



HY Solution Sdn Bhd 1044212-K  
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Tel: +603-8957 4113 Fax: +603-8957 3414  
Email: hysolution1@gmail.com

Ruj. Kami : HY/KUDRAT/SUNWAY/IPOH/L001  
Ruj. Tuan :  
Tarikh :12/06/2025

**KORIDOR UTILITI DARUL RIDZUAN SDN BHD**

B-G-11, Greentown Suria,  
Jalan Dato Seri Ahmad Said,  
30450 Ipoh,  
Perak Darul Ridzuan

**U/P: Pegawai Koridor Negeri**

Tuan,

PER: (PERMOHONAN KEBENARAN MERANCANG DIBAWAH SUBSEKSYEN 21 (1), AKTA 172, BAGI TUJUAN PENYERAHAN BALIK DAN PEMBERIMILIKAN SEMULA SECARA SERENTAK DI BAWAH 204D KTN, DI ATAS LOT 544666 (PN 1065825) YANG MENGANDUNGI: STESEN PAM PENGHUBUNG (NPS), PENCAWANG PEMBAHAGIAN UTAMA (PPU), 1 TINGKAT ARAS TANAH DAN 6 TINGKAT TEMPAT LETAK KERETA, 34 TINGKAT ASRAMA SELUAS 2.84 EKAR, (1.14 HEKTAR) MUKIM HULU KINTA, DAERAH KINTA PERAK DARUL RIDZUAN.

**-Serahan Dokumen Lengkap Bagi Permohonan Kelulusan Izin Lalu**

Dengan Segala hormatnya perkara di atas adalah dirujuk.

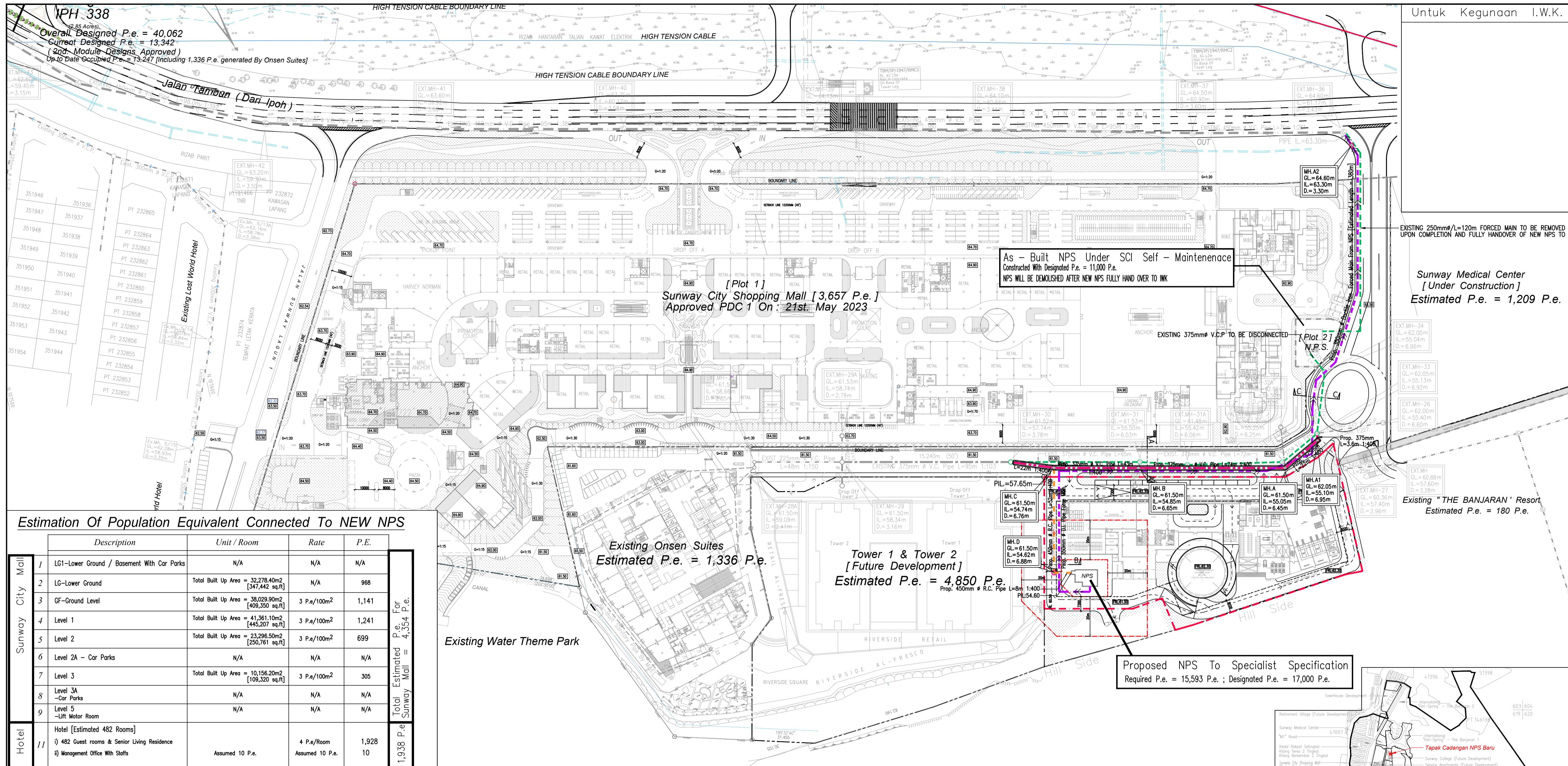
2. Berasama-sama ini kami sertakan dokumen-document/ lampiran berkaitan untuk rujukan dan kelulusan pihak tuan:-
  - i- Borang Kelulusan Izin Lalu(BKIL)
  - ii- Lukisan Tapak (Plan Skematik)
  - iii- Peta Penandaan Lokasi
  - iv- Gambar Lokasi
3. Mohon pihak tuan mengaturkan satu tarikh lawatan tapak bersama bagi menentukan serta meluluskan cadangan laluan yang dinyatakan seperti diatas.
4. Sebarang pertanyaan atau kemuskilan Berhubung perkara ini, pihak tuan boleh menghubungi pegawai kami Muhammad Ihsan di talian 017 7171317 / 03-89574113 dan pada email [hysolution1@gmail.com](mailto:hysolution1@gmail.com) untuk keterangan lanjut.
5. Perhatian serta kerjasama pihak tuan amat dihargai dan diucapkan terima kasih.

Sekian,

Yang Benar,  
**HY Solution Sdn Bhd**


Hue Joon Fui  
Pengarah



**Estimation Of Population Equivalent Connected To NEW NPS**

Description	Unit / Room	Rate	P.E.
1 LG1-Lower Ground / Basement With Car Parks	N/A	N/A	N/A
2 LG-Lower Ground	Total Built Up Area = 32,278.40m <sup>2</sup> [347,442 sq.ft]	N/A	988
3 GF-Ground Level	Total Built Up Area = 38,029.90m <sup>2</sup> [409,350 sq.ft]	3 P.e./100m <sup>2</sup>	1,141
4 Level 1	Total Built Up Area = 41,361.10m <sup>2</sup> [445,207 sq.ft]	3 P.e./100m <sup>2</sup>	1,241
5 Level 2	Total Built Up Area = 23,296.50m <sup>2</sup> [250,761 sq.ft]	3 P.e./100m <sup>2</sup>	699
6 Level 2A - Car Parks	N/A	N/A	N/A
7 Level 3	Total Built Up Area = 10,156.20m <sup>2</sup> [109,320 sq.ft]	3 P.e./100m <sup>2</sup>	305
8 Level 3A - Car Parks	N/A	N/A	N/A
9 Level 5 - Lift Motor Room	N/A	N/A	N/A
Hotel [Estimated 482 Rooms]			
i) 482 Guest rooms & Senior Living Residence	Assumed 10 P.e.	4 P.e./Room	1,928
ii) Management Office With Staffs		Assumed 10 P.e.	10
<b>Total Estimated P.e. For Sunway City Mall</b>			<b>4,354 P.e.</b>
<b>Total Estimated P.e. For Sunway City Mall With Hotel</b>			<b>6,292 P.e.</b>

Description	Unit / Room	Rate	P.E.
13 Existing Onsen Suites Apartment -252 Units Apartments -Common Facilities -Retail Shops [10 Units]	252 Units 879.27m <sup>2</sup>	4 P.e./Unit 3 P.e./100m <sup>2</sup> 3 P.e./100m <sup>2</sup>	1,260 49 27 <b>1,336</b>
14 Existing THE BANJARAN 1 RESORT -45 Units Resort / Guest Room	25 + 20 Units	4 P.e./Unit	180 <b>180</b>
15 APPROVED SUNWAY MEDICAL CENTER -200 BEDS + FUTURE EXPANSION [100 BEDS] -Cafeteria (Built Up Area = ± 300.00m <sup>2</sup> )	300 BEDS 300.00m <sup>2</sup>	4 P.e./Unit 3 P.e./100m <sup>2</sup>	1,200 9 <b>1,209</b>
16 THE BANJARAN 2 RESORT [Future Development] -50 Units Resort / Guest Room	50 Units	4 P.e./Unit	200 <b>200</b>
17 ONSEN SUITES APARTMENT [FUTURE DEV.] Tower 1 - 39 Levels with 600 Units -Assumed Common Facilities Tower 2 - 31 Levels with 600 Units -Assumed Common Facilities	600 Units 600 Units	4 P.e./Unit 3 P.e./100m <sup>2</sup> 4 P.e./Unit 3 P.e./100m <sup>2</sup>	2,400 25 2,400 25 <b>4,850</b>
18 Staff Quarter -Full Residential Workers -Office	1,000 Rooms Assumed 10 P.e.	1 P.e./Student Assumed 10 P.e.	1,000 10 <b>1010</b>
19 Future Tower -185,000 sq.ft	17,186.90m <sup>2</sup>	3 P.e./100m <sup>2</sup>	516 <b>516</b>

Total Estimated P.e. Generated To Be Connected Into Proposed Network Pumping Station [NPS] = 15,593 P.e.  
Proposed Network Pumping Station [NPS] With Designated P.e. Of 17,000

**LAYOUT PLAN**  
SCALE 1:1000 (A1) 1:2000 (A3)

**LEGEND:-**

- PROPOSED BOUNDARY LINE
- PROPOSED NEW 375mm Ø VITRIFIED CLAY SOIL PIPE (PIPE JACKING)
- PROPOSED NEW 350mm Ø DUCTILE IRON FORCED MAIN [FROM NETWORK PUMPING STATION]
- PROPOSED NEW 450mm Ø REINFORCED CONCRETE PIPE (OPEN CUT WITH CHEMICAL ROCK BLASTING)
- EXISTING 375mm Ø VITRIFIED CLAY SOIL PIPE TO BE DISCONNECTED
- EXISTING 250mm Ø DUCTILE IRON FORCED MAIN (AVERAGE 1.25m DEPTH) [FROM EXIST. NETWORK PUMPING STATION]
- EXISTING 225mm Ø VITRIFIED CLAY SOIL PIPE
- EXISTING 300mm Ø VITRIFIED CLAY SOIL PIPE
- EXISTING 375mm Ø VITRIFIED CLAY SOIL PIPE
- EXISTING 450mm Ø VITRIFIED CLAY SOIL PIPE [AT JALAN TAMBUN]
- EXISTING MAIN SEWER PIPE

**PERMILIK :** NAMA : MR. WONG WAN WOUI (NO. KP: 610814-08-8009) (PENGARAH EKSEKUTIF)  
SUNWAY CITY (IPOH) SDN. BHD. (219749-M)  
NO.52, JALAN SCI 1/3, DATARAN SUNWAY, SUNWAY CITY IPOH, 31150 IPOH, PERAK DARUL RIDZUAN  
TEL. : 05-548 1988 FAX : 05-548 6868

**JURUTERA PERUNDING :** I hereby certify that the details are to the best of my knowledge and belief in accordance with the British Standard Code of Practice C.P. 110 and that I will accept full responsibility for the design and supervision of work.  
PERUNDING YSL SDN. BHD.  
Jr. Cheah Poh Ting  
B.Eng (Hons) U.M., M.B.M., P. Eng

**TAJUK LUKISAN : SEWERAGE -PELAN SUSUNATUR BAGI SISTEM PEMBUNUTAN - PDC 1 (PINDAAN PELAN INDUK NO.3)**

**PROJEK :** PRMOHONAN KEBENARAN MERANCANG DI BAWAH SUBSEKSYEN 21(1), AKTA 172, BAGI TUJUAN PENYERAHAN BALIK DAN PEMBERILIKAN SEMULA SECARA SERENTAK DI BAWAH 204D KTN, DI ATAS LOT 544666 (PN1065825) YANG MENDANGUNI:  
I- STESAN PAM PENCHUBUNG (NPS)  
II- PENCAWANG PEMBAHAGI UTAMA (PPU)  
III- 1 TINGKAT ARAS TANAH DAN 6 TINGKAT TEMPAT LETAK KERETA  
IV- 34 TINGKAT ASRAMA

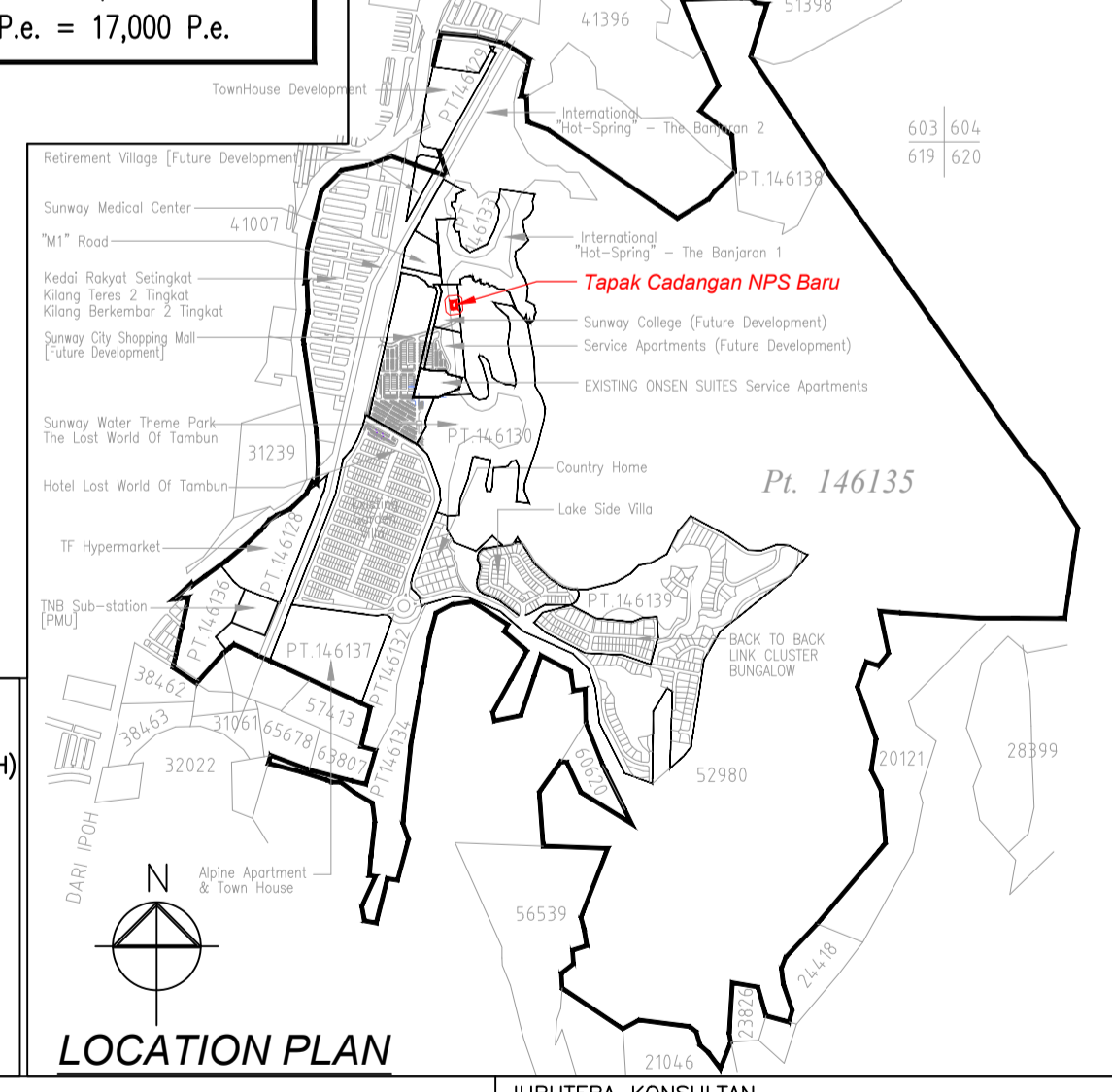
**JURUTERA KONSULTAN :** YSL PERUNDING YSL SDN BHD  
Civil & Structural Engineering Consultant  
06-3-13A, BANGUNAN PERDAGANGAN D6, 801 JALAN SENTUL, 51000 KUALA LUMPUR.  
Tel: 03-40650426 E-mail: main@perundingysl.com

**NO. LUKISAN : YSL1108/NPS/PDC1/SW/LAY/01**

**DILUKIS OLEH :** SHARUL/MAM  
**DISEMAK OLEH :** IR. CHEAH POH TING

**TARIKH :** MAY 2025  
**SKALA :** AS SHOWN

**UNTUK TETUAN :** SUNWAY CITY (IPOH) SDN. BHD.



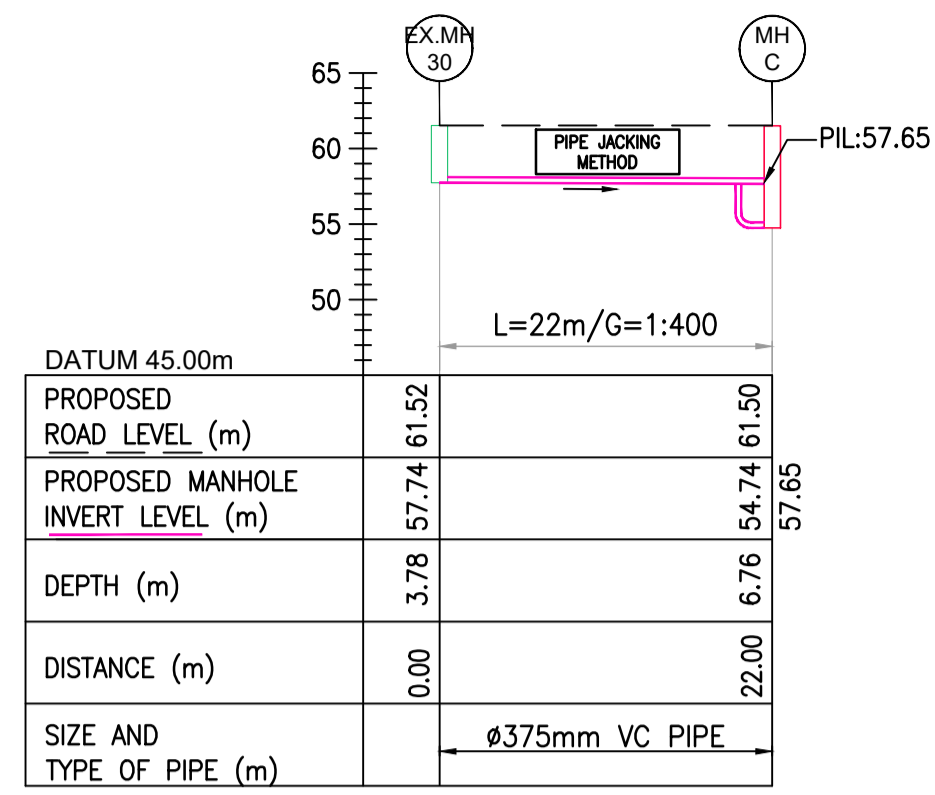
Untuk Kegunaan I.W.K.

