

TECHNICAL PROPOSAL



PMU PMU GPRD 8L5

LAT/LONG: 4.551886° E 101.116130°



PPU GNRT 2P5

LAT/LONG: N 4.576638° E 101.143327°

CIVIL INFRASTRUCTURE AND FIBRE OPTIC CABLING SYSTEM

PROJECT NAME : INSTALL NEW FIBRE FROM PMU GPRD 8L5 TO PPU GNRT 2P5
REGION : NORTHERN
SITE / LINK : PMU GPRD 8L5 TO PPU GNRT 2P5

Table of Content

- Section 1 : Bill of Quantity and OSP Summary
- Section 2 : Proposed Manhole Coordinates
- Section 3 : OSP and ISP Routing Plan
- Section 4 : Straight Line Drawing
- Section 5 : OSP and ISP Snapshot/Photo
- Section 6 : Work Schedule

**Section 1: SAMPLE BILL OF QUANTITY PMU GPRD 8L5
TO PPU GNRT 2P5**

NO	PU ID NO	DESCRIPTION	UNIT OF MEASURE	WORK ODER REQUEST	NORMAL RATE (RM)	PRICE (RM)
1	F.2.48	Mobilisation Cost - Central	Each			
2	F.2.47	Site Survey	Per site			
4	C.1.1	Supply and install of 50mm GI Pipe Class C	Meter			
5	C.6.1	Processing Fee to authority/or building owner	Per site			
6	C.6.5	Utility Mapping	Meter			
7	C.6.7	Supply and install of Plastic Slab	Meter			
8	C.5.13	Mobilisation and Demobilisation of HDD Equipment	Each			
9	C.5.11	Horizontal Direct Drilling (HDD) 1 Way	Meter			
10	C.5.12	Horizontal Direct Drilling (HDD) 2 Wa	Meter			
11	C.5.1	Excavation and Backfill Work	Meter ³			
12	C.5.6	Cut and permanent reinstatement (Tarmac)	Meter ²			
13	C.2.1	Supply and install of JRC7 manhole c/w	Each			
14	F.2.10	Installation of cable in duct	Meter			
15	F.3.4	Supply and install of 40mm PVC sheathed flexible Corrugated and armoured conduit	Meter			
16	F.1.35	Supply of optical patch tray (48core)-LSH(E2000)/APC	Each			
17	F.1.40	Supply of 42U Optical Distribution Panel (Close Rack)	Each			
18	F.2.24	Optical Fibre Termination from 25 core up to 48 cores on Optical patch tray	Each			
19	F.2.28	Testing of optical fibre cable End to End for 25 to 48core	Each			
20	F.3.6	Supply and install of stainless steel fibre optic cable tagging	Each			
21	T.1	Transportation of Materials from regional of headquarter store to site using 1 Ton / 3 Ton lor	Each			
22	C.4.6	Hacking and resurfacing of wall	Each			
23	C.1.12	Supply and install minimum 40mm HDPE pipe	Meter			
24	F.1.9	Supply of joint closure (2way) with braket	Each			
25	F.2.19	Straight jointing and install of splice closure for underground install from 25 core up to 48	Each			
26	CP.1.1	EC Competent person e) 132kV	Per Day			
TOTAL						

Section 1: OSP Summary

Item	Description Activity	Qty	Unit
	Overall OSP Proposed Civil Infra. Design Distance		
1	Horizontal Directional Drilling 1 Way	7273	m
2	Horizontal Directional Drilling 2 Way		
3	Trenching in Carriageway		
4	Trenching in Grass Verge	10	m
5	Supply & Install GI 50mm	25	m
6	Supply & Install Manhole JRC7	31	Each
ISP Cable length from PMU Jalan Gopeng to SSU Unisem		8000	m

