JABATAN PENGAIRAN & SALIRAN, SABAH

KAJIAN PELAN INDUK SALIRAN BANDAR SEMPORNA, SABAH

Contract No: JPS/N/SAB/PP/108/2019

(The Drainage Master Plan Study for Semporna Town, Sabah)

Volume 2: Technical Appendices
(Summary Of Data Collection)

FINAL REPORT

December 2021

In association with:

DHI

Submitted by:

MEGAMAS

MEGAMAS KONSULT SDN BHD
CIVIL & STRUCTURAL CONSULTING ENGINEERS
AND PROJECT MANAGEMENT
Lot 26, 3rd Floor, Block C, Heritage Plaza,
Off Jalan Lintas, 88300 Kota Kinabalu, Sabah
Tel : 016-9233648, Fax : 088-744244
Email : mmksb@hotmail.com

APPENDICES

-Figure E5:
Drawing Title: CADANGAN PEMBINAAN KOMPLEKS SUKAN SEMPORNA, SABAH.
(Source: JPS Tawau)

-Figure E6:
Drawing Title: CADANGAN PEMBINAAN PANGKALAN MARITIM AGENSI PENGUATKUASAAN MARITIM MALAYSIA (APMM) SEMPORNA, SABAH.
(Source: JPS Tawau)

-Figure E7:
Drawing Title: PROPOSED MIXED DEVELOPMENT ON CL125312334 AT BUBUL ROAD, SEMPORNA. (Source: JPS Tawau)

-Figure E8:
Drawing Title: CADANGAN PEMBANGUNAN KEDAI KOMERSIL DAN RUMAH KEDIAMAN SECARA USAHASAMA DI PL 0126290588, JALAN BUBUL, SEMPORNA, SABAH.
(Source: JPS Tawau)

-Figure E9:
Drawing Title: PROPOSED BUS TERMINAL ON PORTION OF NT.12302173 FOR MAJLIS DAERAH SEMPORNA AT KG. BUBUL, OFF JALAN PANTAI KAMPUNG SELAMAT-KAMPUNG MENTELIP, DISTRICT OF SEMPORNA.
(Source: JPS Tawau)

-Figure E10:
Drawing Title: CADANGAN MENAIKTARAF KEMUDAHAN AWAM/ JETI AWAM DI ATAS LOT TANAH SEMPORNA, SABAH.
(Source: JPS Tawau)

-Figure E11:
Drawing Title: CADANGAN MEMBINA KEDAI 2-TINGKAT DI ATAS LOT T.L127501151, SEMPORNA, SABAH.
(Source: JPS Tawau)

Appendix F……………………………………………Population in Semporna Town

- **Table F1:** Population in Semporna Town (Source: Jabatan Perangkaan Malaysia)

Appendix G……………….PROPOSED DRAINAGEIMPROVEMENT WORKS AT SEMPORNA TOWNSHIP

APPENDIX A:

