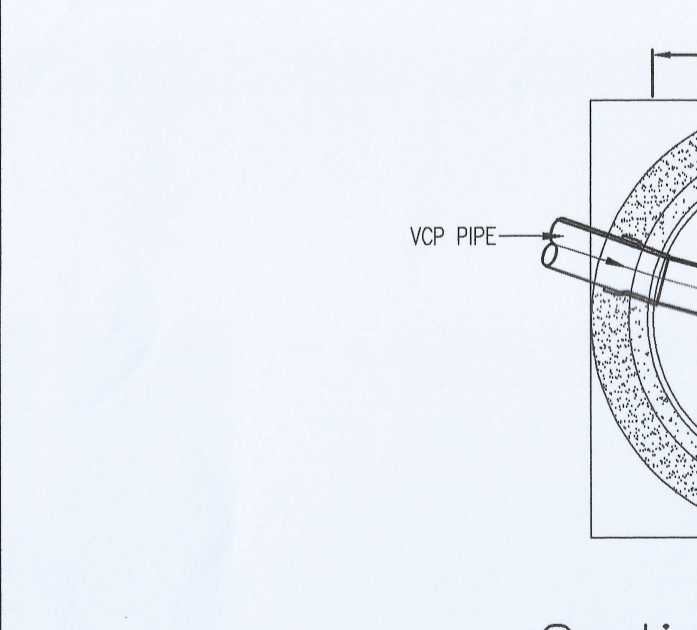


**Table 4**

DEPTH OF COVER, H (m)	100mm DIA.	150mm DIA.	200mm DIA.	225mm DIA.	300mm DIA.	375mm DIA.	450mm DIA.
1.0 TO 1.5	28	28	32	28	36	45	43
<2.0	28	28	32	28	36	45	43
<2.5	28	28	32	36	36	45	43
<3.0	28	28	32	36	36	45	43
<3.5	28	28	32	36	36	45	43
<4.0	28	28	32	36	36	45	43
<4.5	28	28	32	36	36	45	43
<5.0	28	28	32	36	36	45	43
<5.5	28	28	32	36	36	45	43

**NOTES:**

- ROCKER PIPE SHALL BE 600 LONG FOR SEWERS UP TO 300 DIAMETER AND 900 LONG FOR LARGER DIAMETER SEWERS.
- DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE STATED.
- SI IS REQUIRED TO DETERMINE SOIL CONDITION AND REQUIREMENT FOR PILING.
- ALL STRUCTURAL ELEMENTS REQUIREMENTS SUBJECT TO ENGINEER'S DETAIL.
- TOP OF MANHOLE COVER SHALL BE FLUSH WITH THE FINISHED ROAD LEVEL.
- TOP OF MANHOLE COVER TO GROUND FINISHED LEVEL TO BE 300-1000 FOR MANHOLE CONSTRUCTED OFF ROAD.
- THE WALL OF MANHOLE THAT RECEIVES INCOMING PIPES SHALL BE CAST MONOLITICALLY.
- SEWER PIPES AND MANHOLE STRUCTURES SHOULD NOT BE CONSTRUCTED ON SLOPE OR WITHIN SLOPE FAILURE ENVELOPE. IN THE EVENT WHERE IT IS UNAVOIDABLE, THE SAID STRUCTURES MUST BE DESIGNED NOT TO ENCOUNTER SETTLEMENT OR THE SORTS AND AT ANY TIME AT RISK OF COLLAPSE DURING ITS OPERATING LIFESPAN.
- FOR MANHOLE COVER WITH HINGE, OPENING OF COVER SHALL BE PERPENDICULAR TO THE DIRECTION OF FLOW AND IN ANYWAY SHOULD NOT OBSTRUCT THE ACCESS OF MANHOLE FOR MAINTENANCE WORKS.



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**CONSTRUCTION DRAWING**

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			JURUKUR HARMONI	AMZA CONSULT	AMRENSHAH	AMRENSHAH	PROJEK : PROJEK MENAIKTARAF SISTEM KUMBAHAN DAN KERJA-KERJA BERKAITAN DI PERBANDARAN KETENGAH JAYA, BUKIT BESI DAN SERI BANDI FASA III WILAYAH KETENGAH, TERENGGANU DARUL IMAN, (BANDAR BUKIT BESI)
UKURAN 1 : 1000			JURUKUR HARMONI	AMZA CONSULT	KHAIIRUL	KHAIIRUL	- CONNECTION AND SEWER PIPE BEDDING - MANHOLE TYPES
PINDAAN			JURUKUR HARMONI	AMZA CONSULT	IR. ZUHAFILLY	IR. ZUHAFILLY	
			JURUKUR HARMONI	AMZA CONSULT	PENGURUS BESAR	IR. ZUHAFILLY	TARIKH : NOVEMBER 2023
			JURUKUR HARMONI	AMZA CONSULT	LEMBAGA KEMAJLHAN TERENGGANU TENGAH	IR. ZUHAFILLY	BIL. LUKSAN : AMZA/22/09/BUKIT BESI/SW/DKT_02
			JURUKUR HARMONI	AMZA CONSULT	KARUNG BERKUNCI NO. 3	IR. ZUHAFILLY	HELANAN : 34
			JURUKUR HARMONI	AMZA CONSULT	2909 BANDAR AL MUKHTAR BILAH SHAH,	IR. ZUHAFILLY	
			JURUKUR HARMONI	AMZA CONSULT	TERENGGANU DARUL IMAN,	IR. ZUHAFILLY	
			JURUKUR HARMONI	AMZA CONSULT	TEL. 09-6221101-105, 09-6221151-158	IR. ZUHAFILLY	