3rd Parties Dependencies

Item	Parties Involve
Building Owners	PMU GPRD 8L5
Building Owners	PPU GNRT 2P5

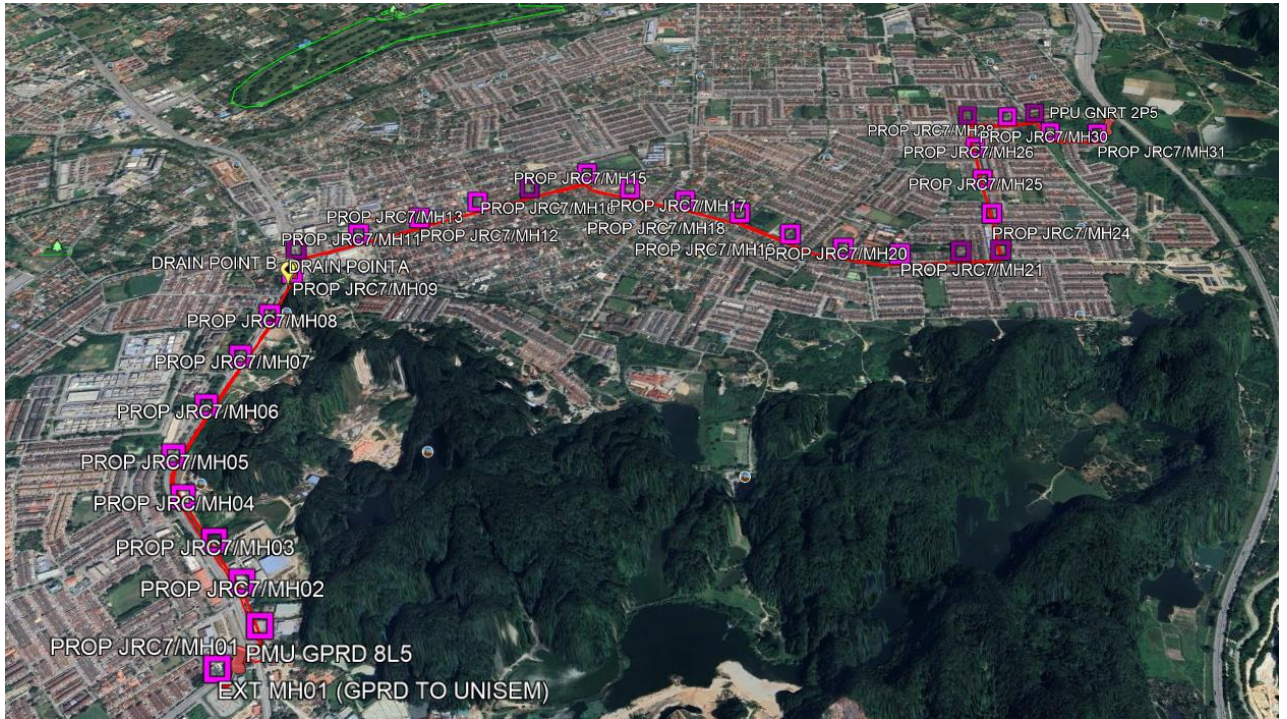
Other Highlights/Remarks

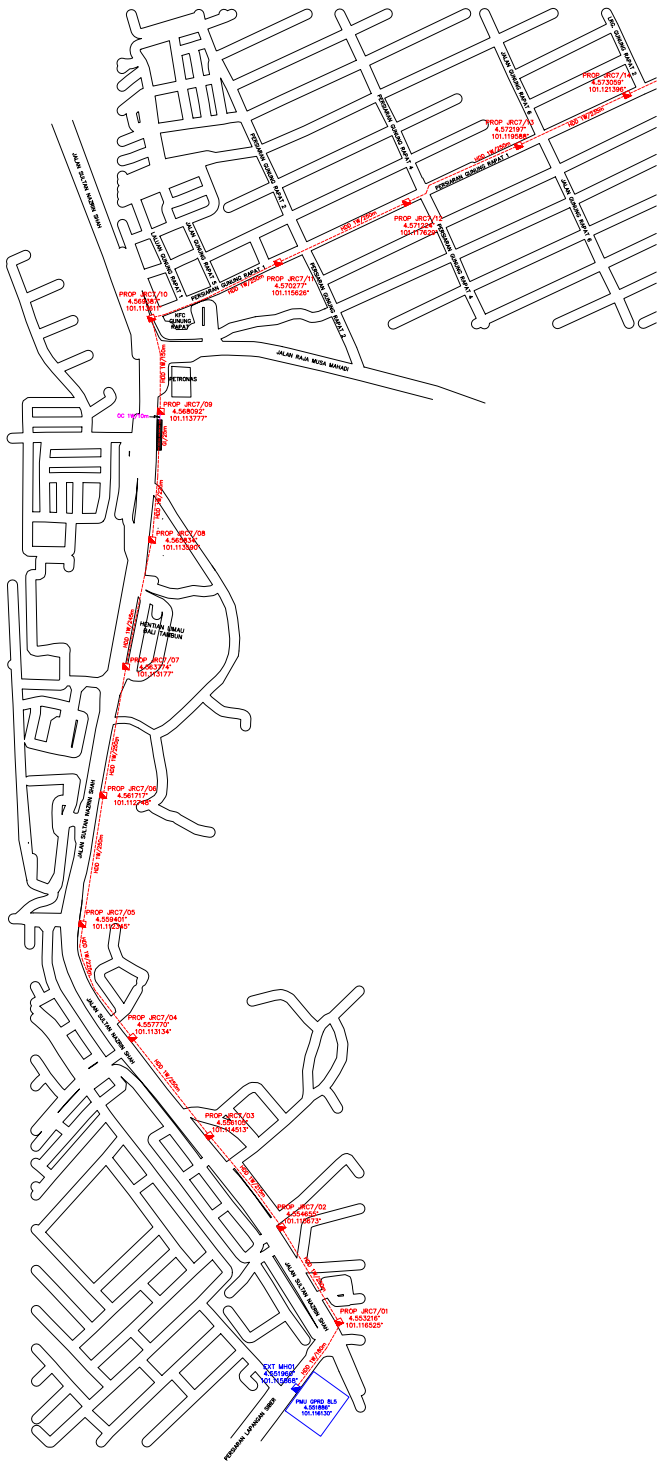
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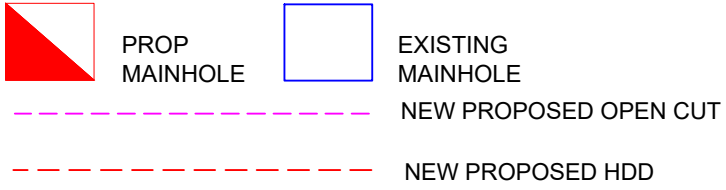
Section 2: Proposed Manhole Coordinates