MAP & IMAGERY DATA

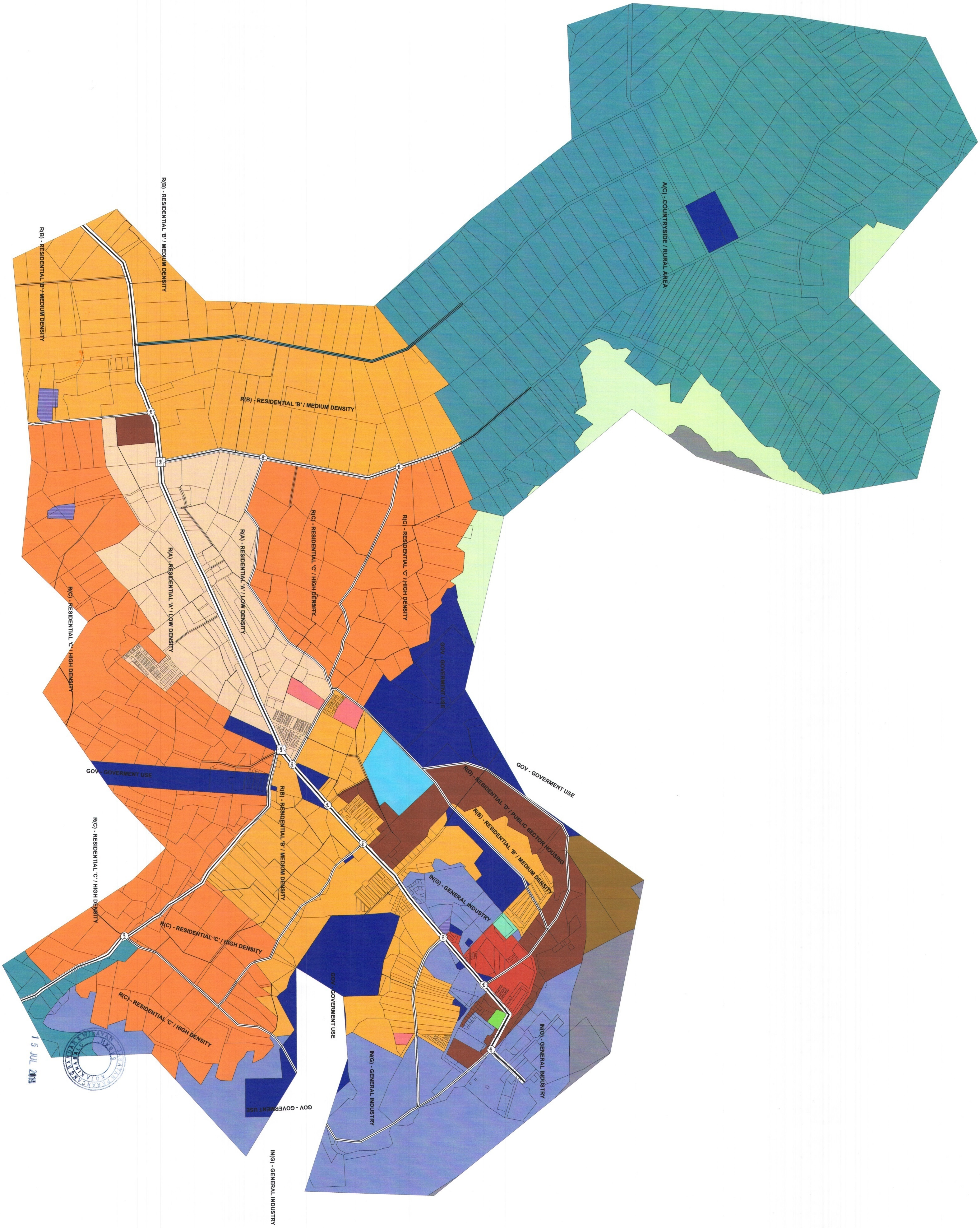


Figure A1: Semporna Local Plan (Updated 15 July 2019)