EXISTING 250mm/Ø=120mm FORCED MAIN TO BE REMOVED UPON COMPLETION AND FULLY HANDOVER OF NEW NPS TO

Sunway Medical Center [Under Construction] Estimated P.e. = 1,209 P.e.

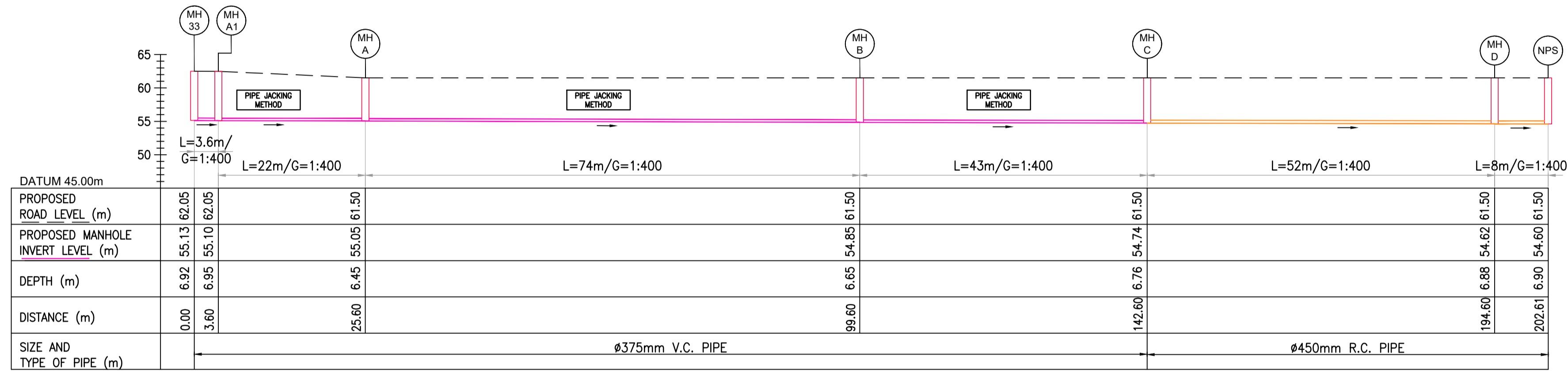
Existing "THE BANJARAN" Resort Estimated P.e. = 180 P.e.

DATE OF ISSUE
29 MAY 2025
PERUNDING YSL SDN. BHD.



LONGITUDINAL PROFILE MH-30 TO MH-C

VERTICAL 1:500(A1) 1:1000(A3)  
HORIZONTAL 1:500(A1) 1:1000(A3)



LONGITUDINAL PROFILE MH-33 TO NPS

VERTICAL 1:500(A1) 1:1000(A3)  
HORIZONTAL 1:500(A1) 1:1000(A3)

REV	DATE	DESCRIPTION	DRAWN

PEMAJU/PEMILIK :

NAMA : MR. WONG WAN WOUI  
(NO. KP: 610814-08-8009)  
(PENGARAH EKSEKUTIF)

SUNWAY CITY (IPOH) SDN. BHD. (219749-M)  
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31150 IPOH, PERAK DARUL RIDZUAN  
TEL: 05-548 1988 FAX: 05-548 6868

JURUTERA KONSULTAN

**PERUNDING YSL SDN BHD**  
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D6-3-13A, Bangunan Perdagangan D6,  
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Email: ysl\_kl@yahoo.com

"I hereby certify that these work have been designed by me in accordance with sound engineering practice and I take full responsibility for the design and proper performance of the same"

PERUNDING YSL SDN. BHD.

.....  
**Ir. Cheah Poh Ting**  
B.Eng.(Hons.) U.M., MEM. P. Eng

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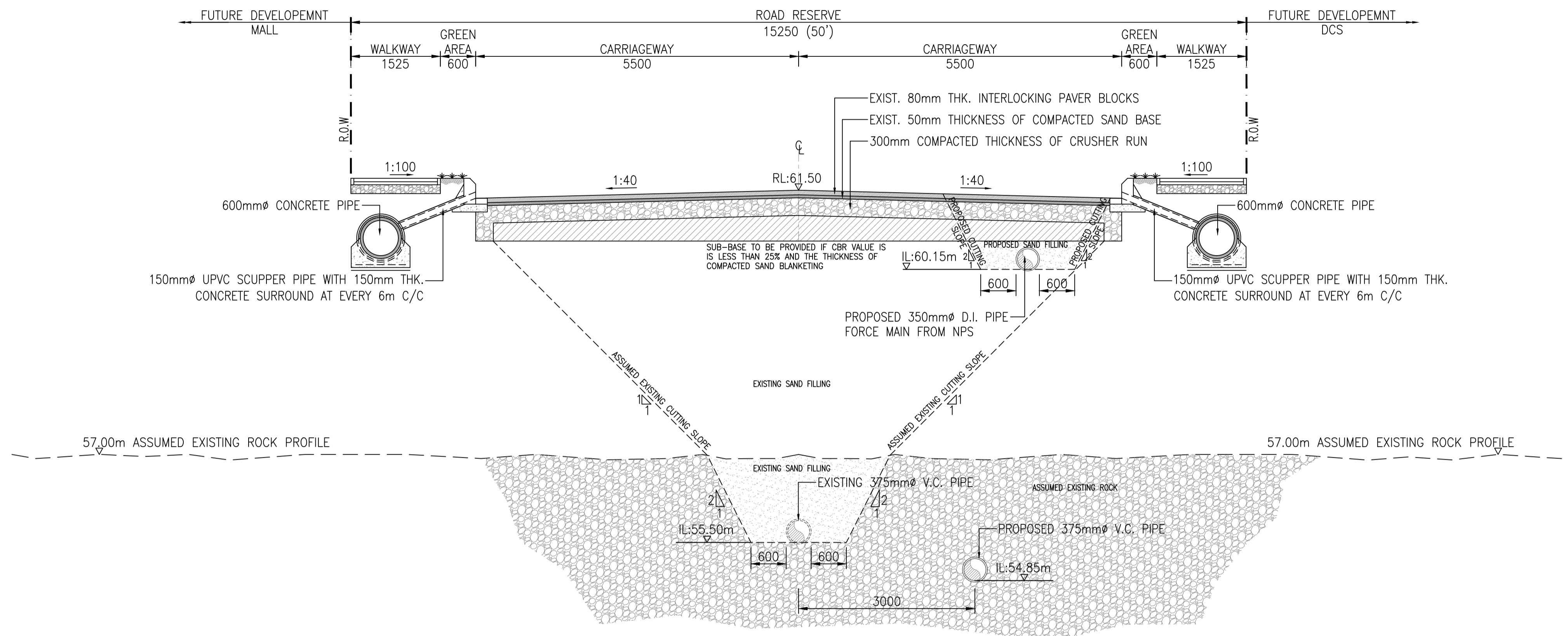
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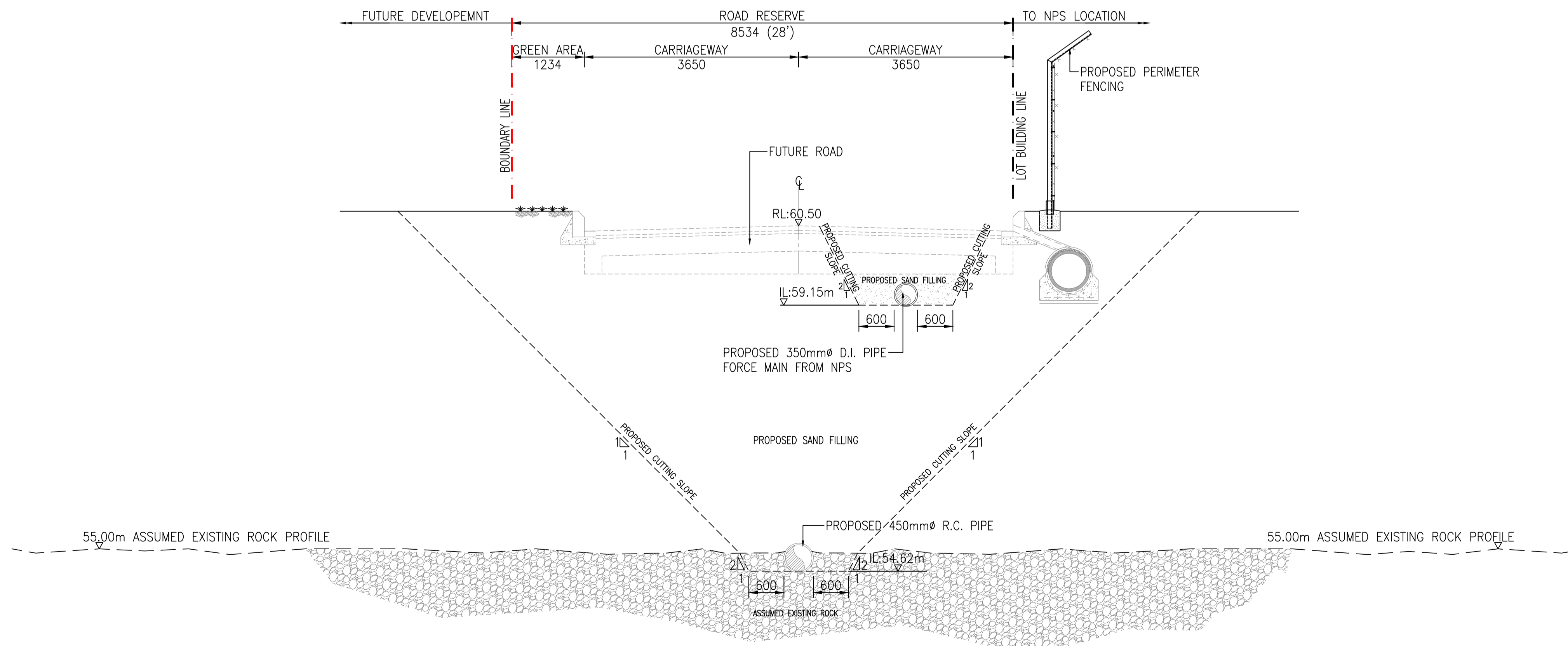
UNTUK :  
TETUAN SUNWAY CITY (IPOH) SDN. BHD.

TAJUK :  
**SEWERAGE**  
- LONGITUDINAL SECTION

NO. LUKISAN	YSL1108/NPS/PDC1/SW/LS/01	REVISION	00
DIREKA/DILUKIS OLEH :	SHARUL/MAM	DISEMAK OLEH :	IR. CHEAH POH TING
TARIKH :	MAY 2025	SKALA :	AS SHOWN
			<b>C</b>



SECTION A - A  
SCALE 1:50



SECTION B - B  
SCALE 1:50

REV	DATE	DESCRIPTION	DRAWN

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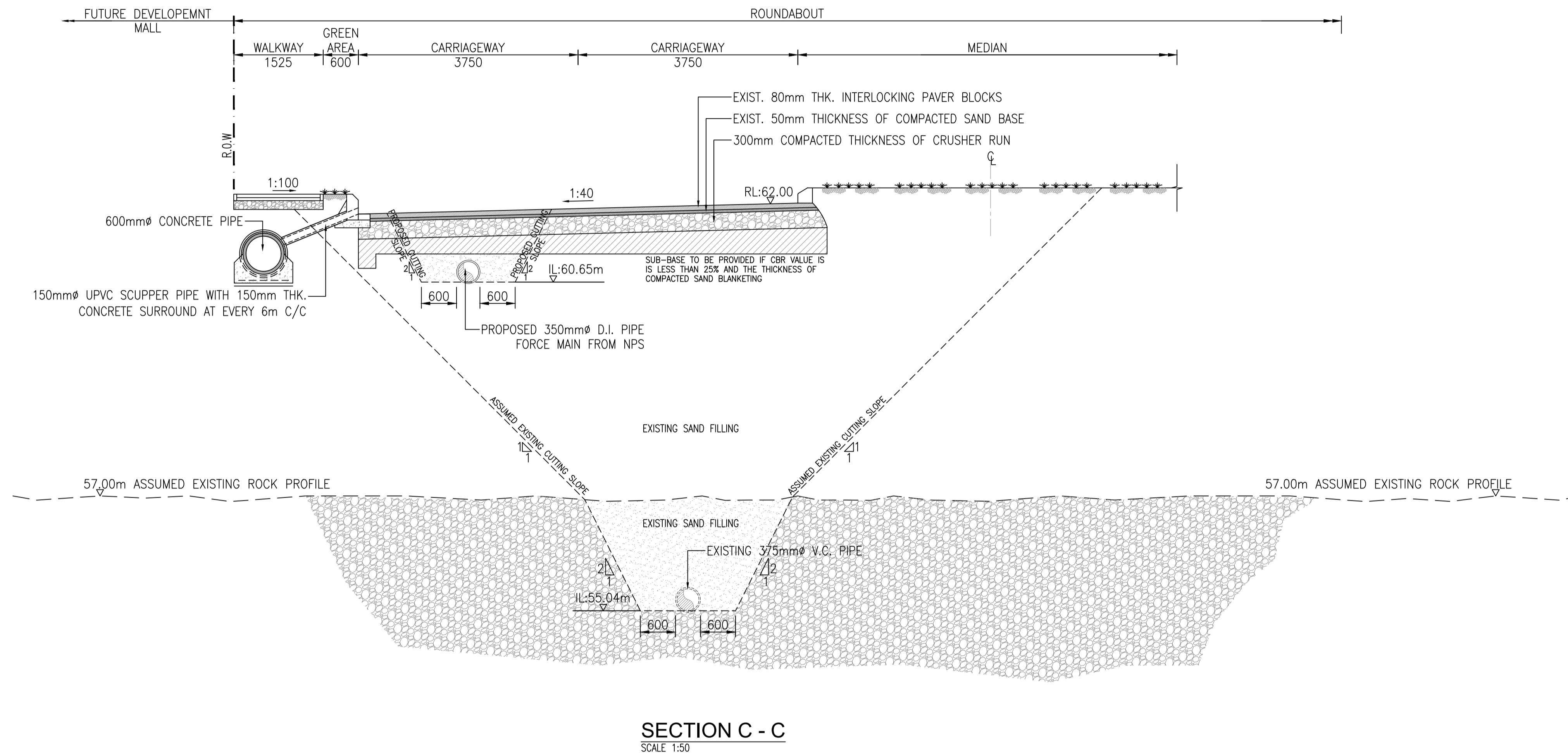
UNTUK :  
TETUAN SUNWAY CITY (IPOH) SDN. BHD.

TAJUK :  
**SEWERAGE**  
- CROSS SECTION A-A AND B-B

NO. LUKISAN	REVISION
YSL1108/NPS/PDC1/SW/CS/01	00
DIREKA/DILUKIS OLEH : SHARUL/MAM	DISEMAK OLEH : IR. CHEAH POH TING
TARIKH : MAY 2025	SKALA : AS SHOWN

C

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UNTUK :  
TETUAN SUNWAY CITY (IPOH) SDN. BHD.

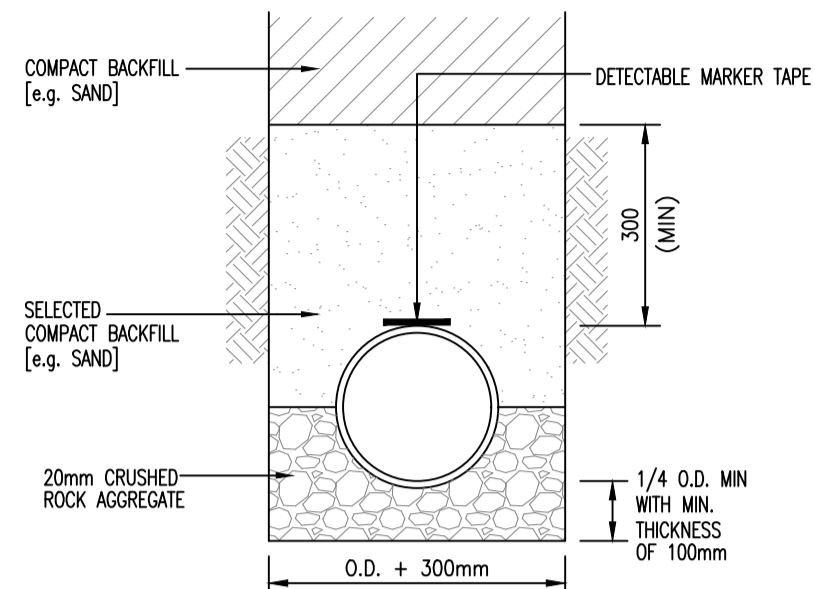
TAJUK :  
**SEWERAGE**  
- CROSS SECTION C-C

NO. LUKISAN	REVISION
YSL1108/NPS/PDC1/SW/CS/02	00
DIREKA/DILUKIS OLEH : SHARUL/MAM	DISEMAK OLEH : IR. CHEAH POH TING
TARIKH : MAY 2025	SKALA : AS SHOWN
	<b>C</b>

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Notes :-

- All selected fill shall be uniform readily compact material free from tree roots, vegetation matters, building rubbish and clay lumps retain on a 76mm sieve and stones on 25mm sieve.
- Bearing capacity of soil supporting the material is assumed to be at least 60 KN/m on 0.56 ton/ft.
- Pile shall be provided on poor ground conditions or as instructed by the engineer.



PIPE EMBEDDED IN CAREFULLY COMPACTED CRUSHER RUN 5-20mm SIZE RANGE EXTENDING HALFWAY UP TO SIDED OF THE PIPE. THE REMAINDER SIDE FILLS AND TOP TO BE COMPACTED CAREFULLY WITH BACKFILL.

THE SELECTED COMPACT BACKFILL FOR VITRIFIED CLAY PIPE SHALL BE COMPACTED DRY SOIL (FREE FROM VEGETABLE ORGANIC MATTERS & EXCAVATION/COMPACTED DRY RED EARTH/SAND/CHIPPING/STONES NOT GREATER THAN 25mm

FOR FILLING OF TRENCHES ALONG / ACROSS CARRIAGEWAY, BACKFILL MATERIAL SHALL BE SAND FROM AN APPROVED SOURCE AND TO BE COMPACTED BY FLOODING IN 300mm MAXIMUM LAYERS IN CONJUNCTION WITH THE ENGINEER'S REQUIREMENT.