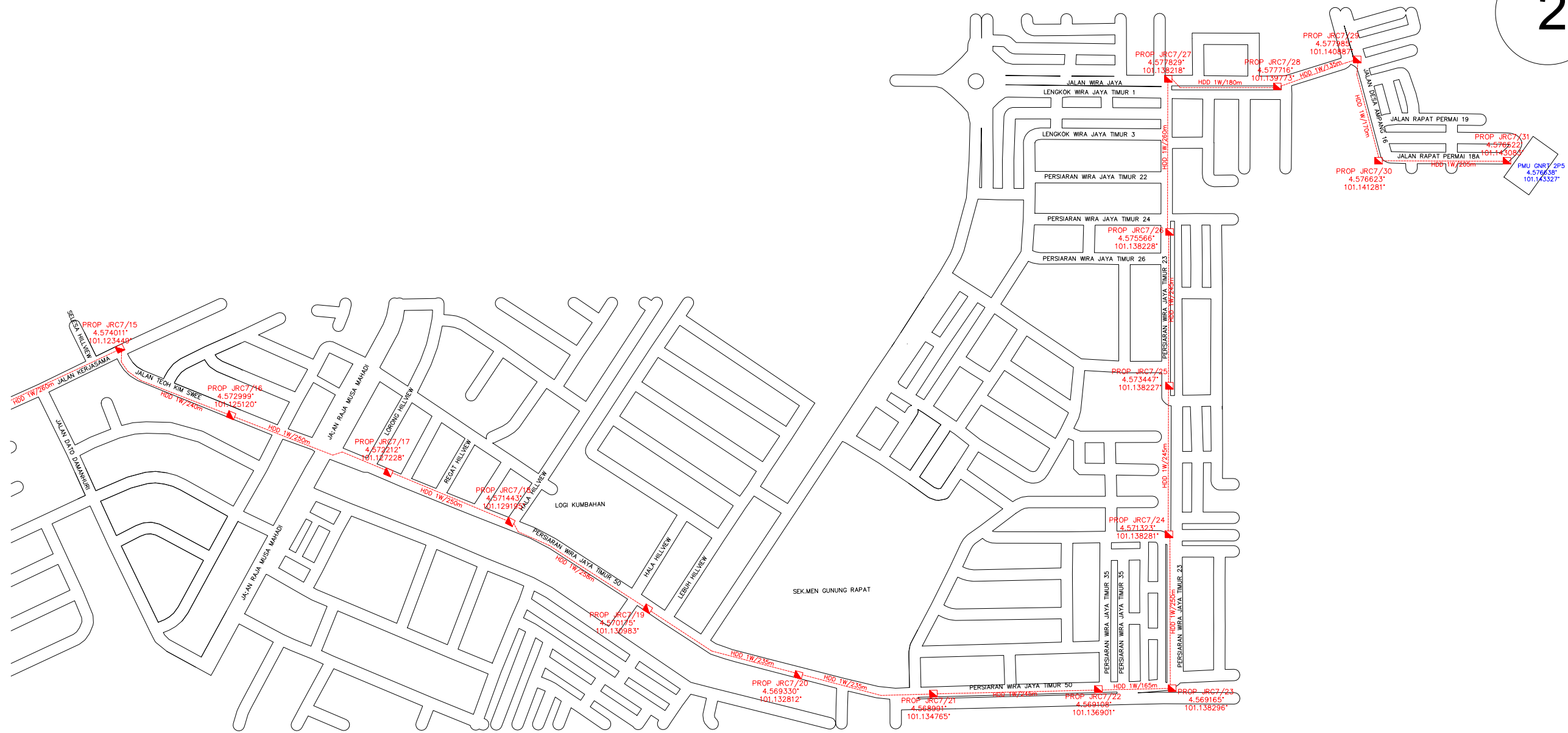
No	Manhole No.	Latitude	Longitude
1	PMU GPRD 8L5	4.551886°	101.116130°
2	EXT MH01(GPRD TO UNISEM)	4.551849°	101.115792°
3	PROP JRC7/01	4.553216°	101.116525°
4	PROP JRC7/02	4.554655°	101.115673°
5	PROP JRC7/03	4.556105°	101.114513°
6	PROP JRC7/04	4.557770°	101.113134°
7	PROP JRC7/05	4.559399°	101.112357°
8	PROP JRC7/06	4.561532°	101.112719°
9	PROP JRC7/07	4.563774°	101.113177°
10	PROP JRC7/08	4.565834°	101.113590°
11	PROP JRC7/09	4.568092°	101.113777°
12	PROP JRC7/10	4.569387°	101.113611°
13	PROP JRC7/11	4.570277°	101.115626°
14	PROP JRC7/12	4.571224°	101.117629°
15	PROP JRC7/13	4.572197°	101.119588°
16	PROP JRC7/14	4.573059°	101.121396°
17	PROP JRC7/15	4.574011°	101.123449°
18	PROP JRC7/16	4.572999°	101.125120°
19	PROP JRC7/17	4.572221°	101.127191°
20	PROP JRC7/18	4.571443°	101.129195°
21	PROP JRC7/19	4.570175°	101.130983°
22	PROP JRC7/20	4.569330°	101.132812°
23	PROP JRC7/21	4.568991°	101.134765°
24	PROP JRC7/22	4.569108°	101.136901°
25	PROP JRC7/23	4.569165°	101.138296°
26	PROP JRC7/24	4.571323°	101.138281°
27	PROP JRC7/25	4.573447°	101.138227°
28	PROP JRC7/26	4.575566°	101.138228°
29	PROP JRC7/27	4.577829°	101.138218°
30	PROP JRC7/28	4.577716°	101.139773°
31	PROP JRC7/29	4.577985°	101.140887°
32	PROP JRC7/30	4.576623°	101.141281°
33	PROP JRC7/31	4.576522°	101.143083°
34	PPU GNRT 2P5	4.576638°	101.143327°