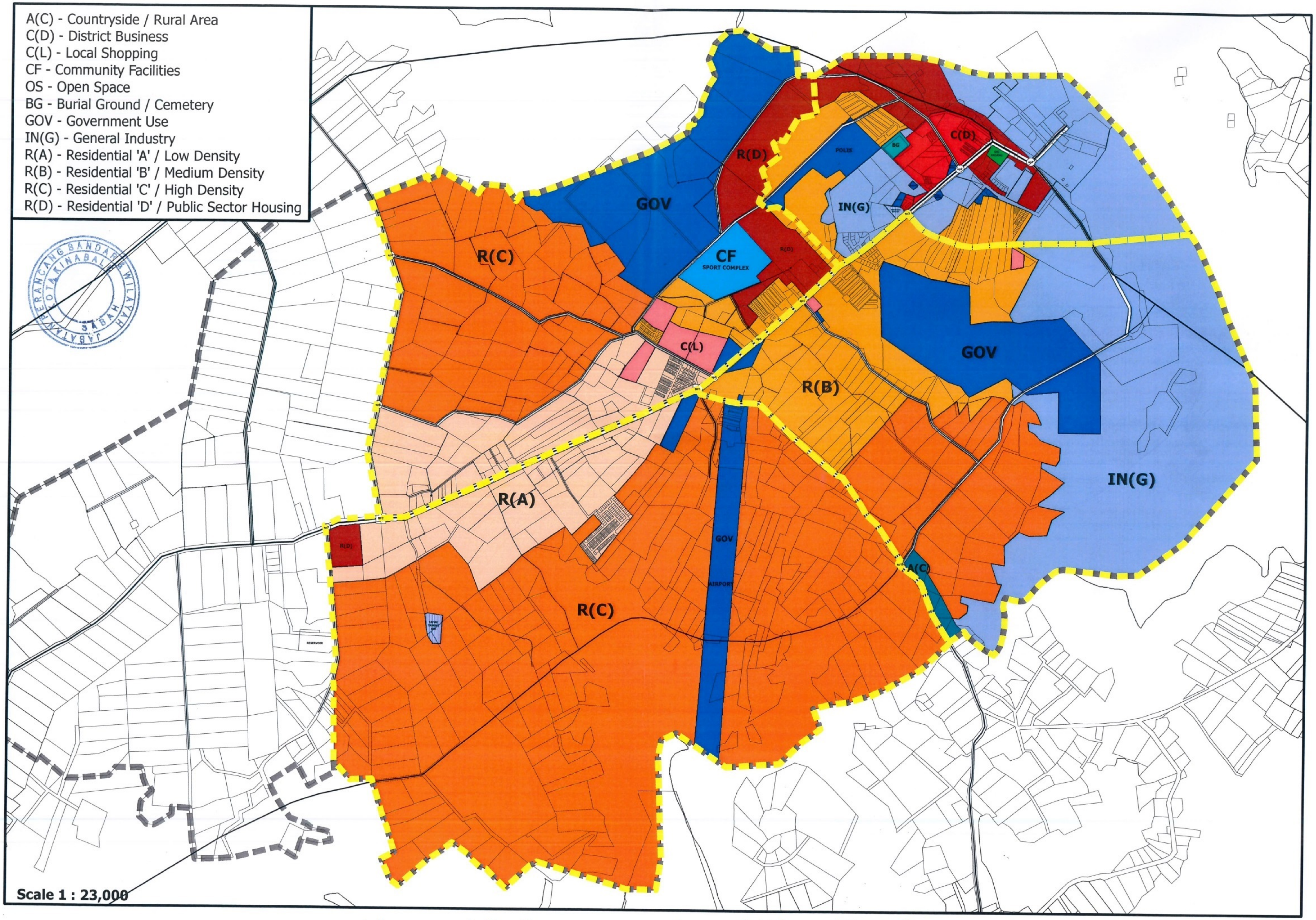


Figure A2: Semporna Local Plan (Drat)

Figure A3: Semporna Map

APPENDIX B:

DID FLOOD REPORTS

Ruj. Kami : JPS(TWU)600-1/1/2 klt.3/2017(01)
Tarikh : 17 Ogos 2017

Penolong Pengarah,
Bahagian Hidrologi,
Jabatan Pengairan dan Saliran,
Inanam
Tuan,

LAPORAN BANJIR KILAT DI BEBERAPA LOKASI DI DAERAH SEMPORNA

Dengan segala hormatnya, perkara di atas adalah dirujuk.

02. Untuk makluman pihak tuan, banjir kilat telah berlaku di beberapa lokasi di Daerah Semporna pada 26 Julai 2017 yang lalu. Lokasi yang dikenalpasti adalah seperti berikut:

a) Kg Bubul lama
b) Kg. Perigi
c) Taman Miramas

03. Bersama-sama ini disertakan laporan ringkas mengenai kejadian tersebut untuk perhatian dan rujukan pihak tuan.

Sekian dan terima kasih.

"BERKHIDMAT UNTUK NEGARA"

Saya yang menurut perintah,

(Jaffri Bahan)
Jurutera Daerah
Jabatan Pengairan dan Saliran,
Tawau.