**Class " B " Pipe Bedding Detail [Compacted Crusher Run]**

PIPE SIZE	MAXIMUM TRENCH WIDTH, W
100mm DIA.	700mm DIA
150mm DIA.	750mm DIA
225mm DIA.	825mm DIA
300mm DIA.	900mm DIA
375mm DIA.	975mm DIA
450mm DIA.	1050mm DIA
525mm DIA.	1125mm DIA
600mm DIA.	1500mm DIA
675mm DIA.	1575mm DIA
750mm DIA.	1650mm DIA
900mm DIA.	1800mm DIA
1050mm DIA.	1950mm DIA
1200mm DIA.	2100mm DIA
1350mm DIA.	2250mm DIA
1500mm DIA.	2400mm DIA
1650mm DIA.	2700mm DIA
1950mm DIA.	2850mm DIA

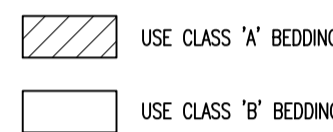
**Table 1**  
**Maximum Trench Width**

DEPTH OF COVER, H(m)	VITRIFIED CLAY PIPE MINIMUM REQUIRED PIPE CRUSHING STRENGTH (kN/m)							
	100mm DIA	150mm DIA	200mm DIA	225mm DIA	300mm DIA	375mm DIA	450mm DIA	450mm DIA
< 1.0	28	28	32	28	36	45	43	
< 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	
< 6.0	28	28	32	36	36	45	43	
< 6.5	28	28	32	36	45	45	54	
< 7.0	28	28	32	36	45	45	54	
< 7.5	28	34	32	38	48	45	54	
< 8.0	28	34	32	38	48	45	54	
< 8.5	28	34	40	38	48	60	54	
< 9.0	28	34	40	38	48	60	54	
< 9.5	28	34	40	38	48	60	54	
< 10.0	28	34	40	38	48	60	54	
< 10.5	28	34	40	38	48	60	54	

TRAFFIC COVER	900	900	900	900	900	900	900
MIN. BED THICKNESS	100	100	150	150	150	150	150

**Table 2**  
**Strength Of VCP For Various Depth**

NOTE: ALL VCP PIPES CRUSHING STRENGTH, EN (kN/m) FOR VARIOUS DIAMETERS OF PIPE TO BE REFERRED TO TABLE 4 AND TABLE 5, MS 1061: PART 1

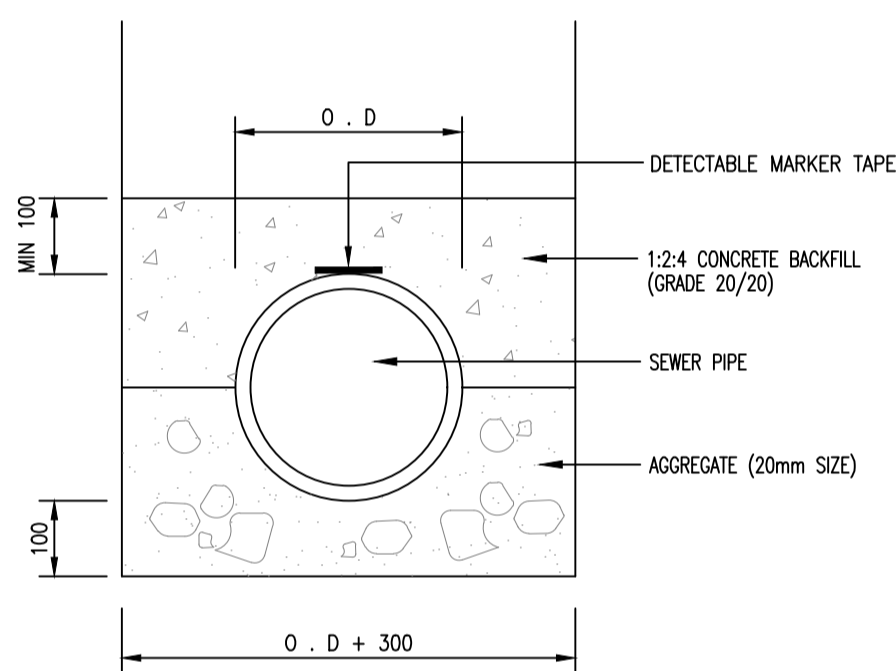
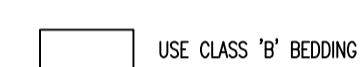


DEPTH OF COVER, H(m)	450mm DIA	525mm DIA	600mm DIA	750mm DIA	900mm DIA	1050mm DIA	1200mm DIA	1350mm DIA	1500mm DIA	1650mm DIA	1800mm DIA	1950mm DIA
	< 1.0	1.5 H	1.5 H	H	1.5 H	H	H	H	H	H	H	H
< 1.5	1.5 H	1.5 H	H	1.5 H	H	H	H	H	H	H	H	H
< 2.0	1.5 H	1.5 H	H	1.5 H	H	H	H	H	H	H	H	H
< 2.5	1.5 H	1.5 H	H	1.5 H	H	H	H	H	H	H	H	H
< 3.0	1.5 H	1.5 H	H	1.5 H	1.5 H	1.5 H	1.5 H	1.5 H	1.5 H	1.5 H	1.5 H	1.5 H
< 3.5	1.5 H	1.5 H	1.5 H	1.5 H	1.5 H	1.5 H	1.5 H	1.5 H	1.5 H	1.5 H	1.5 H	H
< 4.0	1.5 H	1.5 H	1.5 H	2 H	1.5 H	1.5 H	1.5 H	1.5 H	1.5 H	1.5 H	1.5 H	1.5 H
< 4.5	1.5 H	1.5 H	1.5 H	2 H	1.5 H	1.5 H	1.5 H	1.5 H	1.5 H	1.5 H	1.5 H	1.5 H
< 5.0	1.5 H	1.5 H	1.5 H	2 H	1.5 H	1.5 H	1.5 H	1.5 H	1.5 H	1.5 H	1.5 H	1.5 H
< 5.5	2 H	2 H	1.5 H	2 H	2 H	1.5 H	1.5 H	1.5 H	1.5 H	1.5 H	1.5 H	1.5 H
< 6.0	2 H	2 H	2 H	2 H	2 H	2 H	2 H	2 H	1.5 H	1.5 H	1.5 H	1.5 H
< 6.5	2 H	2 H	2 H	2 H	2 H	2 H	2 H	2 H	2 H	2 H	2 H	1.5 H
< 7.0	2 H	2 H	2 H	2.5 H	2 H	2 H	2 H	2 H	2 H	2 H	2 H	2 H
< 7.5	2 H	2 H	2 H	2.5 H	2 H	2 H	2 H	2 H	2 H	2 H	2 H	2 H
< 8.0	2 H	2 H	2 H	2.5 H	2 H	2 H	2 H	2 H	2 H	2 H	2 H	2 H
< 8.5	2 H	2 H	2 H	2.5 H	2.5 H	2 H	2 H	2 H	2 H	2 H	2 H	2 H
< 9.0	2 H	2 H	2 H	2.5 H	2.5 H	2.5 H	2 H	2 H	2.5 H	2 H	2 H	2 H
< 9.5	2 H	2 H	2 H	2.5 H	2.5 H	2.5 H	2.5 H	2.5 H	2.5 H	2.5 H	2.5 H	2 H
< 10.0	2.5 H	2.5 H	2 H	2.5 H	2.5 H	2.5 H	2.5 H	2.5 H	2.5 H	2.5 H	2.5 H	2 H
< 10.5	2.5 H	2.5 H	2 H	2.5 H	2.5 H	2.5 H	2.5 H	2.5 H	2.5 H	2.5 H	2.5 H	2.5 H

TRAFFIC COVER	900	900	900	900	900	1200	1200	1200	1200	1524	1524	1524
MIN. BED THICKNESS	150	230	230	230	380	380	380	457	457	508	508	508

**Table 3**  
**Classes Of RCP For Various Depth**

NOTE: ALL RCP PIPES CRUSHING TEST LOADS (kN/m) FOR VARIOUS CLASSES OF PIPE TO BE REFERRED TO TABLE 2 MS 881: PART 3



**Class " A " bedding [Concrete Arch]**

PIPE EMBEDDED IN CAREFULLY COMPACTED 20mm  $\phi$  AGGREGATE EXTENDING HALFWAY UP TO THE SIDE OF THE PIPE. THE REMAINDER SIDE FILLS AND TOP WITH MANOLITHIC PLAIN CONCRETE.

NOTE:

- TYPICAL BEDDING IS TO BE USED FOR ALL PIPES UNDER NORMAL SITE CONDITION UNLESS DIRECTED OF SHOWN BY THE ENGINEER.
- UNDER CIRCUMSTANCES WHERE TYPICAL BEDDING IS NOT PERMISSIBLE AT SITE, THE BEDDING SHALL BE DESIGNED AND APPLIED ACCORDINGLY AS DIRECTED BY THE ENGINEER.
- TABLE 2 AND TABLE 3 SHALL BE USED STRICTLY IN ACCORDANCE WITH THE RELEVANT REQUIREMENTS, PROPER DESIGN SHALL BE CARRIED OUT BY ENGINEER SHOULD THE REQUIREMENTS COULD NOT BE MET.
- WHENEVER CONCRETE BACKFILL OR ENCASEMENT IS PLACED, A TRANSVERSE BREAK AT EACH PIPE JOINT SHALL BE MADE AS SPECIFIED TO MAINTAIN FLEXIBILITY OF THE PIPE LINE, EXPANSION MATERIAL SHALL BE FULL DEPTH AND PLACED AS DIRECTED BY THE ENGINEER.
- THE DEFLECTION AT FLEXIBLE PIPE JOINTS SHALL NOT BE MORE THAN SPECIFIED IN ACCORDANCE TO THE RESPECTIVE PIPE STANDARD IN THE INSTALLED POSITION IN ANY DIRECTION AND TO BE TESTED ACCORDINGLY.
- TRAFFIC COVER REFER TO MIN. COVER REQUIRED BEFORE TRAFFIC LOAD BECOMES NEGUGBLE. CONCRETE BACKFILL AS IN CLASS 'A' BEDDING IS REQUIRED IF MIN. COVER CANNOT BE ACHIEVED WITH MIN. BED THICKNESS AS SHOWN IN TABLE 2.
- ABBREVIATION :  
DN = NORMAL SIZE  
O.D. = OUTER DIAMETER OF PIPE  
W = CLASS W  
H = CLASS H  
1.5H = CLASS 1.5H  
2H = CLASS 2H  
2.5H = CLASS 2.5H  
3H = CLASS 3H
- FOR FILLING OF TRENCHES ALONG/ACROSS CARRIAGEWAY, BACKFILL MATERIAL SHALL BE SAND FROM AN APPROVED SOURCE AND TO BE COMPACTED BY FLOODING IN 300mm MAXIMUM LAYERS IN CONJUNCTION WITH THE ENGINEER'S REQUIREMENTS.
- ALL FOUNDATION, BEDDING, HAUNCHING AND INITIAL BACKFILL TO BE INSTALLED AND COMPACTED IN 150mm MAXIMUM LAYERS.
- WHERE SAND IS USED AS BEDDING OR BACKFILL MATERIAL, IT SHOULD BE COMPACTED BY FLOODING AT PRESCRIBED LAYER.
- FOR THE PURPOSE OF STRUCTURAL DESIGN THE NOMINAL WALL THICKNESS AND/OR NOMINAL OUTSIDE DIAMETER SHOULD BE DECLARED BY THE MANUFACTURER.
- S.I. IS REQUIRED TO DETERMINE SOIL CONDITION AND REQUIREMENT FOR PILING.
- DETECTABLE MARKER TAPE SHALL BE POSITIONED WITHIN THE DETECTABLE RANGE AND INSTALLATION PROCEDURE TO MANUFACTURER'S RECOMMENDATION.
- SEWER PIPE 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.

REV	DATE	DESCRIPTION	DRAWN

PEMAJU/PEMILIK :  
  
**NAMA : MR. WONG WAN WOUI**  
(NO. KP: 610814-08-8009)  
(PENGARAH EKSEKUTIF)  
  
**SUNWAY CITY (IPOH) SDN. BHD. (219749-M)**  
NO.52, JALAN SCI 1/3, DATARAN SUNWAY, SUNWAY CITY IPOH,  
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PERUNDING YSL SDN. BHD.

**Ir. Cheah Poh Ting**  
B.Eng.(Hons.) U.M., MEM. P. Eng

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- I- SESEN PAM PENGHUBUNG (NPS)
- II- PENCAWANG PEMBAHAGI UTAMA (PPU)
- III- 1 TINGKAT ARAS TANAH DAN 6 TINGKAT TEMPAT LETAK KERETA
- IV- 34 TINGKAT ASRAMA

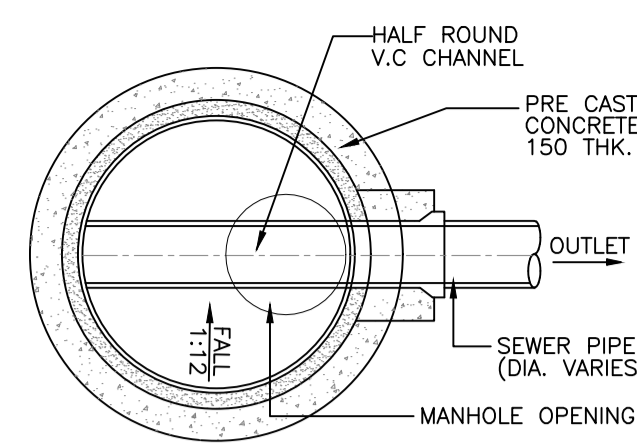
SELUAS 2.84 EKAR, (1.14 HEKTAR) MUKIM HULLU KINTA, DAERAH KINTA, PERAK DARUL RIDZUAN

UNTUK :  
TETUAN SUNWAY CITY (IPOH) SDN. BHD.

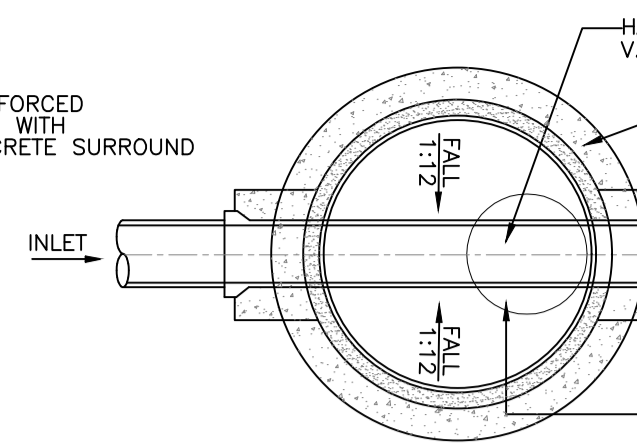
TAJUK :  
**SEWERAGE**  
- CLASS 'A' BEDDING CONCRETE ARCH  
- CLASS 'B' BEDDING COMPACTED CRUSHER RUN

NO. LUKISAN	REVISION
YSL1108/NPS/PDC1/SW/DET/01	00
DIREKA/DILUKIS OLEH : SHARUL/MAM	DISEMAK OLEH : IR. CHEAH POH TING
TARIKH : MAY 2025	SKALA : AS SHOWN

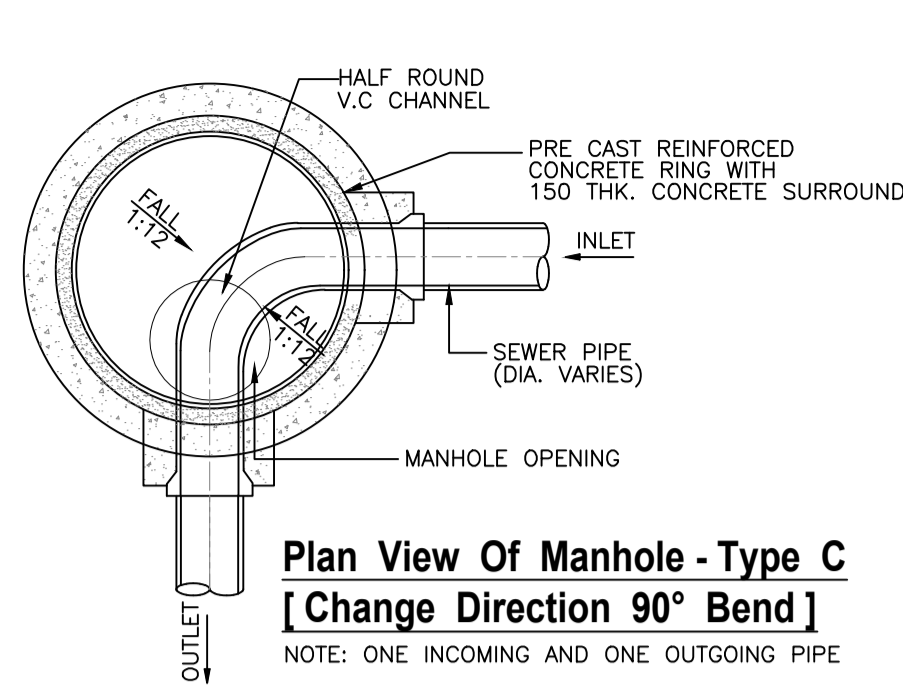
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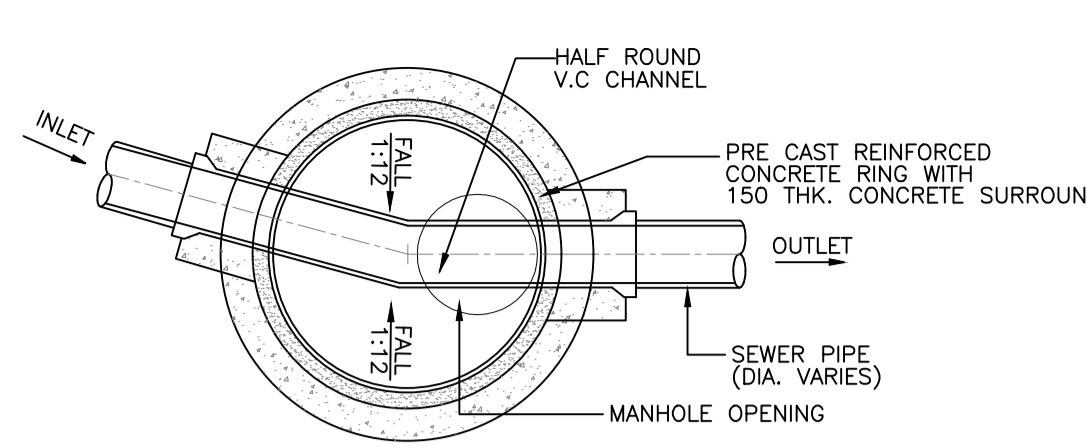
**Plan View Of Manhole - Type A**  
**[First Manhole]**  
NOTE: ONE OUTGOING PIPE