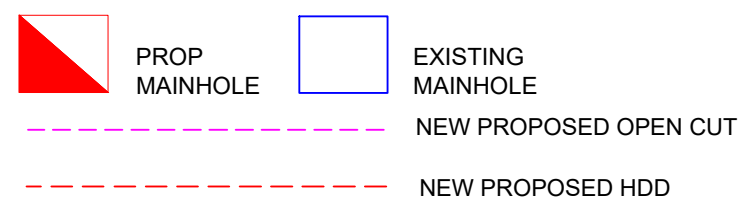
Section 3: OSP & ISP Routing Plan (Overall Routing)





	Management Information		Project Owner : TNB-IT Sdn Bhd Level 27, Bangunan Dua Sentral No.8, Jalan Tun Sambanthan 50470, Kuala Lumpur		Prepared By (Contractor) :		Northern	Exchange Area: PMU GPRD 8L5 TO PMU GNRT 2P5		NTS
	Total Distance	7308m	Revision No : Submission Date:		Checked By :			LOA Reference No./Contract No. :		
	Total Length of Duct (KM) :						Drawing Title :			
	Total Distance (GG) : Total No. of Manhole : Total No. of Handhole :	31 Units					FIBER OPTIC FROM PMU GPRD 8L5 TO GNRT 2P5			
	Total No. of Pole :		Ammended By :		Approved By :		Drawing No :			
	Management Information									
	Total No. of Street Cabinet (e.g. CCC, FEDB)									



	Management Information		Project Owner : TNB-IT Sdn Bhd Level 27, Bangunan Dua Sentral No.8, Jalan Tun Sambanthan 50470, Kuala Lumpur		Prepared By (Contractor) :		Exchange Area: PMU GPRD 8L5 TO PMU GNRT 2P5		NTS		
	Total Distance	7308m	Revision No : Submission Date:		Checked By :		LOA Reference No./Contract No. :				
Total Length of Duct (KM) :		Total Distance (GG) : Total No. of Manhole : Total No. of Handhole :		31 Units		Approved By :		Drawing Title :			
Total No. of Pole :		Management Information		Ammended By :		Approved By :		FIBER OPTIC FROM PMU GPRD 8L5 TO GNRT 2P5			
		Total No. of Street Cabinet (e.g. CCC, FEDB)						Drawing No :			

PMU GOPENG ROAD
GPRD 8L5



**TENAGA
NASIONAL**



PROP
MAINHOLE



EXISTING
MAINHOLE



NEW PROPOSED OPEN CUT



NEW PROPOSED HDD

Management Information

Total Distance 7308m

Total Length of Duct (KM) :

Total Distance (GG) :

Total No. of Manhole : 31 Units

Total No. of Handhole :

Total No. of Pole :

Management Information

Total No. of Street Cabinet
(e.g. CCC, FEDB)

Project Owner :
TNB-IT Sdn Bhd
Level 27, Bangunan
Dua Sentral
No.8, Jalan Tun Sambanthan
50470, Kuala Lumpur

Revision No : Submission Date:

Ammended By :

Prepared By (Contractor) :

Checked By :

Approved By :

Northern

Exchange Area:

PMU GPRD 8L5
TO
PMU GNRT 2P5

NTS

LOA Reference No./Contract No. :

Drawing Title :

FIBER OPTIC FROM PMU GPRD 8L5 TO
GNRT 2P5

Drawing No :

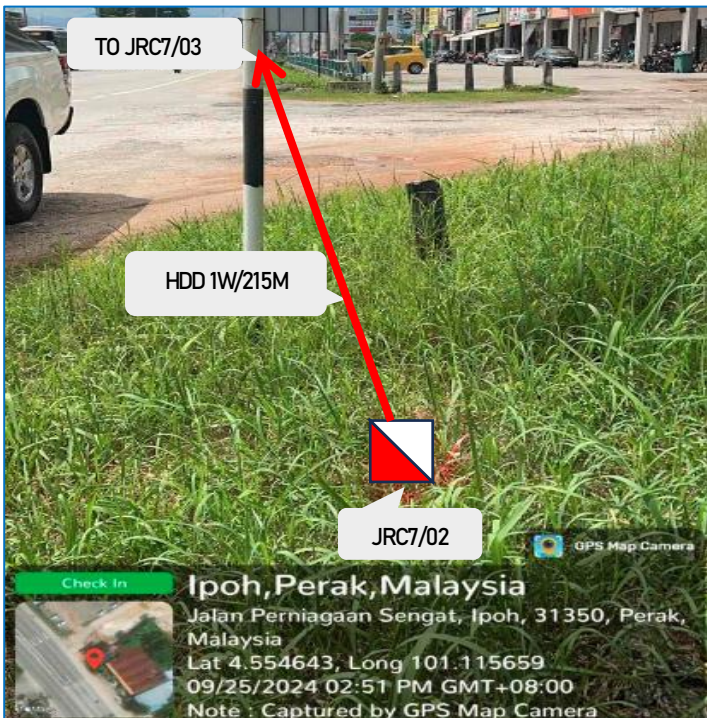
Section 5: OSP Snapshot/Photo



EXT MH01 AT JALAN PESIARAN SIBER 1 (ROADSIDE)