SRJ/MZK

LAPORAN BANJIR DAERAH SEMPORNA (Laporan Ringkas) - 26 JULAI 2017

MASA & TARIKH BANJIR

03:37am – 07:07am
26 Julai 2017

LOKASI BANJIR

Kawasan yang mengalami banjir serta kedalamannya adalah seperti berikut :

Bil	Lokasi	Kedalaman Banjir (m)
1	Kg Bubul lama	0.1 – 0.7
2	Kg. Perigi	0.1 – 0.7
3	Taman Miramas	0.1 – 0.7

DATA HUJAN (STESEN SEMPORNA)

Tarikh	Bacaan (mm)	Masa
26 Julai 2017	145.00	0337 – 0707

PARAS AIR LAUT (26 Julai 2017)

26 Julai 2017 : Jam 0108 0.1m
Jam 0737 2.2m

PUNCA BANJIR

Punca banjir adalah seperti berikut:

1) Ianya berpunca daripada hujan lebat yang turun tanpa henti disusuli dengan ribut menyebabkan banjir di beberapa lokasi tertentu sejak jam 03.37am sehingga jam 07.07am pada 26 Julai 2017. Akibat daripada itu, keupayaan tanah untuk menyerap air hujan telah menurun dan seterusnya menyebabkan kadar aliran air larian permukaan *(surface runoff)* menjadi tinggi. Keadaan paras air laut pada masa itu juga menunjukkan bacaan yang agak tinggi iaitu 2.2m @ jam 0737 yang juga menyumbang kepada berlakunya banjir di kawasan perumahan berdekatan laut atau sekitarnya.

TINDAKAN YANG DIAMBIL

Wakil kakitangan JPS Tawau telah membuat tinjauan di lokasi-lokasi yang terlibat dengan banjir dan mendapati kawasan yang terlibat banjir hanya berlaku di lokasi-lokasi tertentu sahaja. Hasil tinjauan tersebut, kejadian banjir yang berlaku disyaki berpunca daripada tidak ada sistem saliran yang teratur di Daerah Semporna.

SYOR DAN CADANGAN

Masalah banjir ini boleh dikurangkan sekiranya Daerah Semporna mempunyai sistem saliran yang teratur. Cadangan permohonan Plan Induk Sistem Saliran untuk Daerah Semporna telah dipohon dan masih dalam proses untuk mendapatkan kelulusan.

SENARAI LAMPIRAN

Lampiran A - **Peta lokasi banjir**
Lampiran B - **Gambar banjir**

Lampiran A

TAMAN MIRAMAS

PERUMAHAN JALAN PERSISIR PANTAI (near taman miramas)

LAPORAN BANJIR DAERAH SEMPORNA (Laporan Ringkas) - 26 JULAI 2017

LAPORAN BANJIR DAERAH SEMPORNA (Laporan Ringkas) - 26 JULAI 2017

KAMPUNG PERIGI

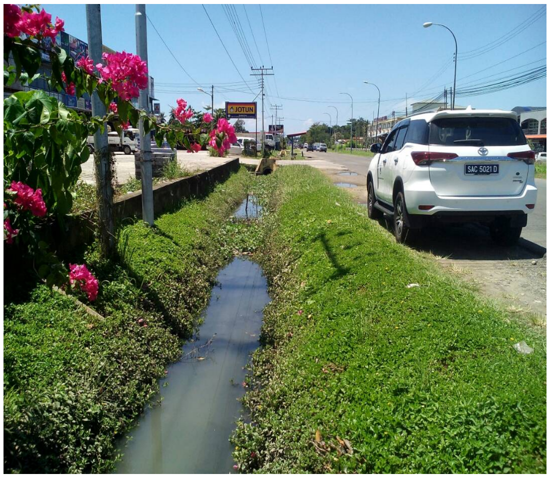
LAPORAN BANJIR DAERAH SEMPORNA (Laporan Ringkas) - 26 JULAI 2017