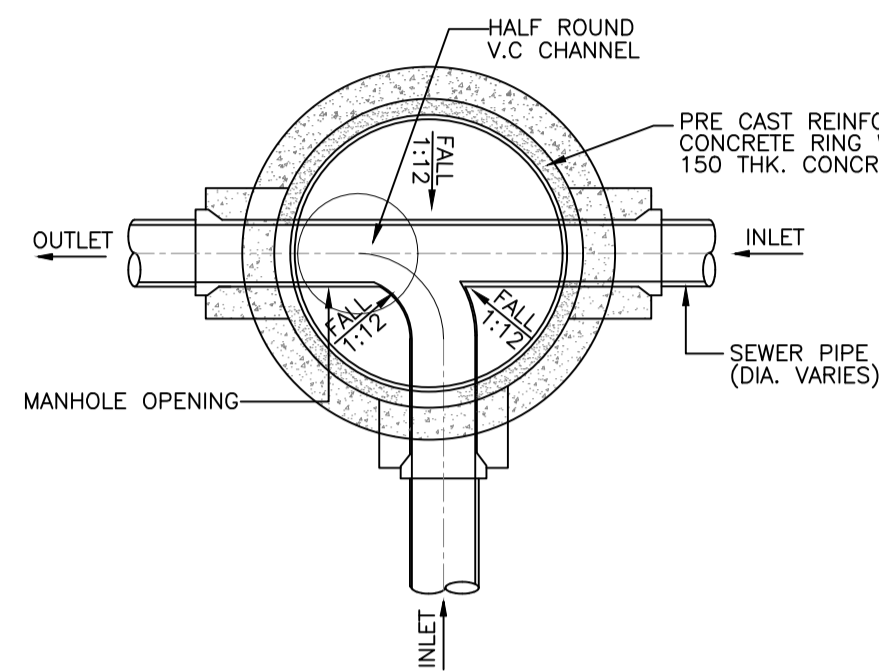
**Plan View Of Manhole - Type B**  
**[Straight Through]**  
NOTE: ONE INCOMING AND ONE OUTGOING PIPE



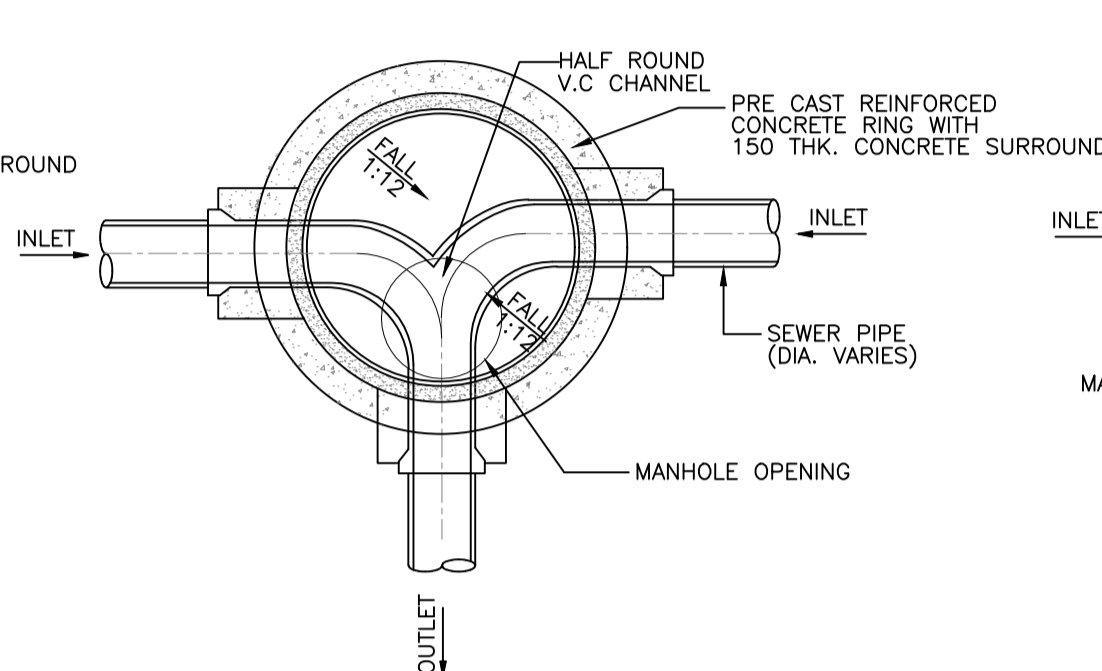
**Plan View Of Manhole - Type C**  
**[Change Direction 90° Bend]**  
NOTE: ONE INCOMING AND ONE OUTGOING PIPE



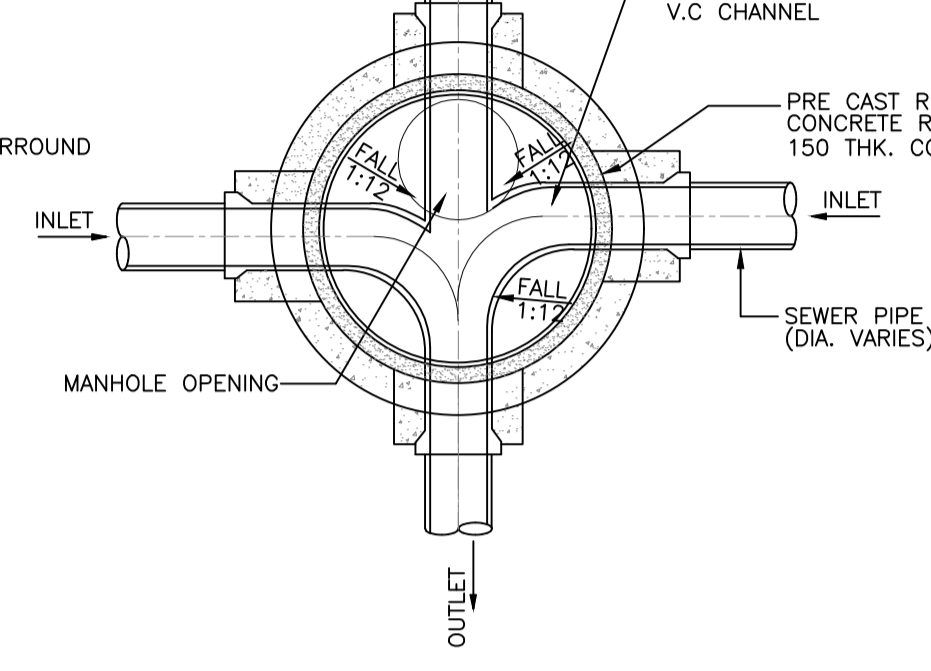
**Plan View Of Manhole - Type D**  
**[Change Of Direction]**  
NOTE: ONE INCOMING AND ONE OUTGOING PIPE



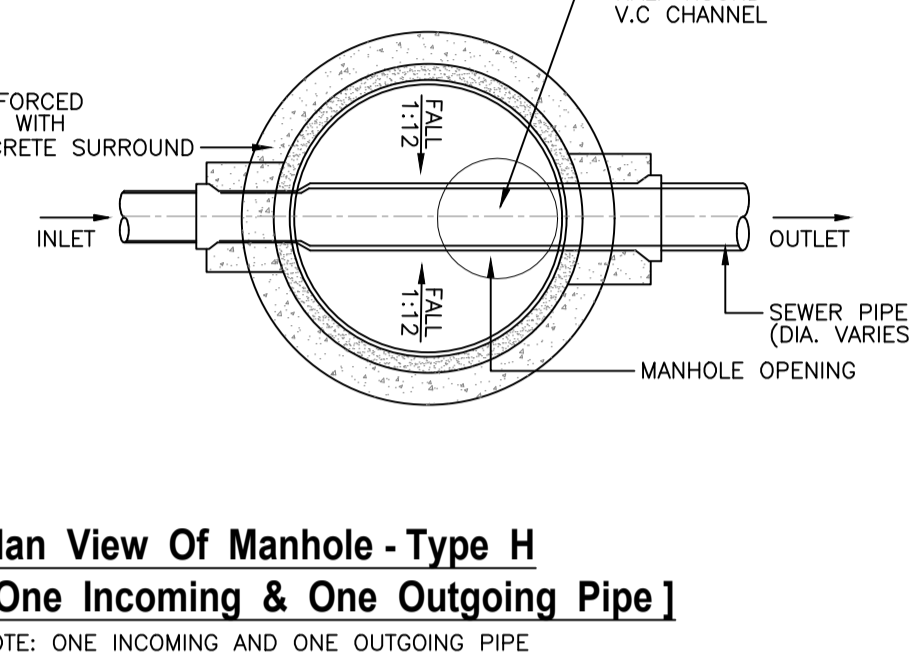
**Plan View Of Manhole - Type E**  
**[Multiple Incoming]**  
NOTE: TWO INCOMING AND ONE OUTGOING PIPE



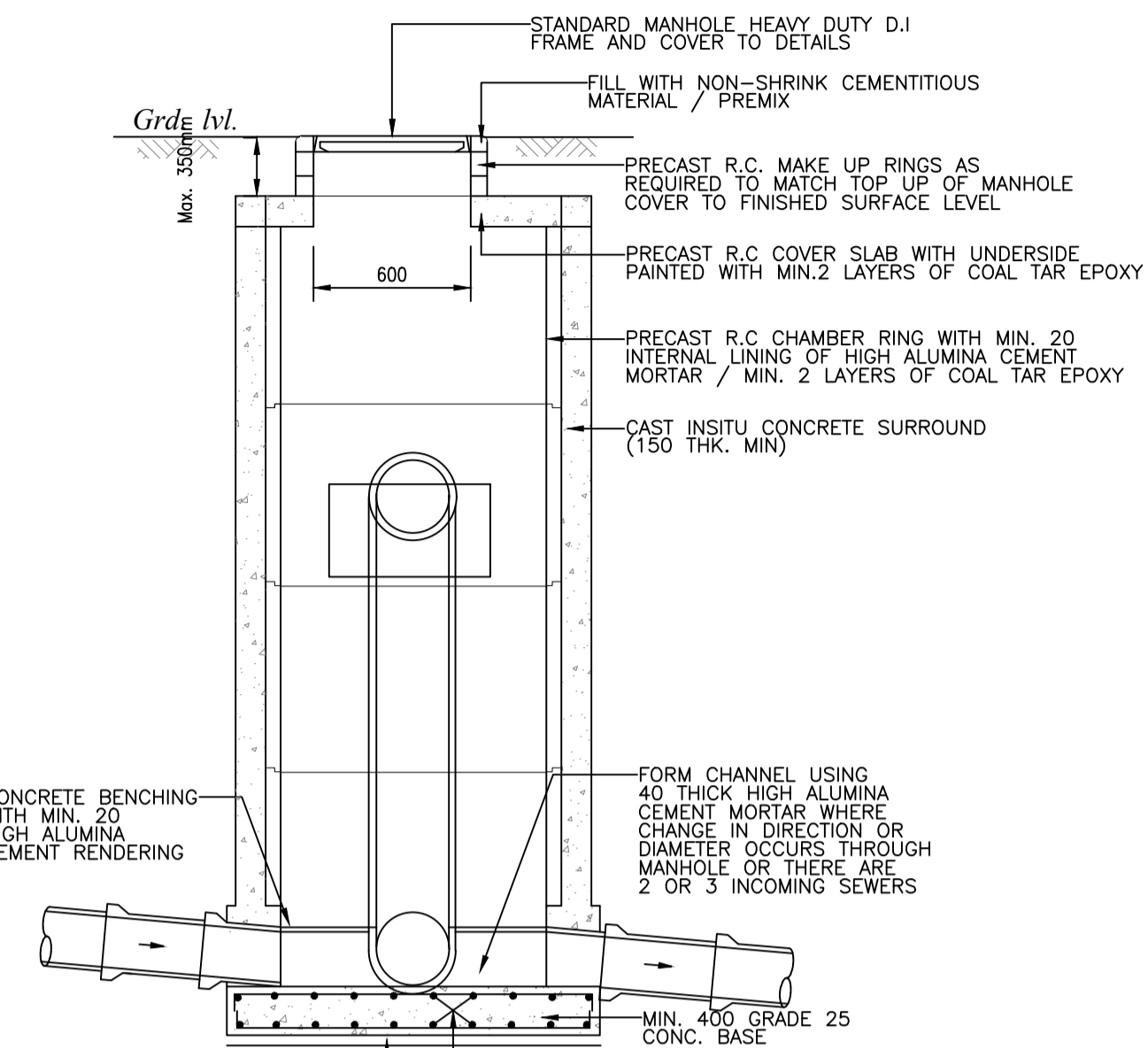
**Plan View Of Manhole - Type F**  
**[Two Incoming Sewer]**  
NOTE: TWO INCOMING AND ONE OUTGOING PIPE



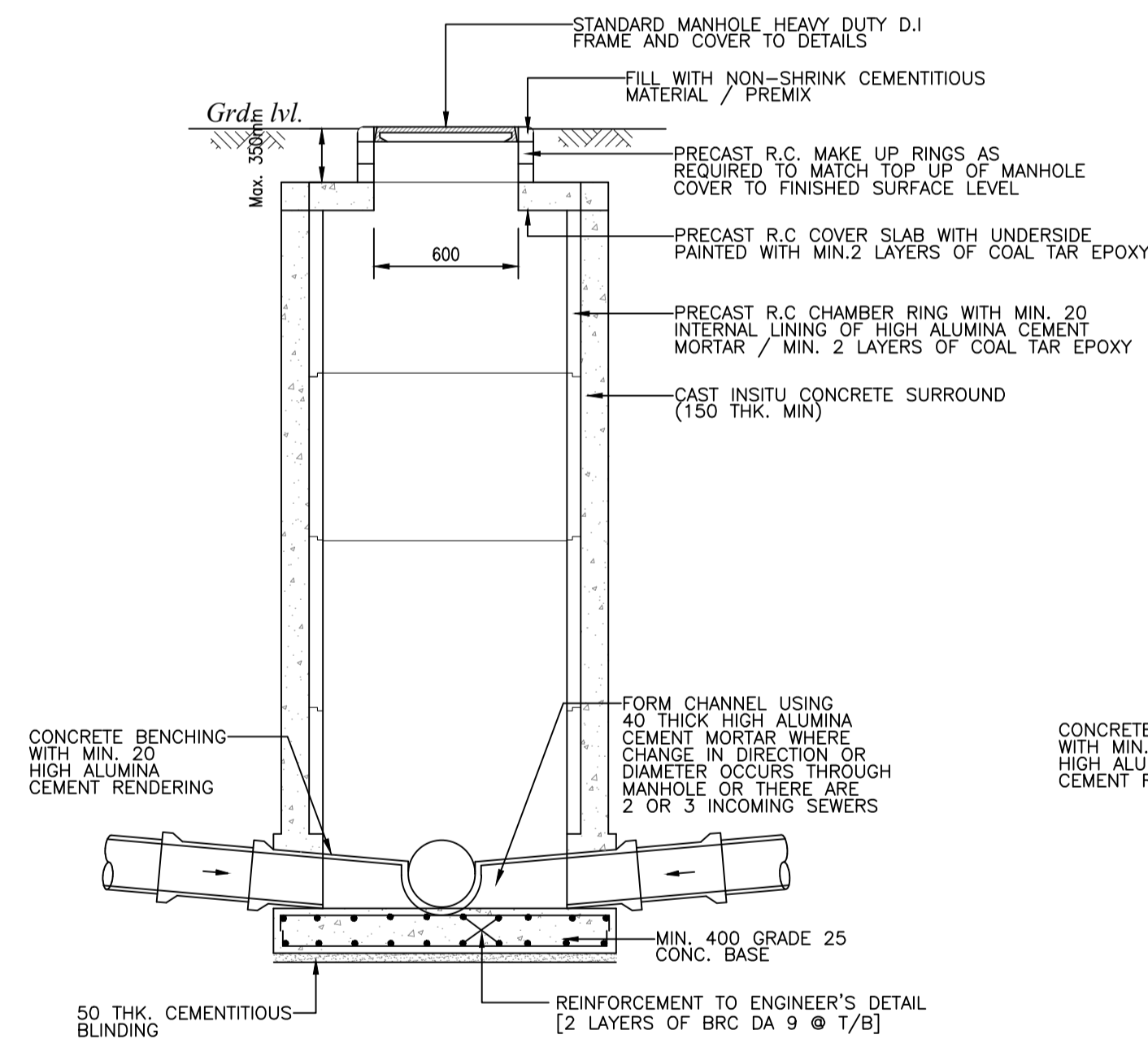
**Plan View Of Manhole - Type G**  
**[Three Incoming Sewer]**  
NOTE: THREE INCOMING AND ONE OUTGOING PIPE



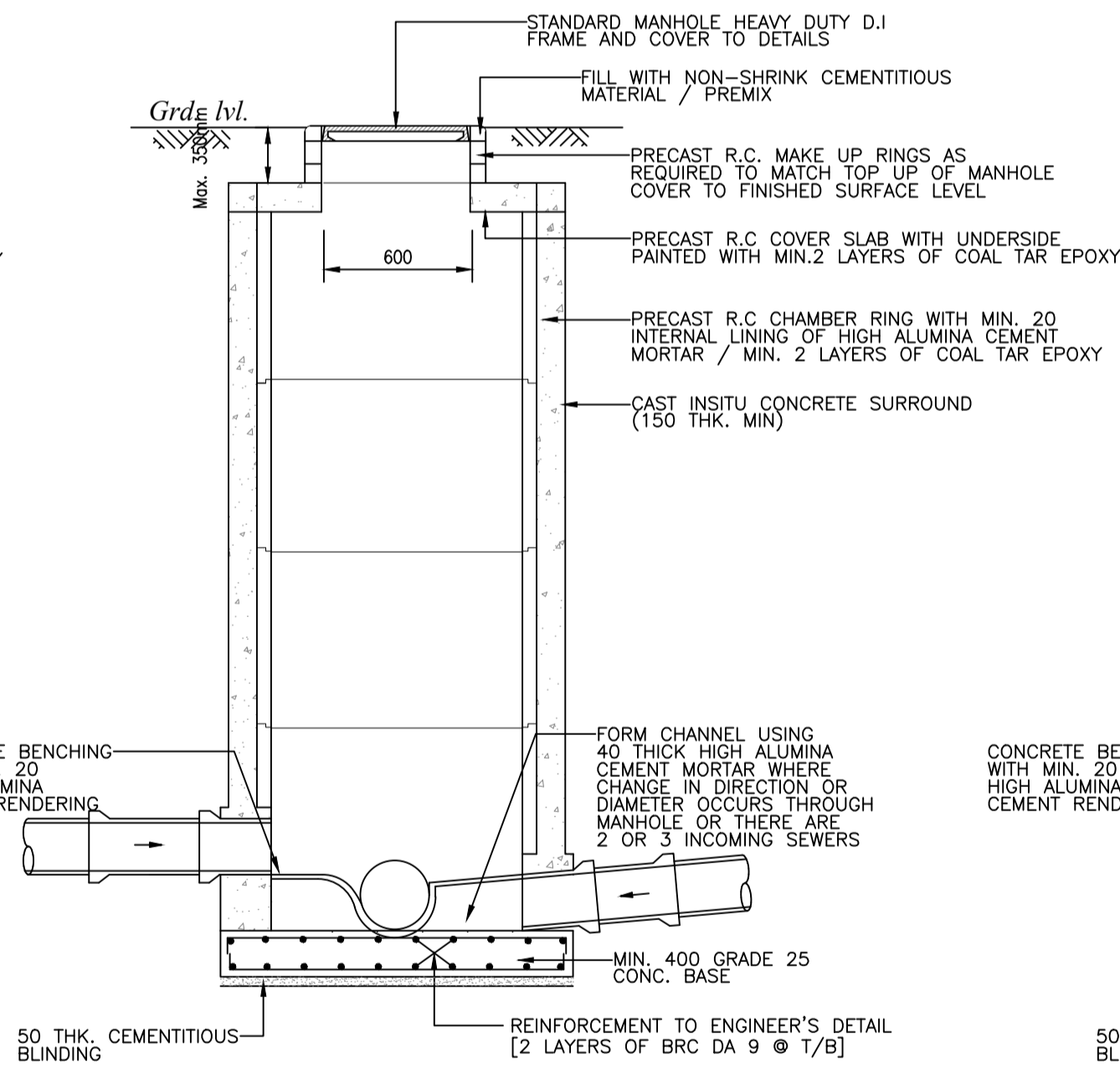
**Plan View Of Manhole - Type H**  
**[One Incoming & One Outgoing Pipe]**  
NOTE: ONE INCOMING AND ONE OUTGOING PIPE