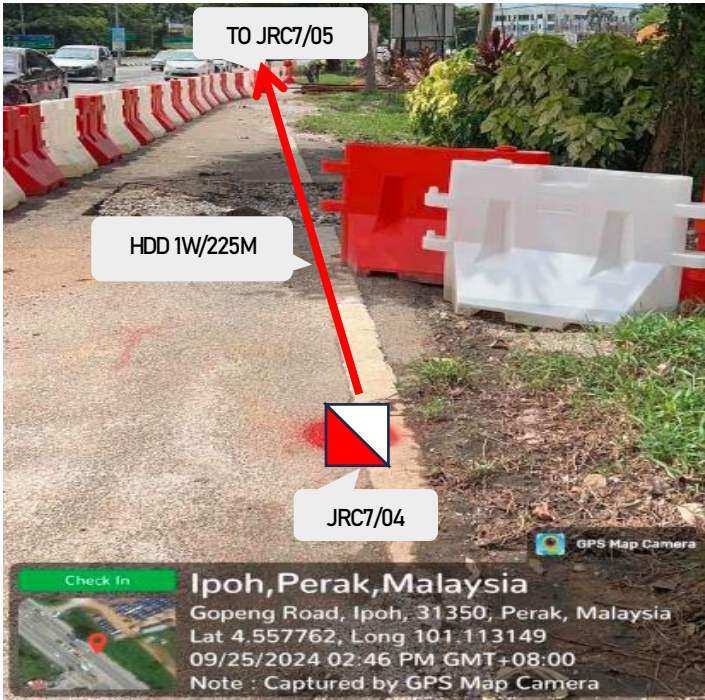
PROP JRC7/01 AT JALAN SULTAN NAZRIN SHAH (ROADSIDE)



PROP JRC7/02 AT JALAN SULTAN NAZRIN SHAH (ROADSIDE)



PROP JRC7/03 AT JALAN SULTAN NAZRIN SHAH (ROADSIDE)



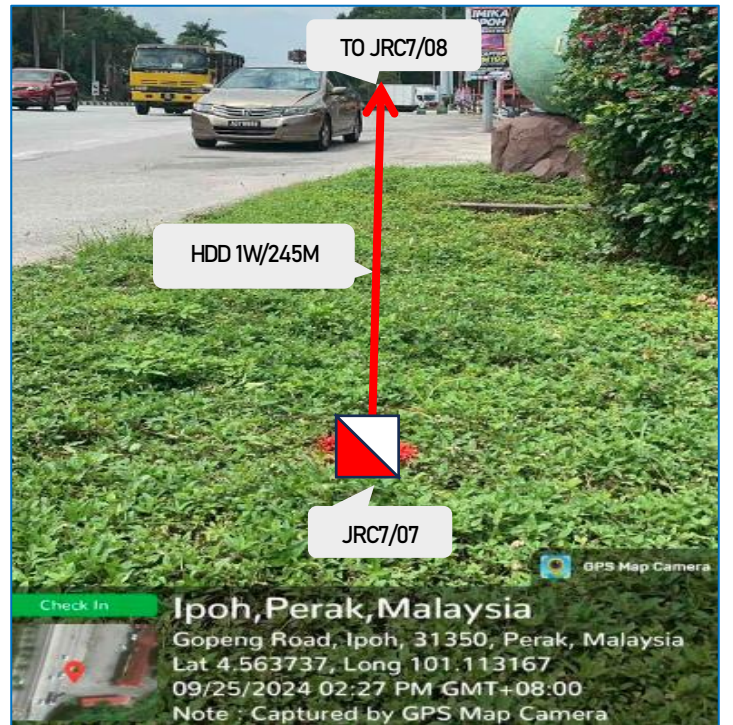
PROP JRC7/04 AT JALAN SULTAN NAZRIN SHAH (ROADSIDE)



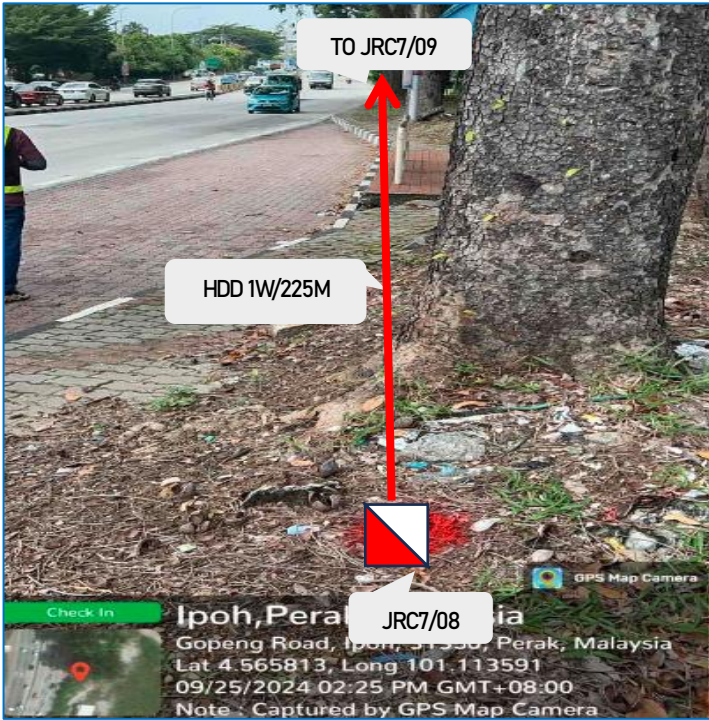
PROP JRC7/05 AT JALAN SULTAN NAZRIN SHAH (ROADSIDE)