KAMPUNG BUBUL LAMA

LAPORAN BANJIR DAERAH SEMPORNA (Laporan Ringkas) - 26 JULAI 2017

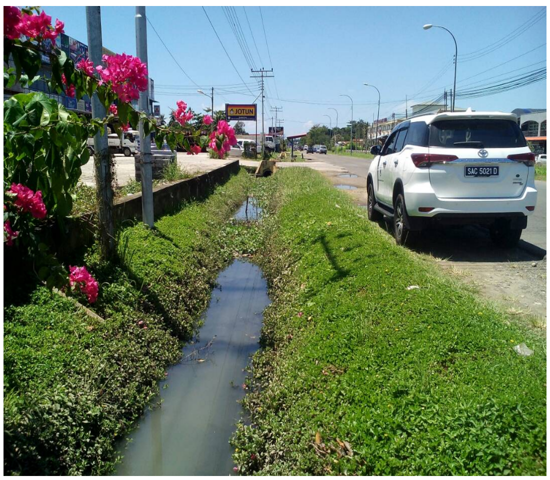
KEADAAN SISTEM SALIRAN SEDIA ADA DI DAERAH SEMPORNA

LAPORAN BANJIR DAERAH SEMPORNA (Laporan Ringkas) - 26 JULAI 2017





LAPORAN BANJIR DAERAH SEMPORNA (Laporan Ringkas) - 26 JULAI 2017



LAPORAN BANJIR DAERAH SEMPORNA (Laporan Ringkas) - 26 JULAI 2017

LAPORAN BANJIR DAERAH SEMPORNA (Laporan Ringkas) - 26 JULAI 2017

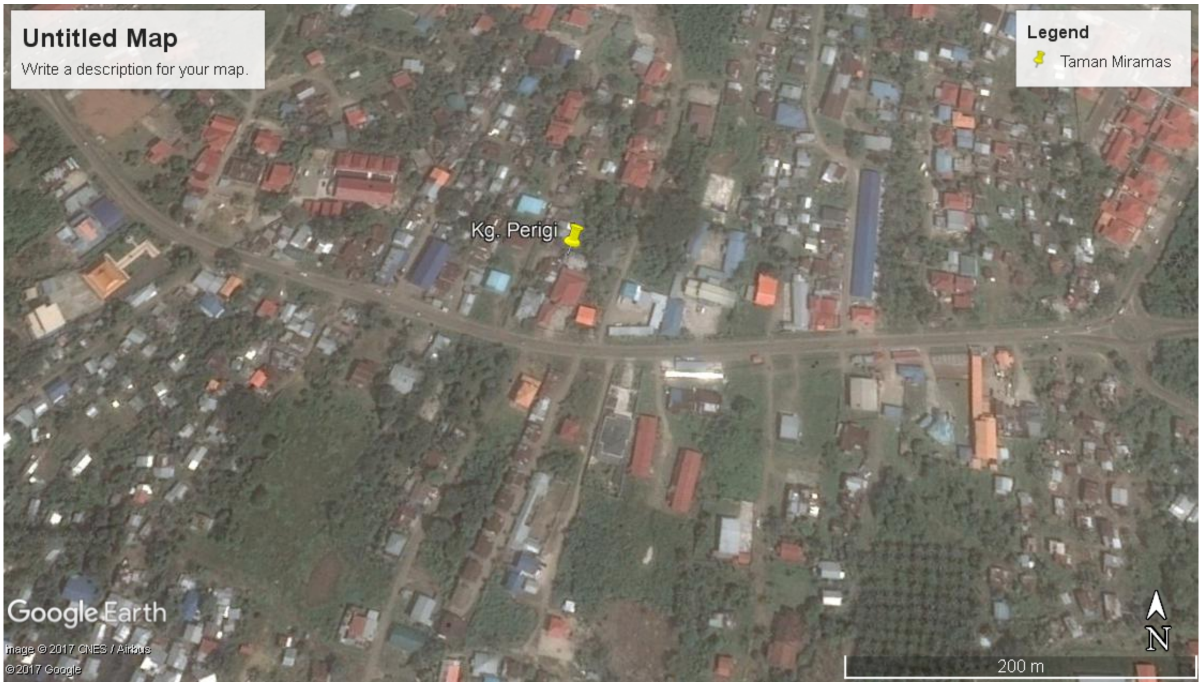
LAPORAN BANJIR DAERAH SEMPORNA (Laporan Ringkas) - 26 JULAI 2017