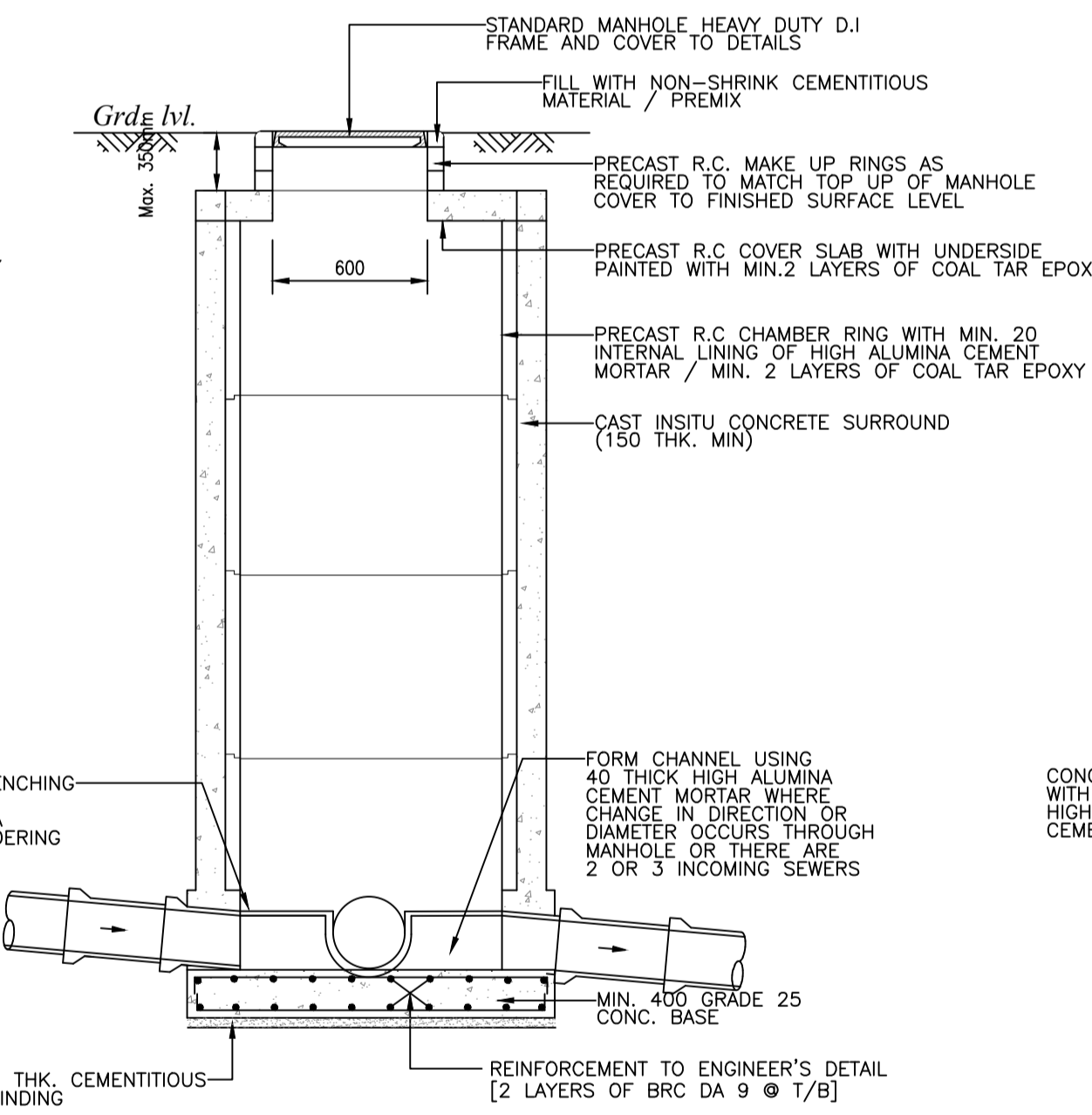
**Section A - A [Free Drop < 600mm]**  
**Ground Level To Invert Level Of Pipe**  
**1.20m < D < 2.50m**



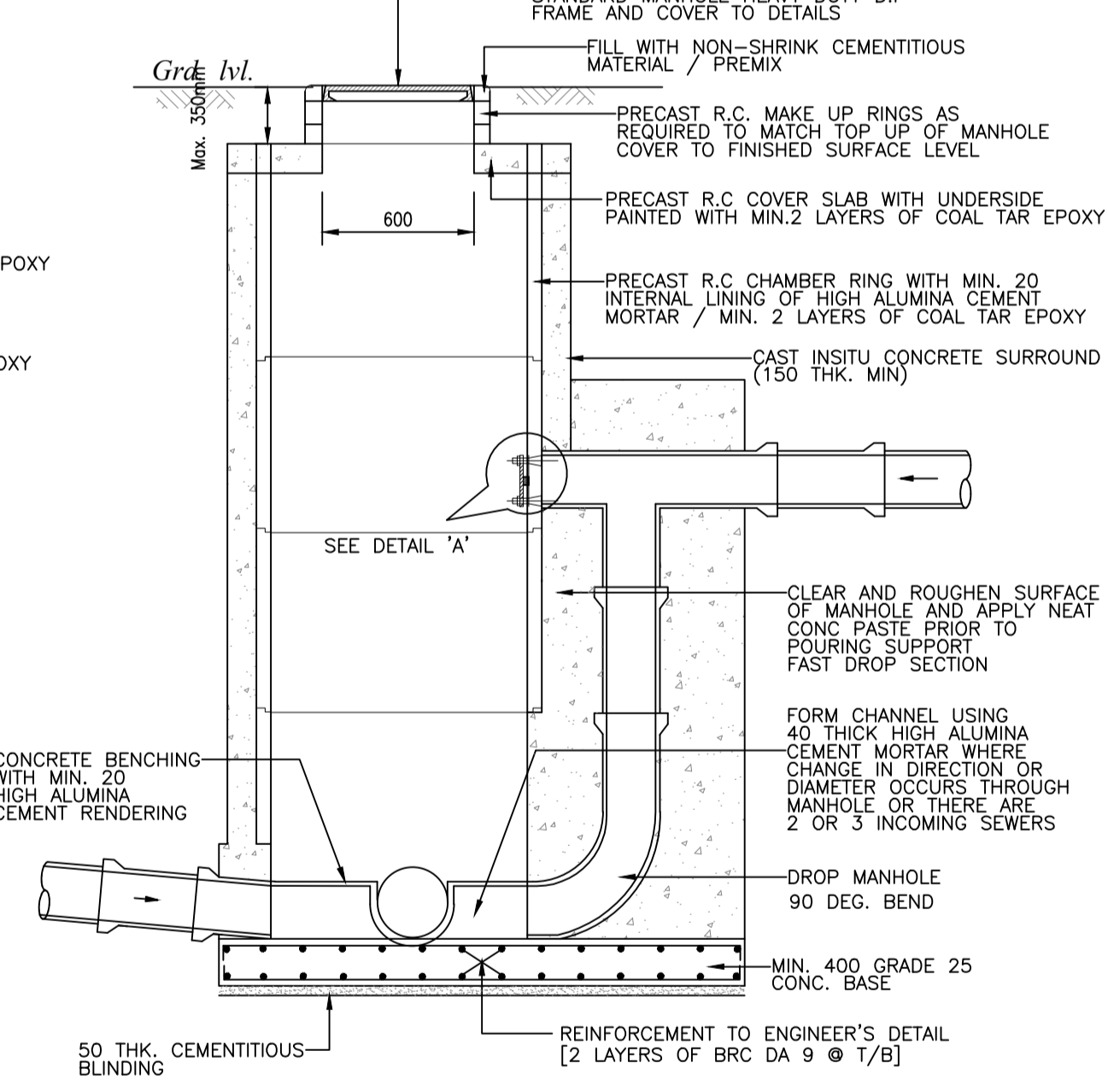
**Section A - A**  
**Ground Level To Invert Level Of Pipe**  
**1.20m < D < 2.50m**



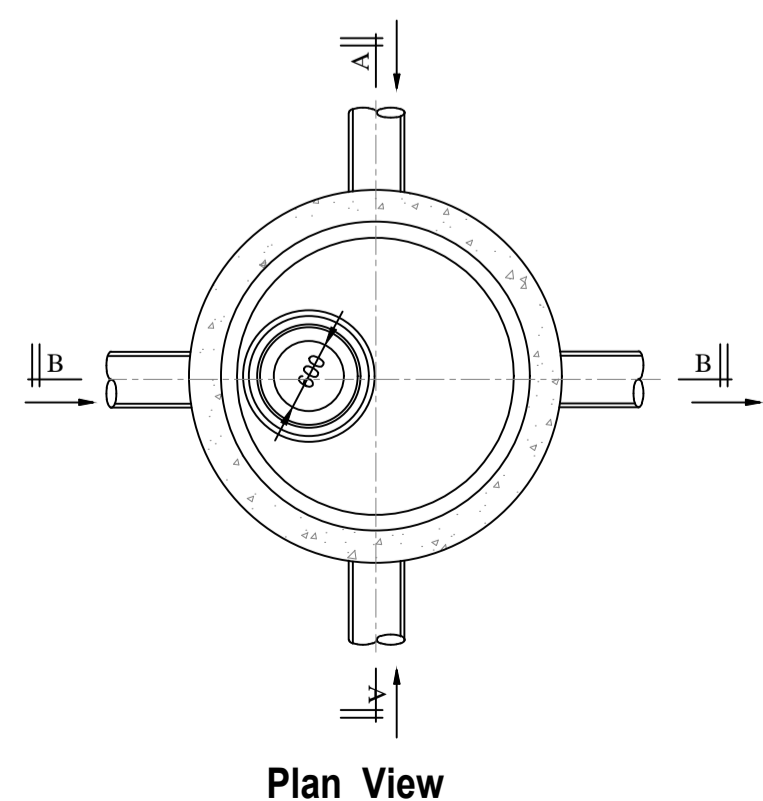
**Section A - A [Free Drop < 600mm]**  
**Ground Level To Invert Level Of Pipe**  
**1.20m < D < 2.50m**



**Section B - B**  
**Ground Level To Invert Level Of Pipe**  
**1.20m < D < 2.50m**



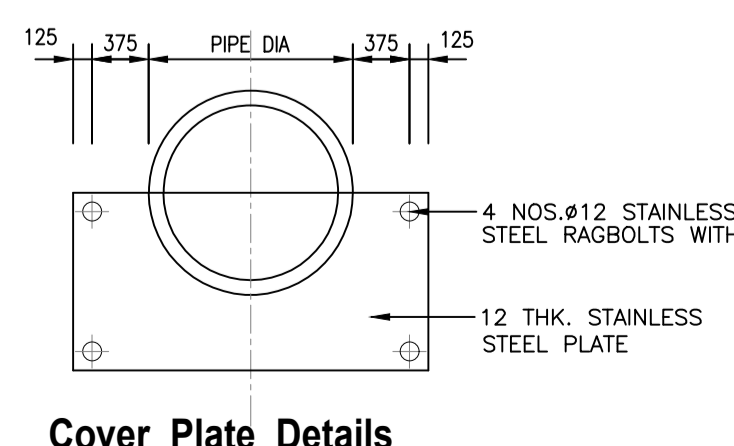
**Section B - B [Backdrop > 600mm]**  
**Ground Level To Invert Level Of Pipe**  
**1.20m < D < 2.50m**



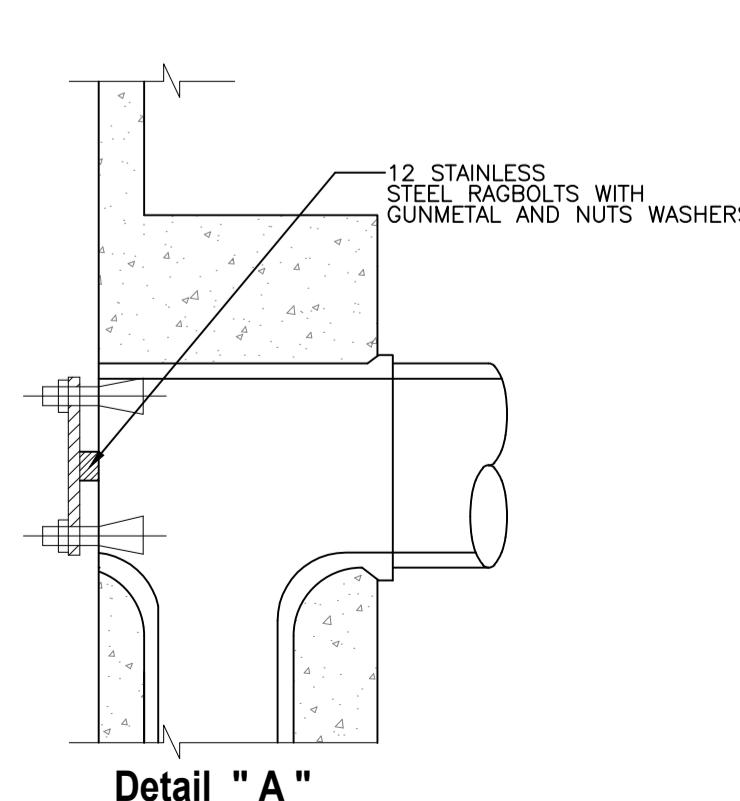
**Plan View**

**Notes:-**

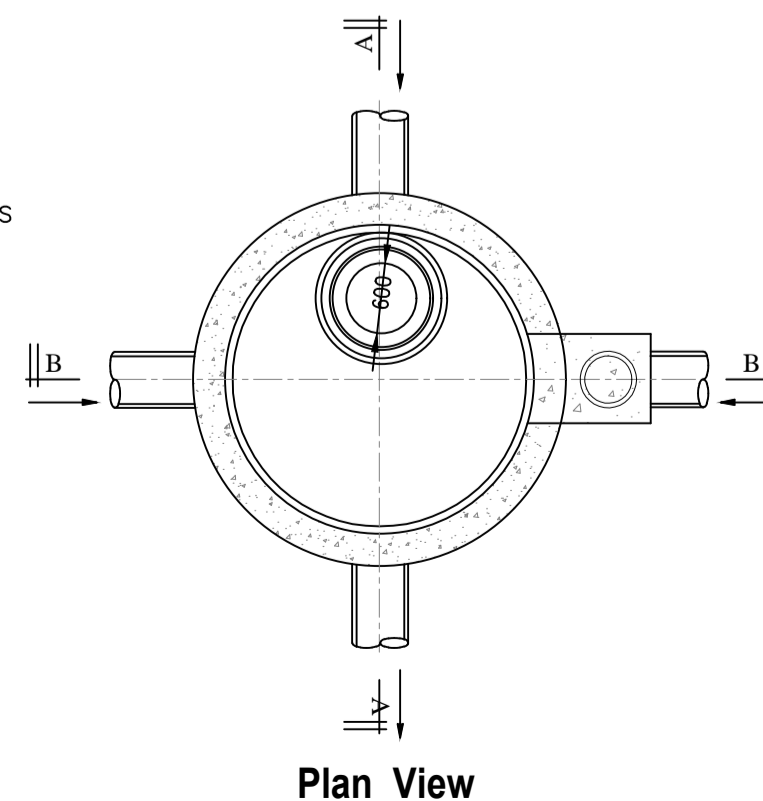
- Rocker pipe shall be 600 long for sewer up to 300 diameter and 900 long for larger diameter sewers.
- Dimensions are in millimeters unless otherwise stated.
- S.I. is required to determine soil condition and requirement for piling.
- All structural elements requirement subject to engineer's detail.
- Top of manhole cover shall be flushed 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 monolithically.
- Sewer pipes and manhole structures should not be constructed on slope or within slope failure envelope. In the event where it is unavoidable, the sand structures must be designed not to encounter settlement or the sorts and at anytime 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.