PROP JRC7/06 AT JALAN SULTAN NAZRIN SHAH (ROADSIDE)



PROP JRC7/07 AT JALAN SULTAN NAZRIN SHAH (ROADSIDE)



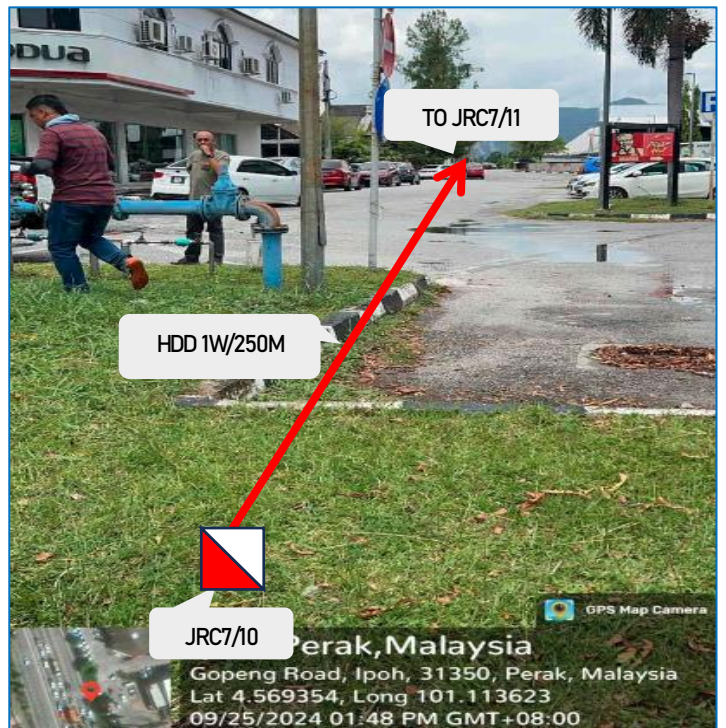
PROP JRC7/08 AT JALAN SULTAN NAZRIN SHAH (ROADSIDE)



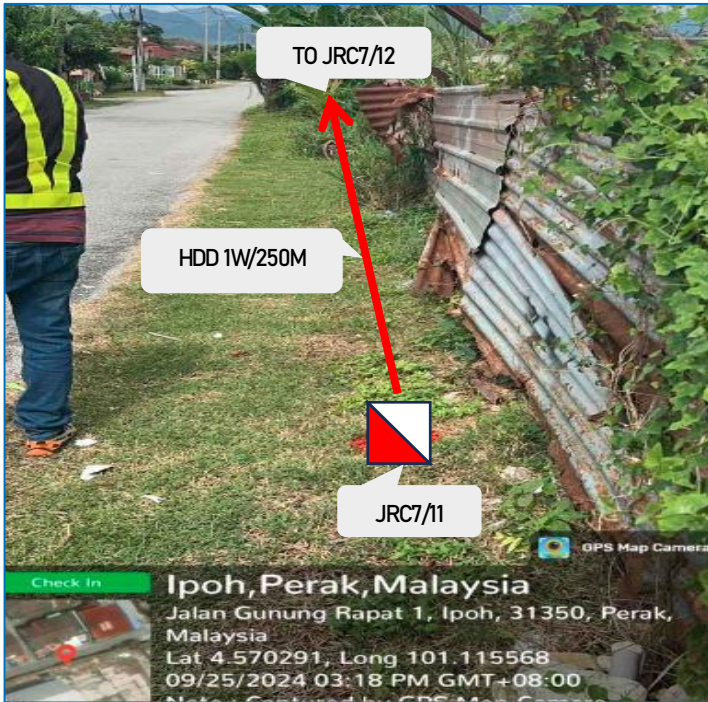
PROP CABLE ROUTING VIA GI FOR RIVER CROSSING



PROP JRC7/09 AT JALAN SULTAN NAZRIN SHAH (ROADSIDE)



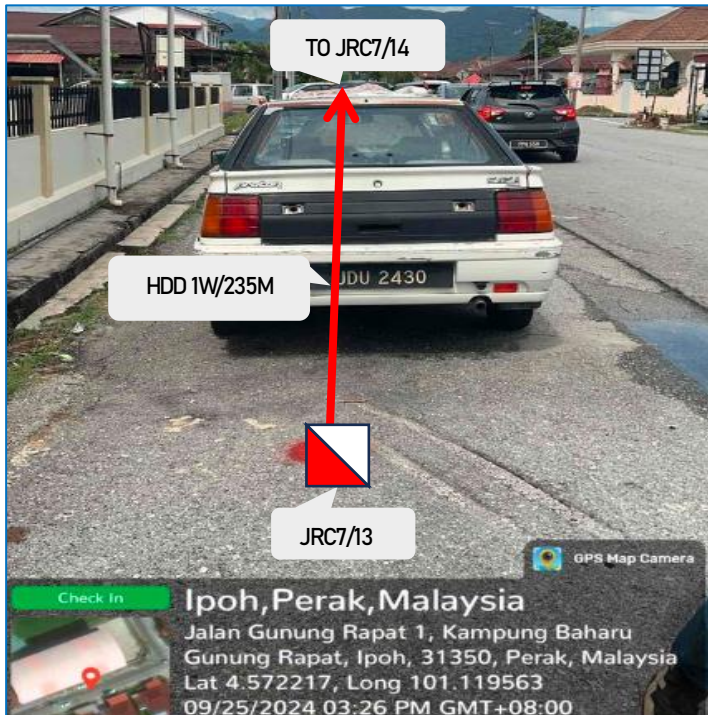
PROP JRC7/10 AT JALAN SULTAN NAZRIN SHAH (ROADSIDE)



PROP JRC7/11 AT PESIARAN GUNUNG RAPAT 1 (ROADSIDE)



PROP JRC7/12 AT PESIARAN GUNUNG RAPAT 1 (ROADSIDE)



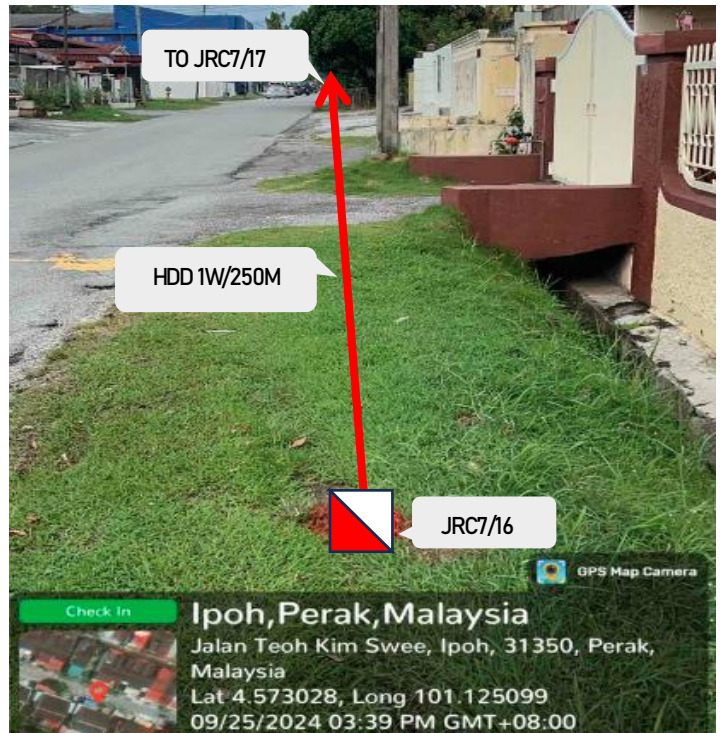
PROP JRC7/13 AT PESIARAN GUNUNG RAPAT 1 (ROADSIDE)



PROP JRC7/14 AT JALAN KERJASAMA (ROADSIDE)



PROP JRC7/15 AT JALAN KERJASAMA (ROADSIDE)



PROP JRC7/16 AT JALAN TEOH KIM SWEE (ROADSIDE)



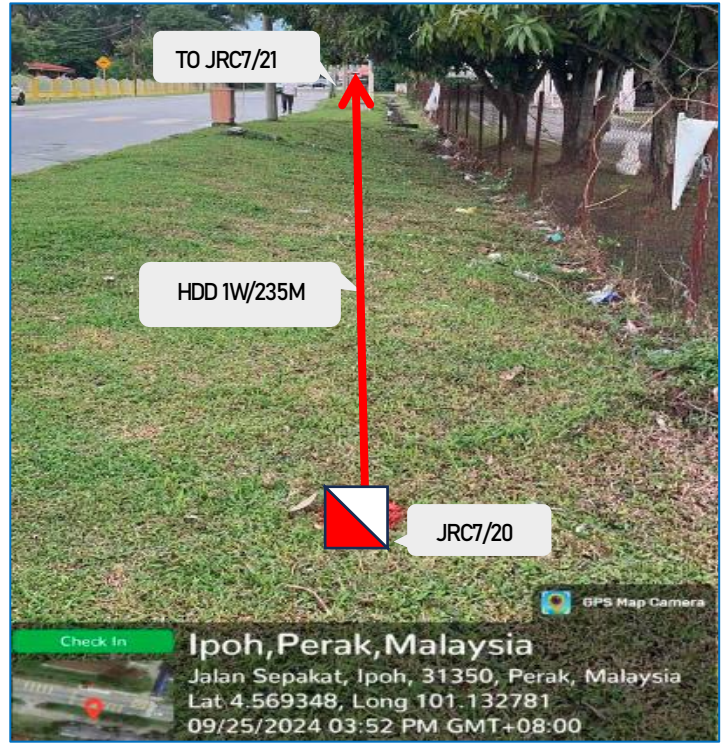
PROP JRC7/17 AT JALAN TEOH KIM SWEE (ROADSIDE)