**Cover Plate Details**



**Detail "A"**



**Plan View**

**Table 1**

Depth to Soffit from Cover Level (m)	DN Largest Pipe in Manhole (mm)	Min. Internal Dimensions (mm)
<1.5	< 150	1000
	225 to 300	1200
	375 to 450	1350
	525 to 710	1500
> 1.5	820 to 900	1800
	> 900	Subject's to designer's requirements based on side condition
	< 300	1200
	375 to 450	1350
>1.5	525 to 710	1500
	820 to 900	1800
	> 900	Subject's to designer's requirements based on side condition

NAMA : MR. WONG WAN WOOL  
(No. KP: 610814-08-6009)  
(PENGARAH EKSEKUTIF)

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**Ir. Cheah Poh Ting**  
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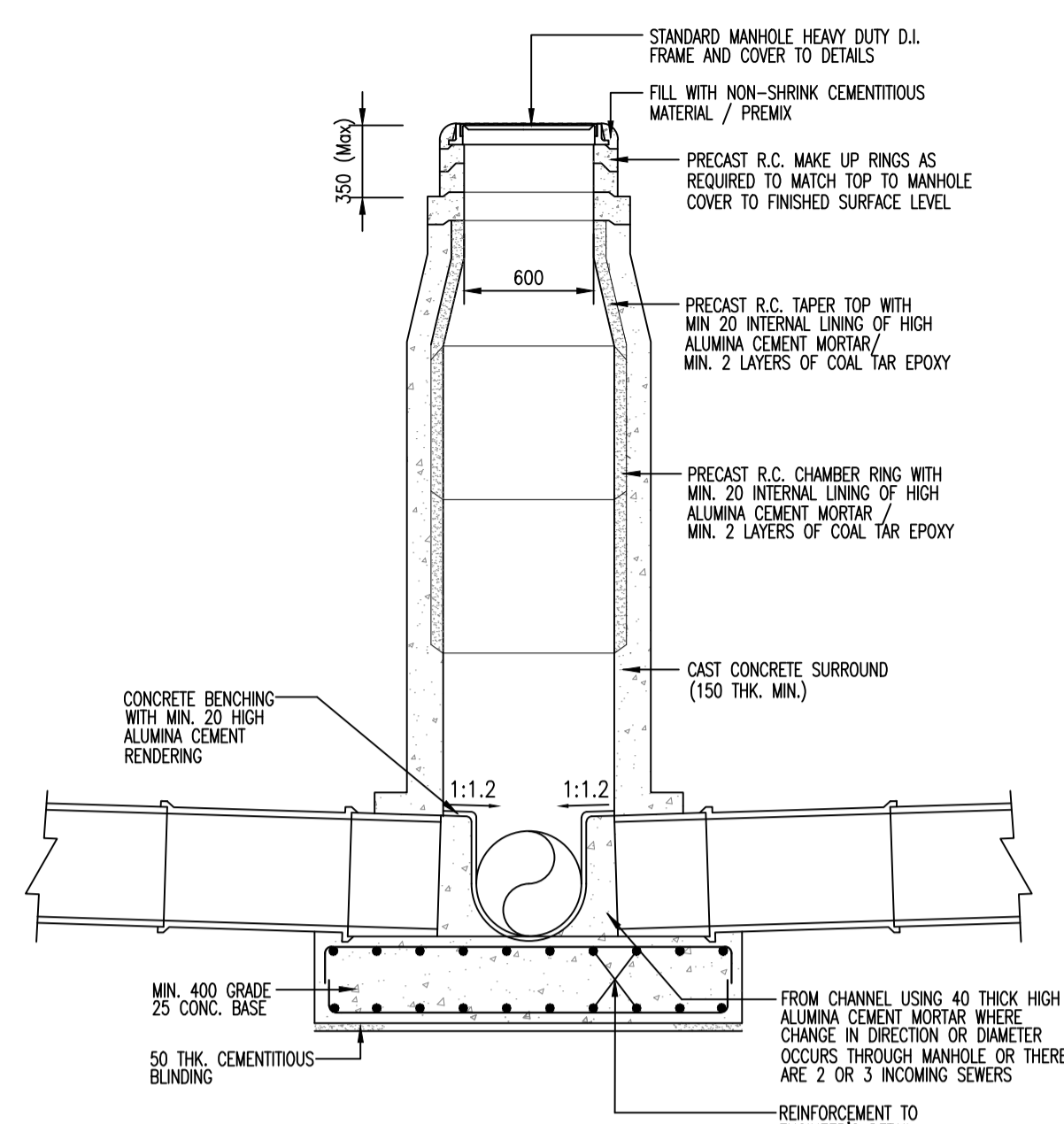
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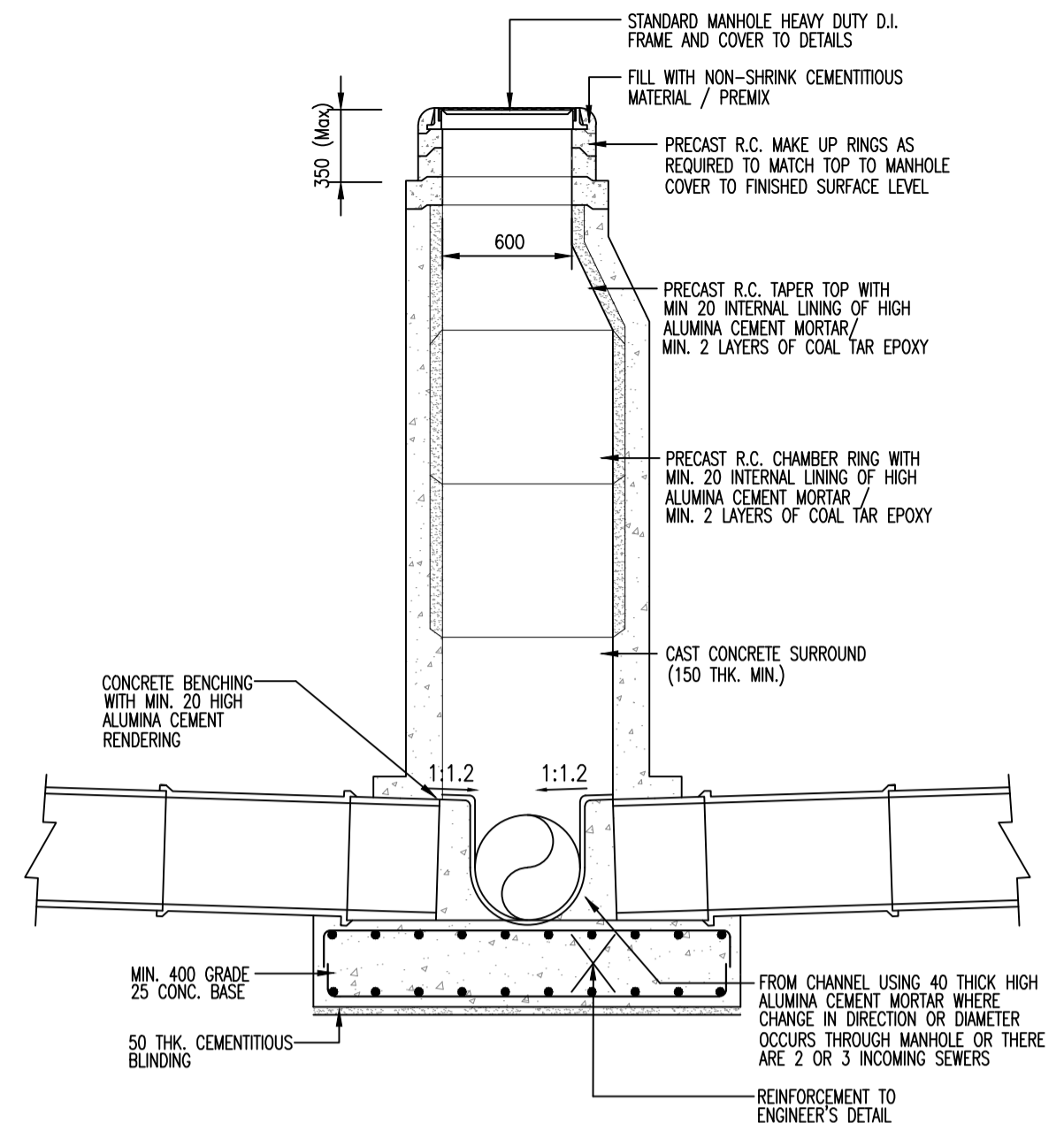
TAJUK :  
**SEWERAGE**  
- SHALLOW : GROUND LEVEL TO INVERT LEVEL OF PIPE 1.2 < D < 2.5 METERS

NO. LUKISAN	REVISION
YSL1108/NPS/PDC1/SW/DET/02	00
DIREKA/DILUKIS OLEH : SHARUL/MAM	DISEMAK OLEH : IR. CHEAH POH TING
TARIKH : MAY 2025	SKALA : AS SHOWN



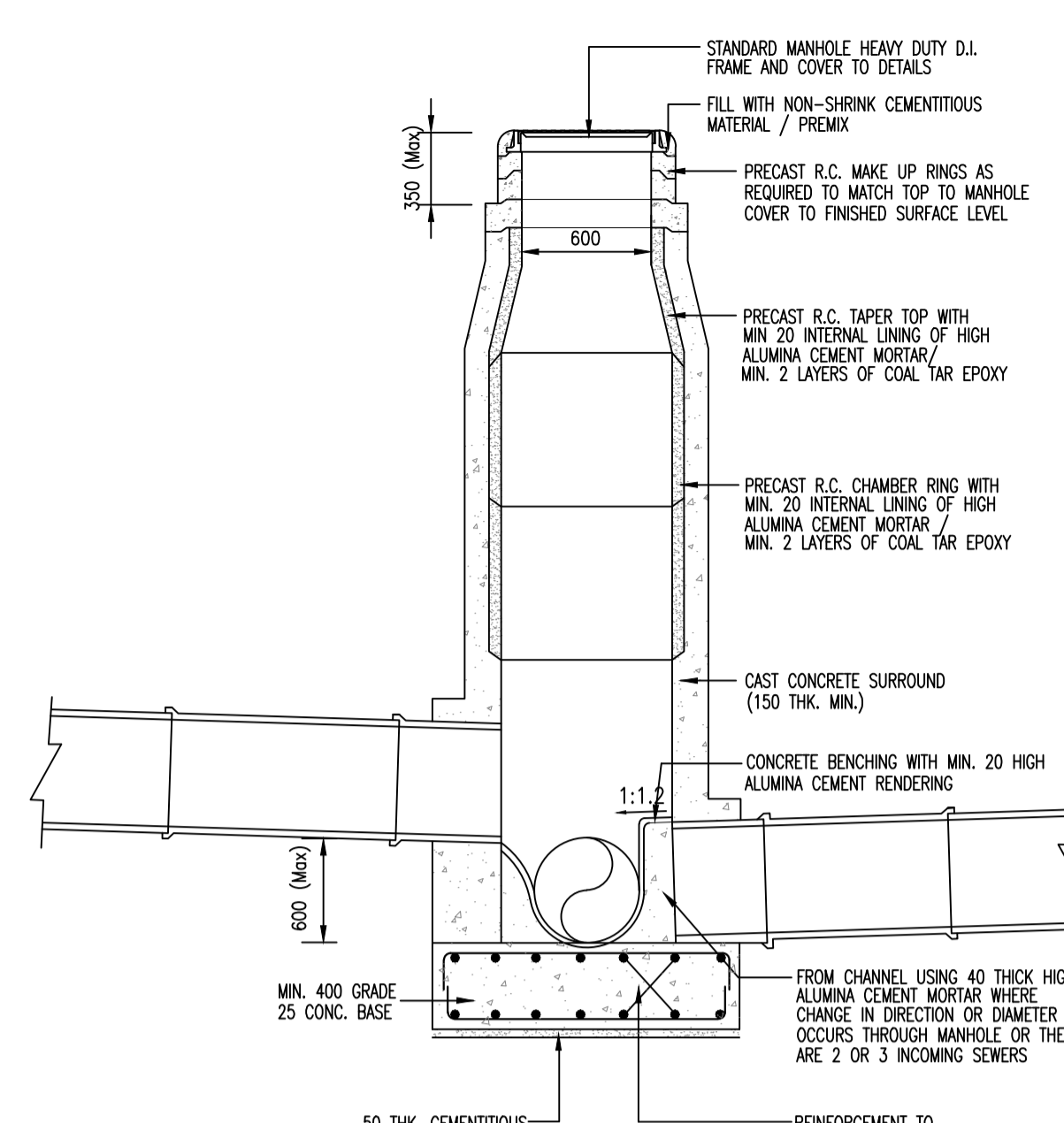
Section A - A

(MEDIUM: GROUND LEVEL TO INVERT LEVEL OF PIPE 2.5 < D < 5 METERS)  
(DEEP: GROUND LEVEL TO INVERT LEVEL OF PIPE 5 < D < 9 METERS)



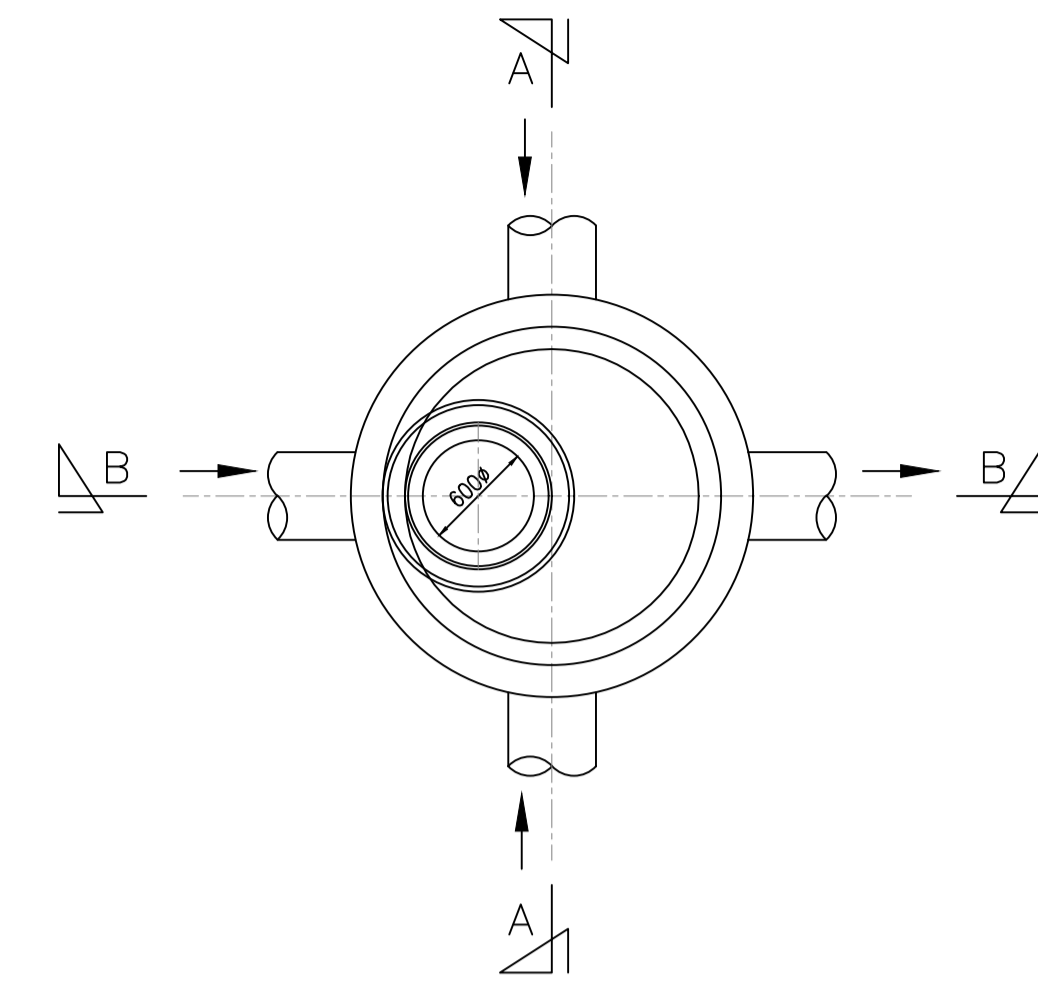
Section B - B

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(DEEP: GROUND LEVEL TO INVERT LEVEL OF PIPE 5 < D < 9 METERS)

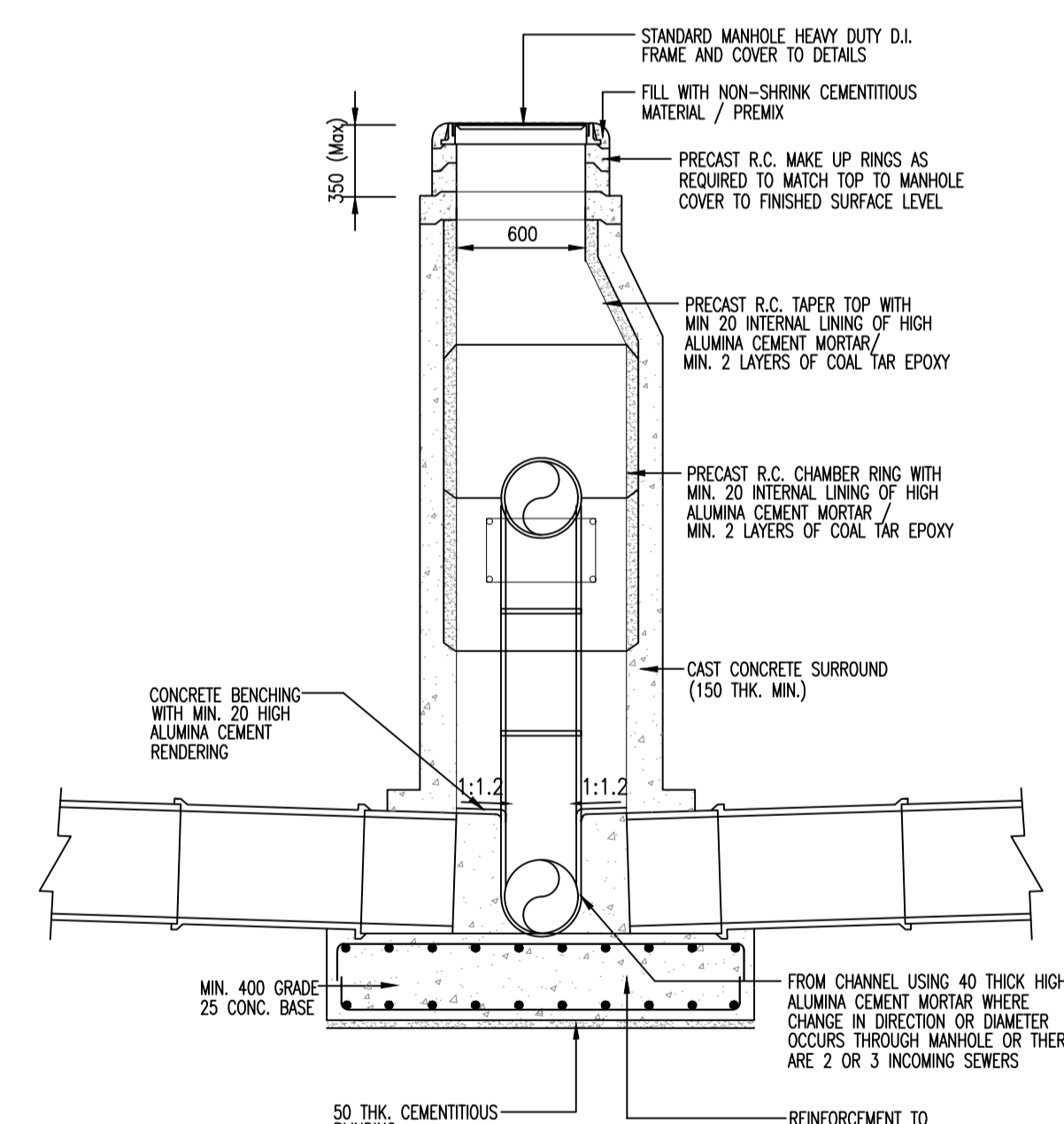


Section A - A [ Free Drop < 600mm ]

(MEDIUM: GROUND LEVEL TO INVERT LEVEL OF PIPE 2.5 < D < 5 METERS)  
(DEEP: GROUND LEVEL TO INVERT LEVEL OF PIPE 5 < D < 9 METERS)