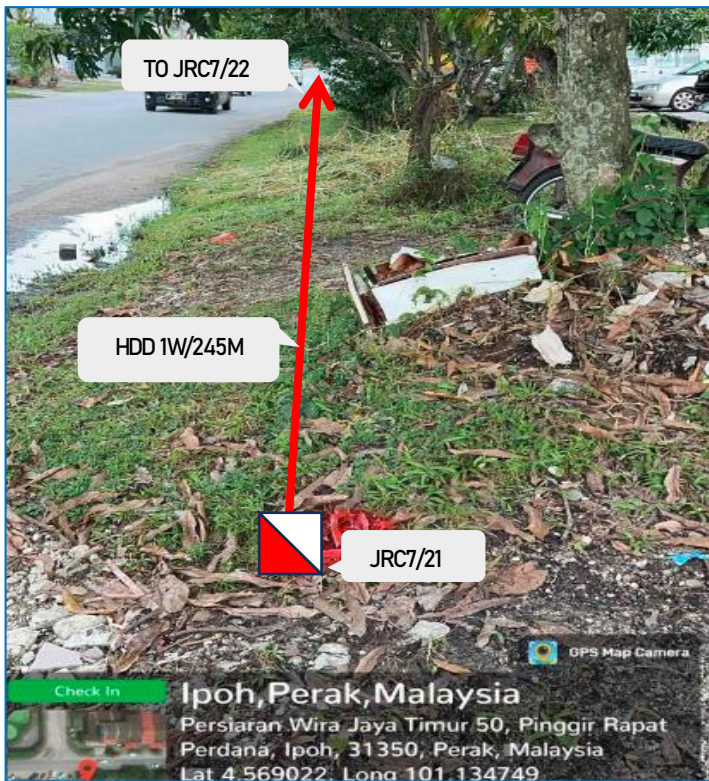
PROP JRC7/18 AT JLN PESIARAN WIRA JAYA 50 (ROADSIDE)



PROP JRC7/19 AT JLN PESIARAN WIRA JAYA 50 (ROADSIDE)



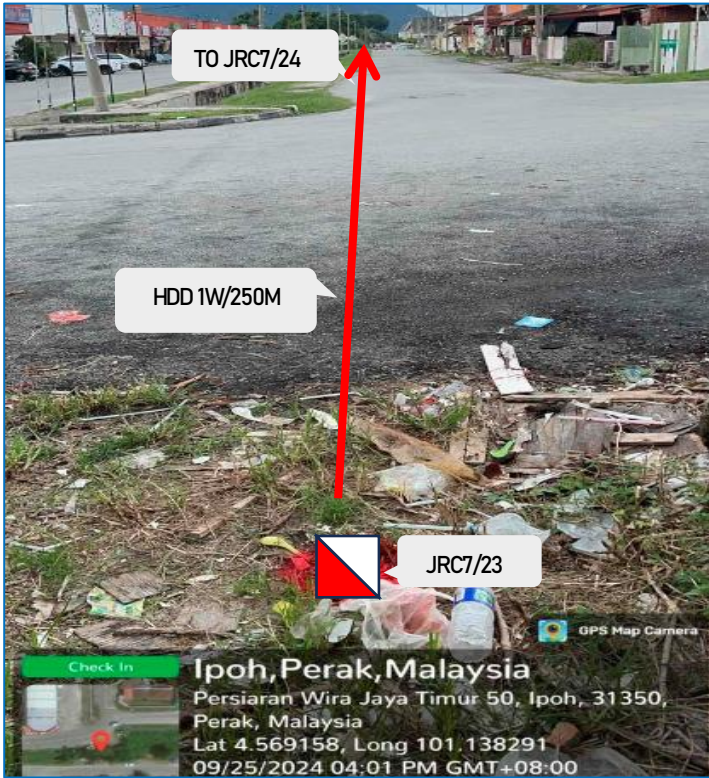
PROP JRC7/20 AT JLN PESIARAN WIRA JAYA 50 (ROADSIDE)



PROP JRC7/21 AT JLN PESIARAN WIRA JAYA 50 (ROADSIDE)



PROP JRC7/22 AT JLN PESIARAN WIRA JAYA 50 (ROADSIDE)



PROP JRC7/23 AT JLN PESIARAN WIRA JAYA 50 (ROADSIDE)



PROP JRC7/24 AT PESIARAN WIRA JAYA TIMUR 23 (ROADSIDE)



PROP JRC7/25 AT PESIARAN WIRA JAYA TIMUR 23 (ROADSIDE)



PROP JRC7/26 AT PESIARAN WIRA JAYA TIMUR 23 (ROADSIDE)



PROP JRC7/27 AT JALAN WIRA JAYA (ROADSIDE)



PROP JRC7/28 AT JALAN WIRA JAYA (ROADSIDE)



PROP JRC7/29 AT JLN DESA AMPANG 16 (ROADSIDE)



PROP JRC7/30 AT JALAN RAPAT PERMAI 18A (ROADSIDE)



PROP JRC7/31 AT JALAN RAPAT PERMAI 18A (ROADSIDE)



Layout for PMU GPRD 8L5

ISP ROUTE IN PMU GPRD 8L5



Layout for PPU GNRT 2P5

ISP ROUTE IN PPU GNRT 2P5