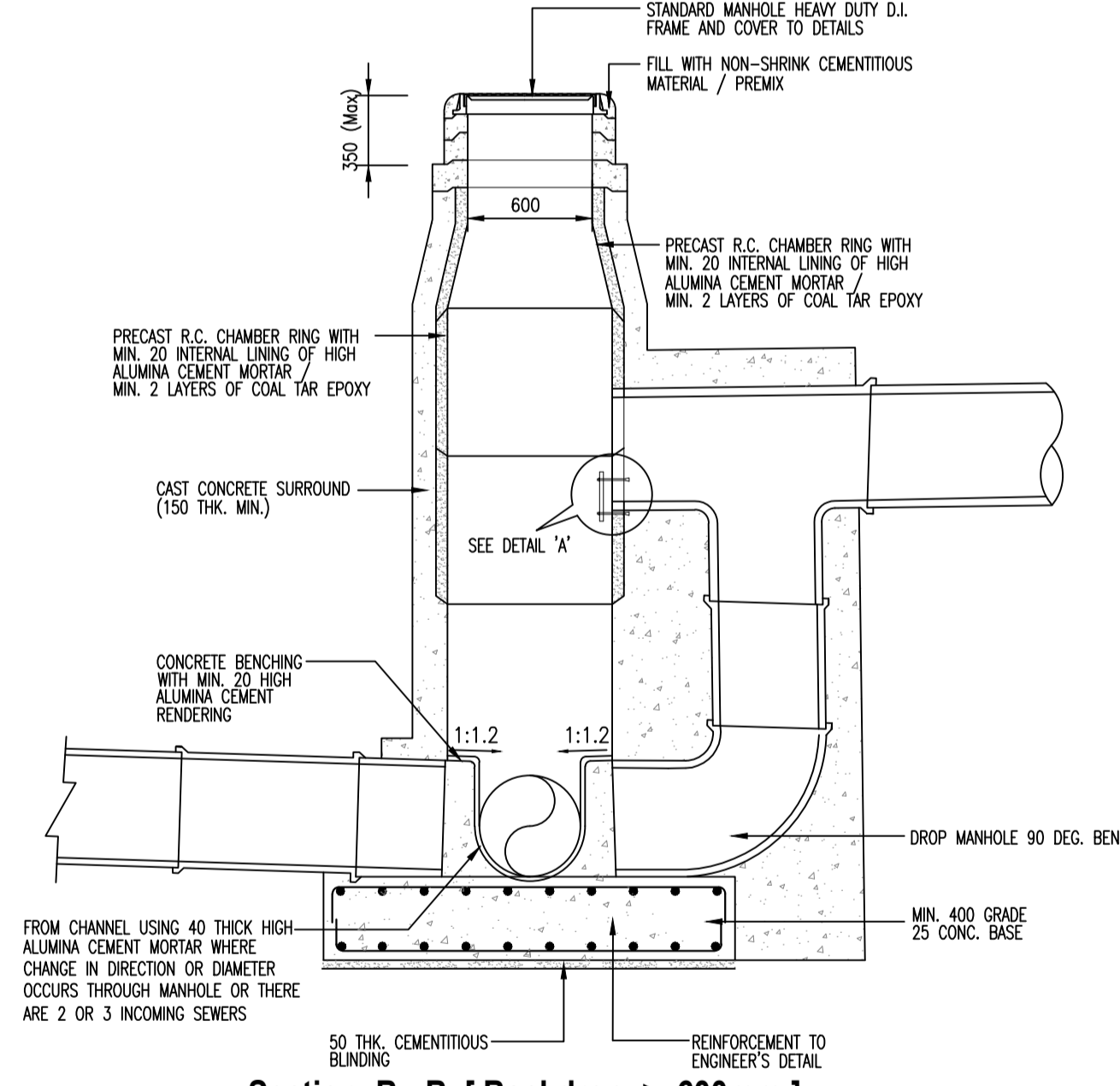


Plan View



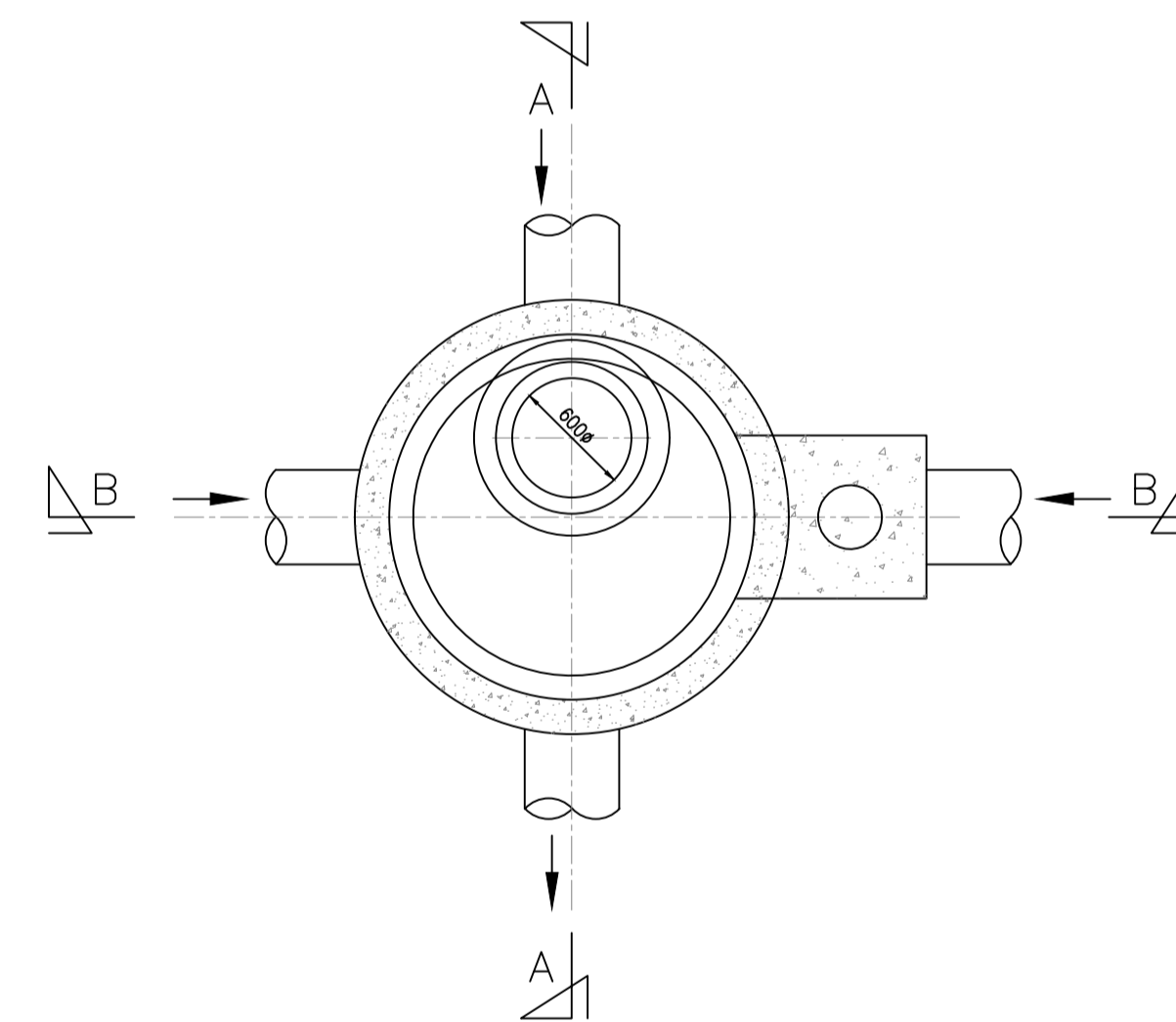
Section B - B [ Backdrop > 600mm ]

(MEDIUM: GROUND LEVEL TO INVERT LEVEL OF PIPE 2.5 < D < 5 METERS)  
(DEEP: GROUND LEVEL TO INVERT LEVEL OF PIPE 5 < D < 9 METERS)

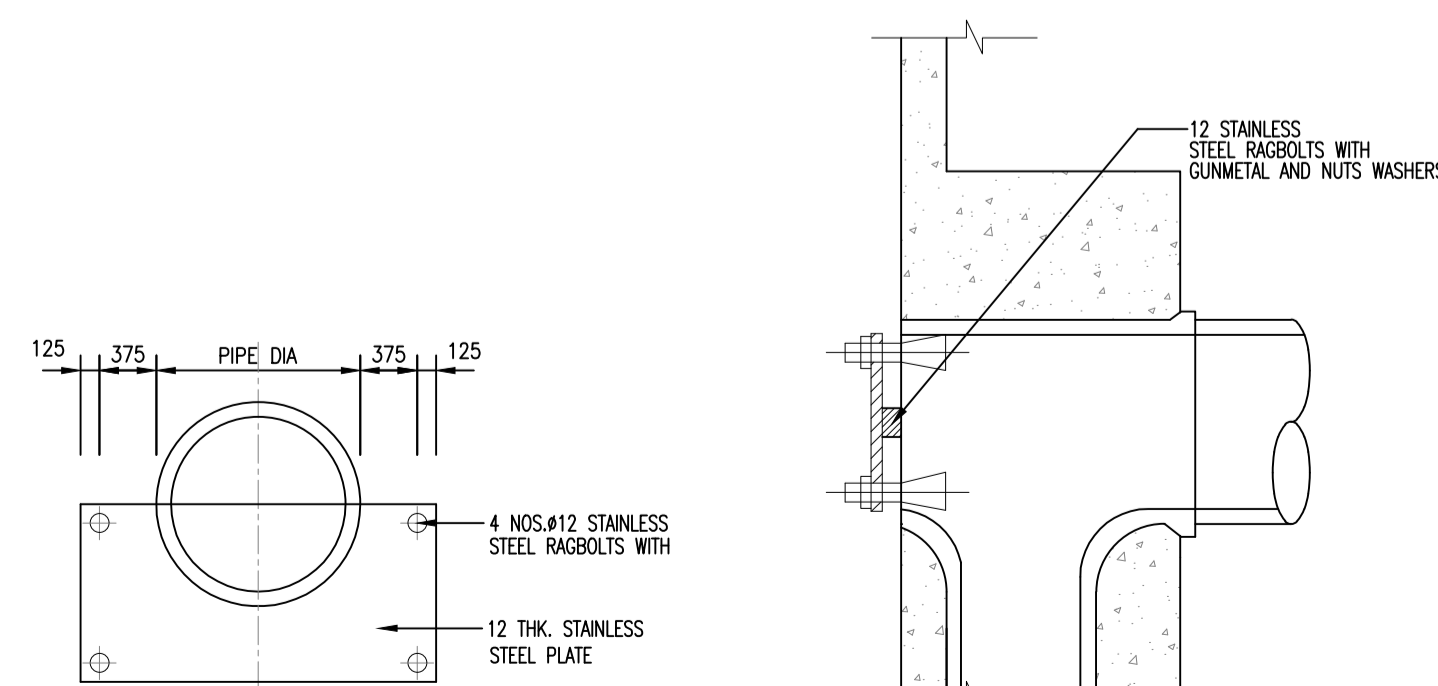


Section B - B [ Backdrop > 600mm ]

(MEDIUM: GROUND LEVEL TO INVERT LEVEL OF PIPE 2.5 < D < 5 METERS)  
(DEEP: GROUND LEVEL TO INVERT LEVEL OF PIPE 5 < D < 9 METERS)



Plan View



Cover Plate Detail

Detail "A"

NOTE

- ROCKER PIPE SHALL BE 600 LONG FOR SEWERS UP TO 300 DIAMETER AND 900 LONG FOR LARGER DIAMETER SEWER.
- DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE STATED.
- S.I. REQUIRED TO DETERMINE SOIL CONDITION AND REQUIREMENT FOR PILING.
- ALL STRUCTURAL ELEMENTS REQUIREMENTS SUBJECT TO ENGINEER'S DETAIL.
- TOP OF MANHOLE COVER SHALL BE FLUSHED 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 PIPE SHALL BE CAST MONOLITHICALLY.
- SEWER PIPES AND MANHOLE STRUCTURES SHOULD NOT BE CONSTRUCTED ON SLOPE OR WITHIN SLOPE FAILURE ENVELOP, 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.

REV	DATE	DESCRIPTION	DRAWN

PEMAJU/PEMILIK :

NAMA : MR. WONG WAN WOOL  
(NO. KP: 610814-08-6009)  
(PENGARAH EKSEKUTIF)

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UNTUK :  
TETUAN SUNWAY CITY (IPOH) SDN. BHD.

TAJUK :  
**SEWERAGE**  
- MEDIUM: GROUND LEVEL TO INVERT LEVEL OF PIPE 2.5 < D < 5 METERS  
- DEEP: GROUND LEVEL TO INVERT

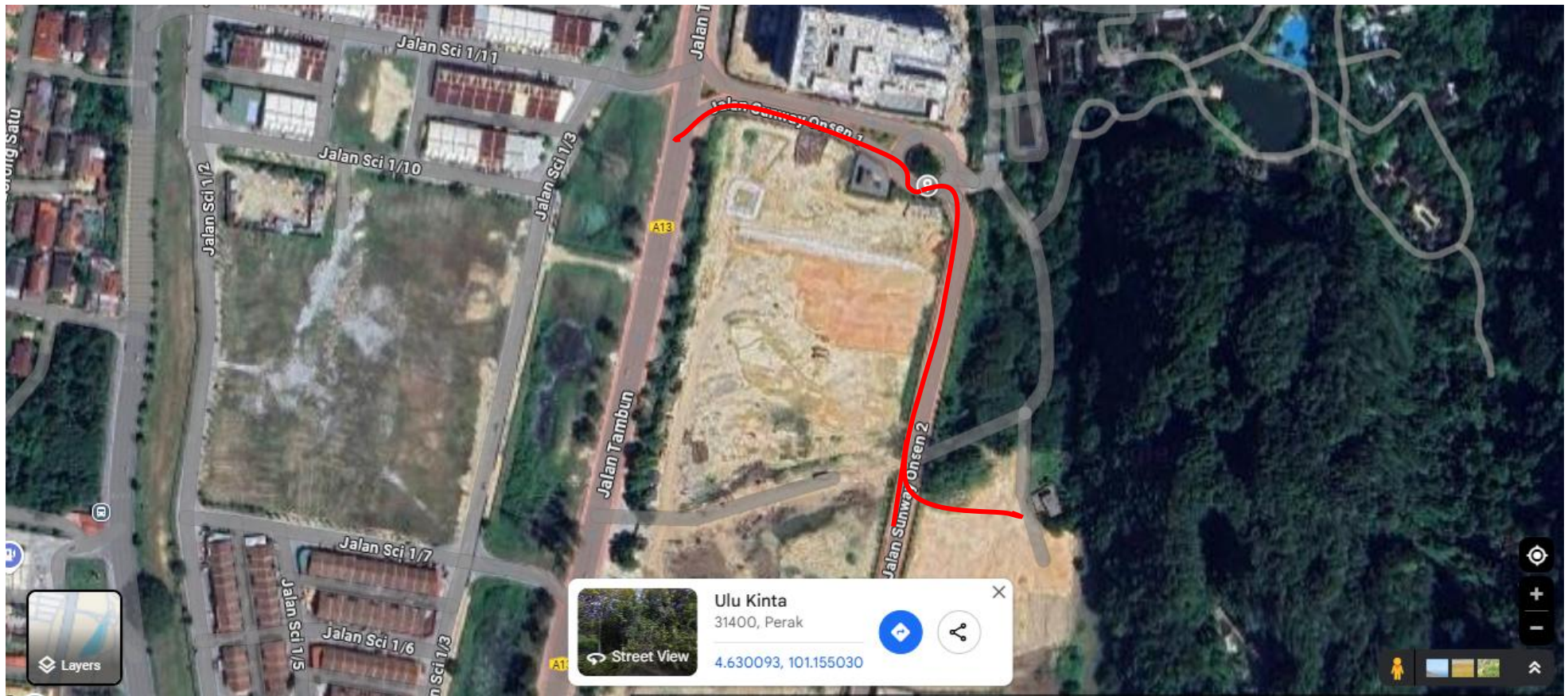
NO. LUKISAN	REVISION
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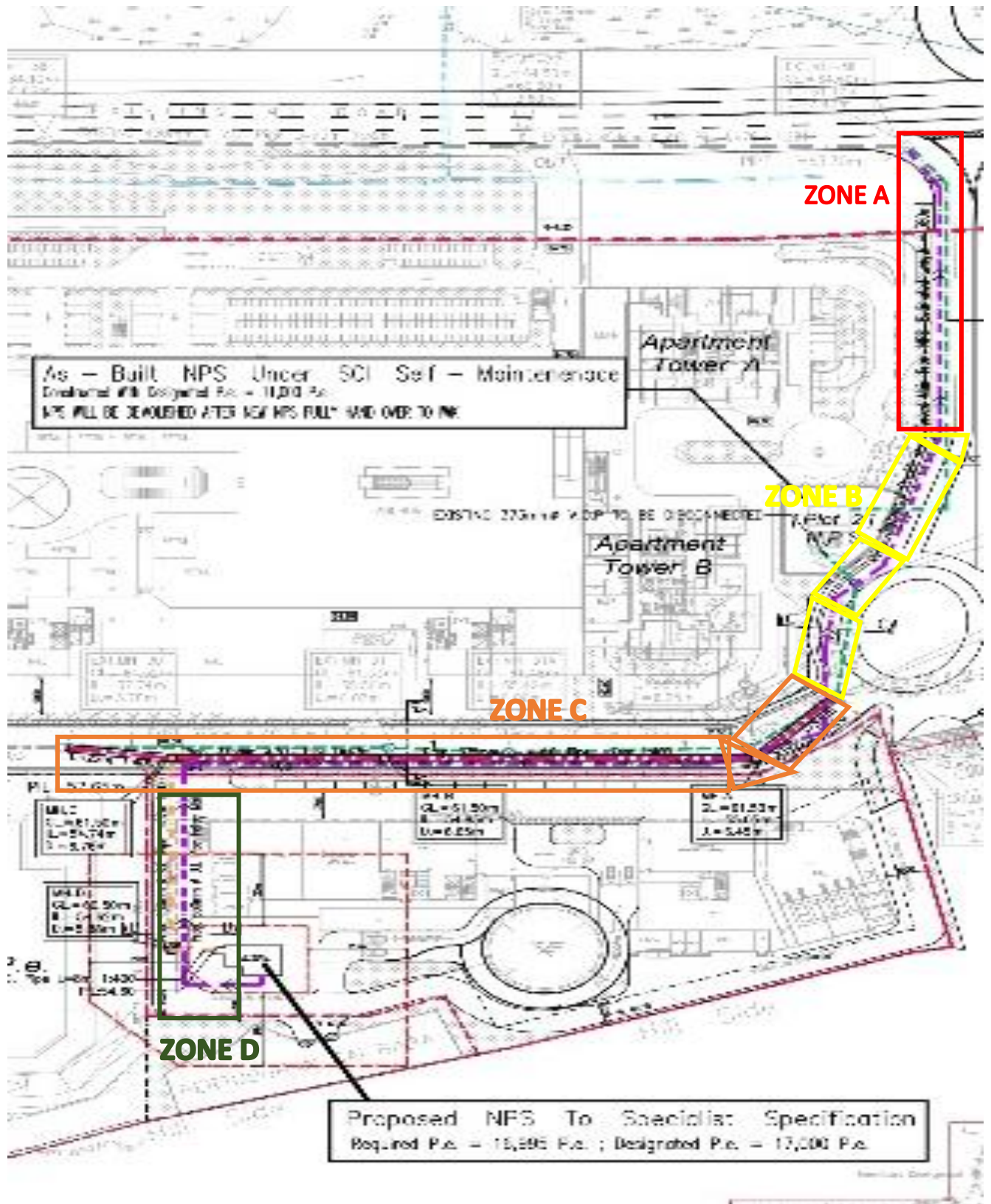


PERMOHONAN KELULUSAN IZIN LALU (HY SOLUTION SDN BHD)

PETA PENANDAAN LOKASI

-Merujuk Pekara diatas disini disertakan Peta Penandaan Lokasi untuk rujukan Tuan/Puan





SITE PLAN LAYOUT BY ZONING AREA

PERMOHONAN KELULUSAN IZIN LALU (HY SOLUTION SDN BHD) GAMBAR LOKASI

PLAN LAYOUT DIVIDED BY 4 ZONES:-



ZONE A



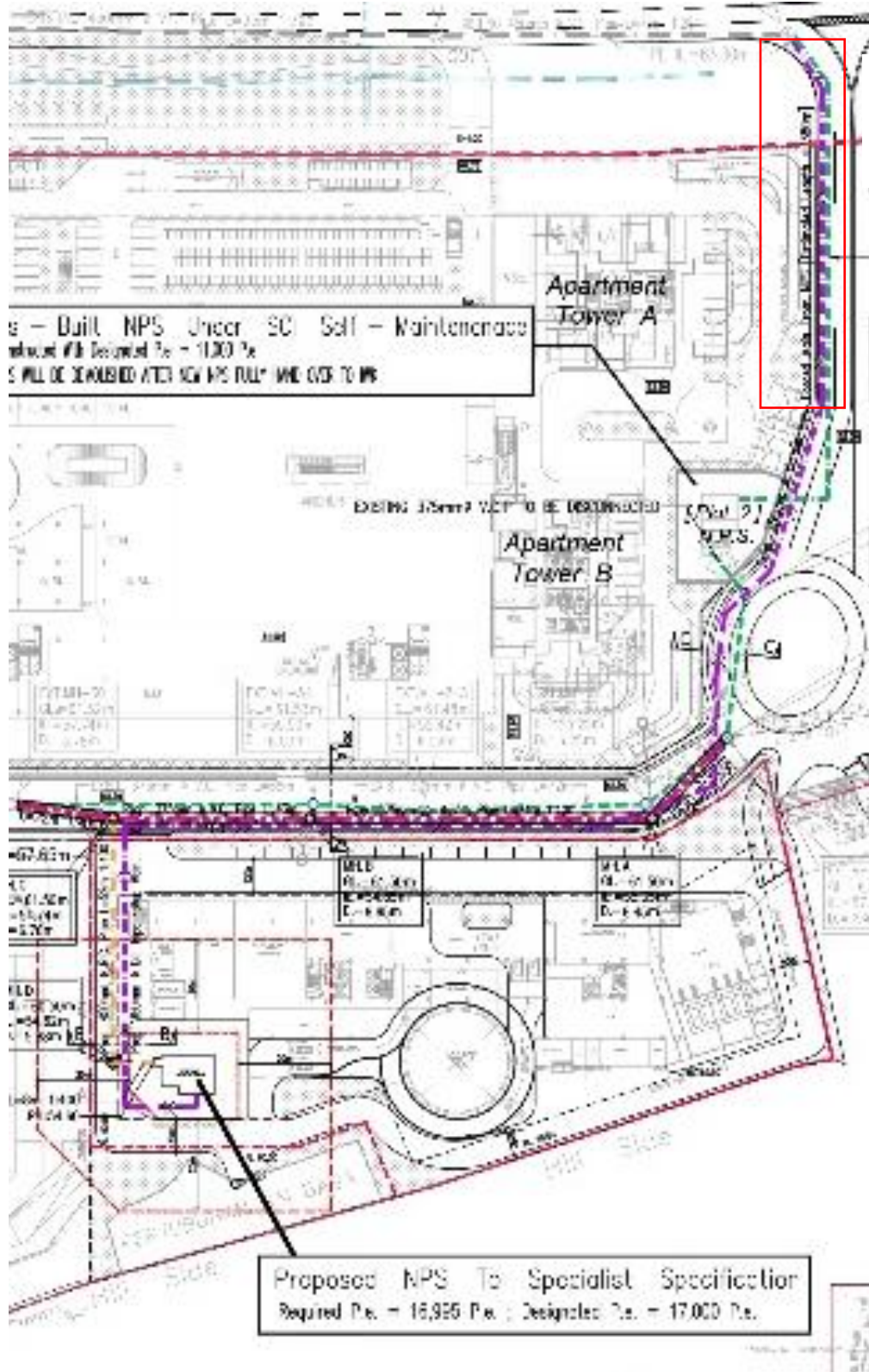
ZONE B



ZONE C



ZONE D



**ZONE A**

PERMOHONAN KELULUSAN IZIN LALU (HY SOLUTION SDN BHD) GAMBAR LOKASI

ZONE A



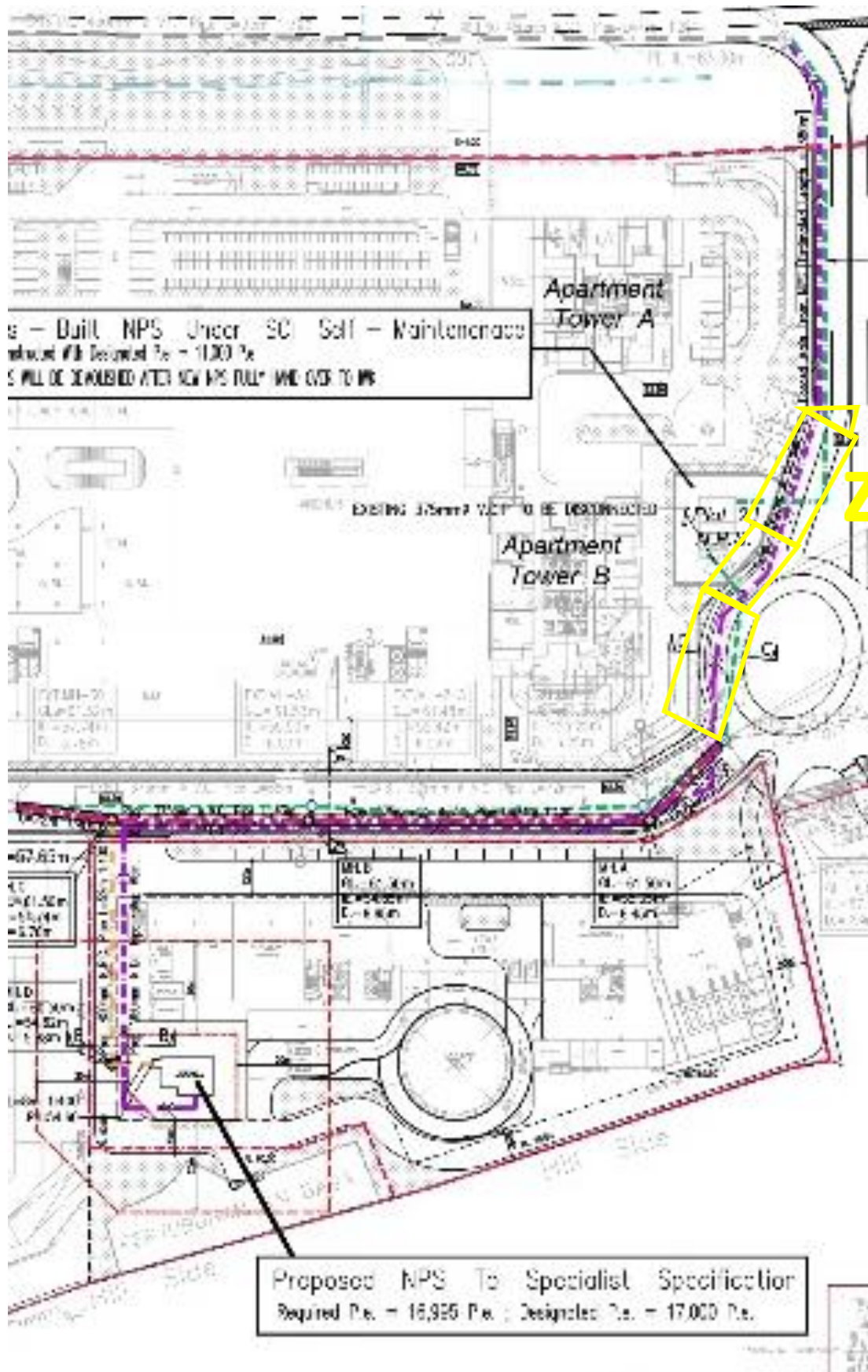
PERMOHONAN KELULUSAN IZIN LALU (HY SOLUTION SDN BHD) GAMBAR LOKASI



PERMOHONAN KELULUSAN IZIN LALU (HY SOLUTION SDN BHD) GAMBAR LOKASI

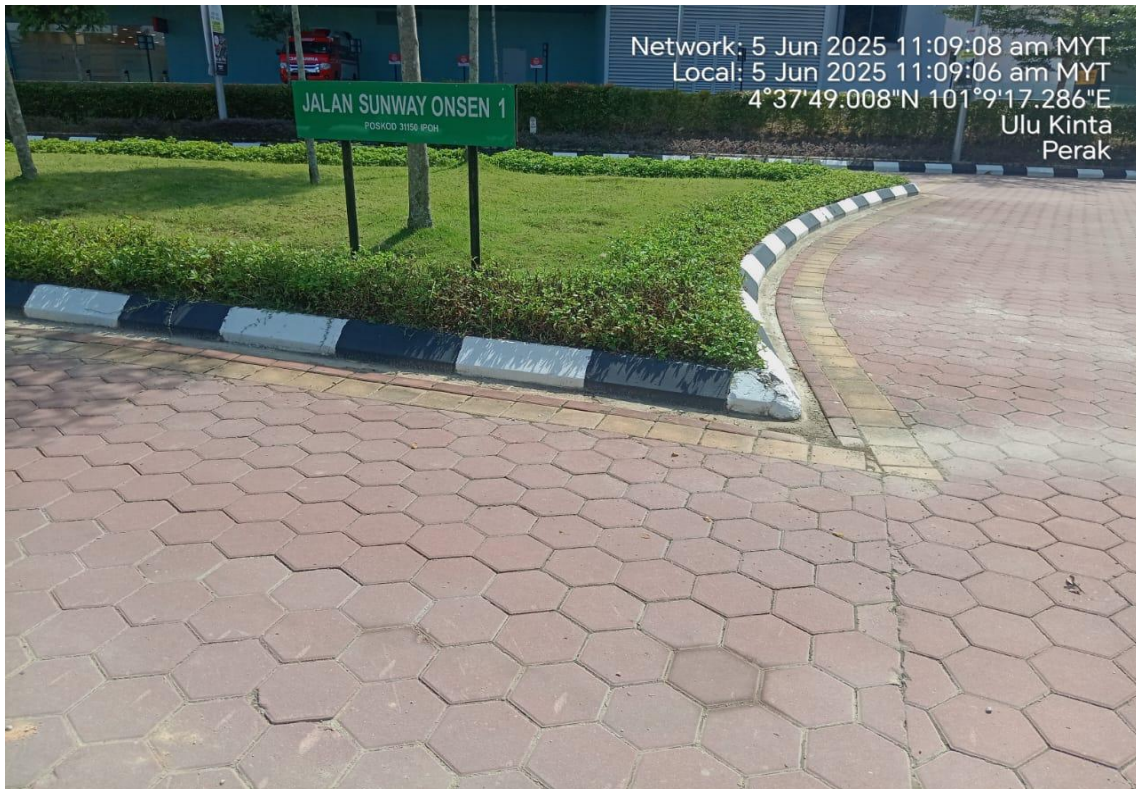


PERMOHONAN KELULUSAN IZIN LALU (HY SOLUTION SDN BHD) GAMBAR LOKASI



PERMOHONAN KELULUSAN IZIN LALU (HY SOLUTION SDN BHD) GAMBAR LOKASI

ZONE B



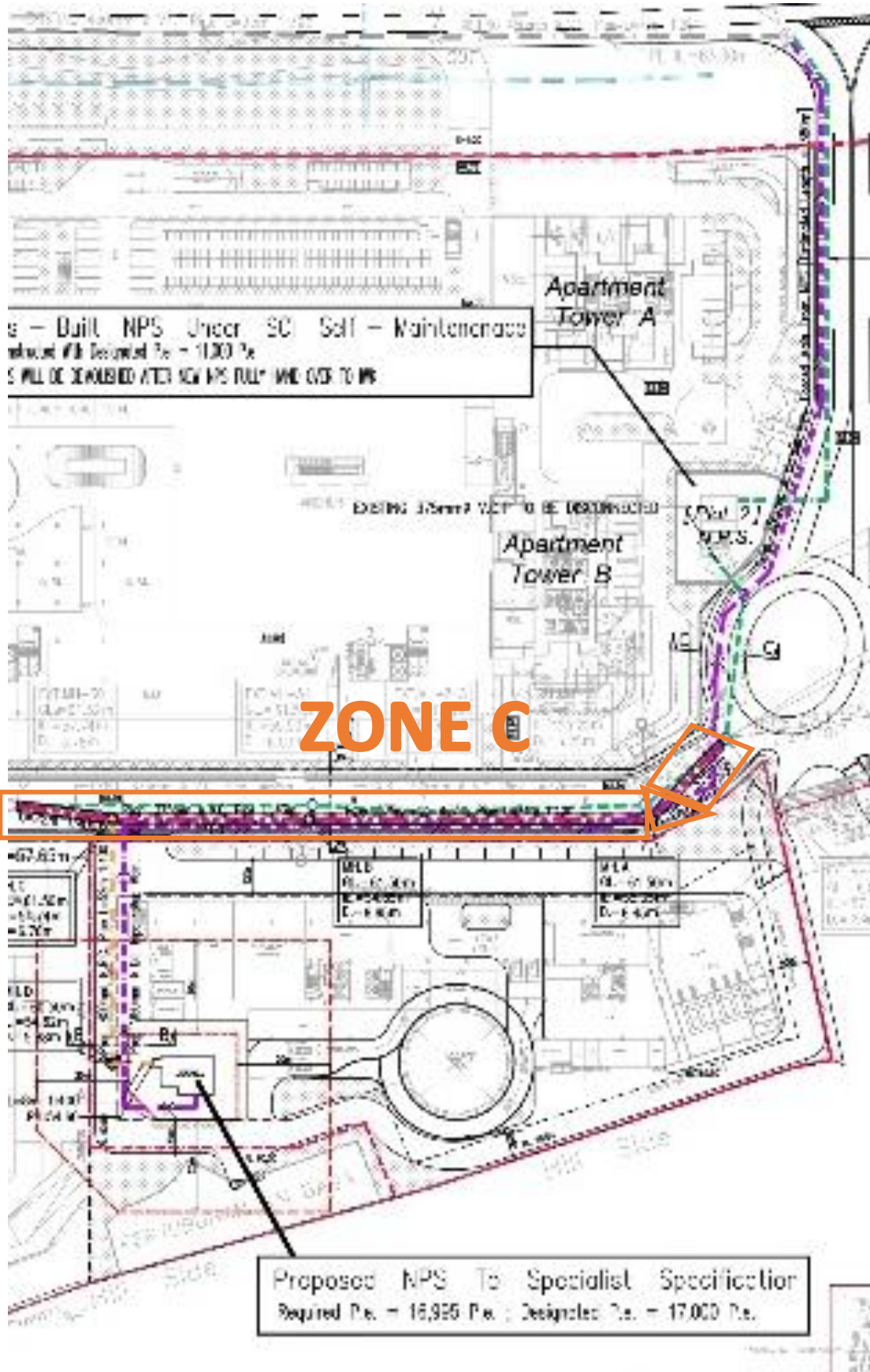
PERMOHONAN KELULUSAN IZIN LALU (HY SOLUTION SDN BHD) GAMBAR LOKASI



PERMOHONAN KELULUSAN IZIN LALU (HY SOLUTION SDN BHD) GAMBAR LOKASI



PERMOHONAN KELULUSAN IZIN LALU (HY SOLUTION SDN BHD) GAMBAR LOKASI



PERMOHONAN KELULUSAN IZIN LALU (HY SOLUTION SDN BHD) GAMBAR LOKASI

ZONE C



PERMOHONAN KELULUSAN IZIN LALU (HY SOLUTION SDN BHD) GAMBAR LOKASI



PERMOHONAN KELULUSAN IZIN LALU (HY SOLUTION SDN BHD) GAMBAR LOKASI

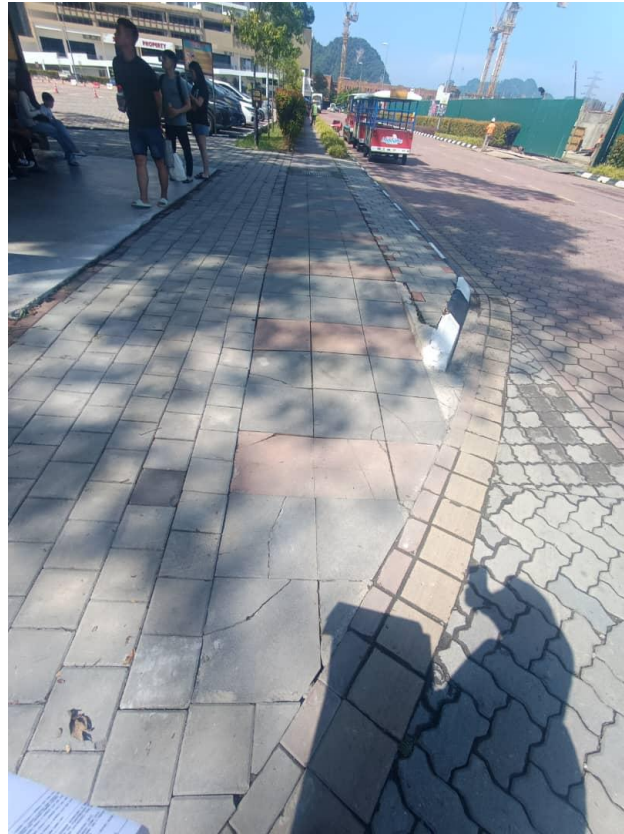




PERMOHONAN KELULUSAN IZIN LALU (HY SOLUTION SDN BHD) GAMBAR LOKASI



PERMOHONAN KELULUSAN IZIN LALU (HY SOLUTION SDN BHD) GAMBAR LOKASI



PERMOHONAN KELULUSAN IZIN LALU (HY SOLUTION SDN BHD) GAMBAR LOKASI