Lampiran B

KG. BUBUL LAMA

KG. PERIGI

LAPORAN BANJIR DAERAH SEMPORNA (Laporan Ringkas) - 26 JULAI 2017



TAMAN MIRAMAS

APPENDIX C:
DID HYDROLOGICAL DATA FOR ANALYSIS UNDER THE STUDY

JABATAN PENGAIRAN DAN SALIRAN
INANAM
Bahagian Hidrologi dan Ukur
Lorong Burung Keleto
89350, Inanam, Kota Kinabalu
Sabah, Malaysia

Telefon : 088-430689
No. Faks : 088-432780
Email : jpsssi1@tm.net.my

RUJ KAMI : JPS(H)/1/2/4/6 Pt.13 (78)

TARIKH : 21 Februari 2020

NG CHIEN FAAN DONALD
MEGAMAS KONSULT SDN BHD
Lot 25, 3rd Flr, Block C,
Heritage Plaza, Off Jalan Lintas,
88300 Kota Kinabalu
SABAH

Tuan,

KAJIAN PELAN INDUK SALIRAN BANDAR SEMPORNA, SABAH-Request for Hydrological Information for Year 2019

Dengan hormatnya, merujuk surat tuan yang bernombor ruj: MK1802/32 bertarikh 07 Januari 2020 mengenai dengan perkara di atas adalah berkaitan.

2. Bersama ini disertakan maklumat stesen dan data yang akan dikirim melalui emel ke alamat **mmksb@hotmail.com** seperti yang didalam lampiran A. Untuk makluman tuan maklumat data bagi data Sedimen tiada dalam simpanan dan data Evaporation hanya setakat tahun 2018.

3. Tiada sebarang bahagian data berkenaan dibenarkan untuk disalin atau dicetak untuk tujuan lain dan haruslah digunakan semata-mata untuk projek yang dimaksudkan atas budibicara sendiri.

Sekian, harap maklum.

"BERKHIDMAT UNTUK NEGARA DENGAN BERSIH, CEKAP DAN AMANAH"

Saya yang menjalankan amanah

(MOHD RIZAL ABD GHANI)
Penolong Jurutera
B.p Penolong Pengarah Kanan
Bahagian Hidrologi dan Ukur
INANAM

Mrg/jb

'BERJIMAT DAN MENABUNG AMALAN MULIA'
'JAYAKAN PERKHIDMATAN SEMPURNA'

P.K. 0376 (L) - 2001

2 5 NOV 2019

JABATAN PENGAIRAN DAN SALIRAN
INANAM
Bahagian Hidrologi dan Ukur
Lorong Burung Keleto
89350, Inanam, Kota Kinabalu
Sabah, Malaysia

Telefon : 088-430689
No. Faks : 088-432780
Email : jpsssi1@tm.net.my

RUJ KAMI : JPS(H)/1/2/4/6 Pt.13 (72)

TARIKH : 05 November 2019

NG CHIEN FAAN DONALD
MEGAMAS KONSULT SDN BHD
Lot 25, 3rd Flr, Block C,
Heritage Plaza, Off Jalan Lintas,
88300 Kota Kinabalu
SABAH

Tuan,

KAJIAN PELAN INDUK SALIRAN BANDAR SEMPORNA, SABAH

Dengan hormatnya, merujuk surat tuan yang bernombor ruj: MK1802/29 bertarikh 22 Oktober 2019 mengenai dengan perkara di atas adalah berkaitan.

2. Bersama ini disertakan maklumat stesen dan data yang akan dikirim melalui emel ke alamat **mmksb@hotmail.com** seperti yang didalam lampiran A.

3. Tiada sebarang bahagian data berkenaan dibenarkan untuk disalin atau dicetak untuk tujuan lain dan haruslah digunakan semata-mata untuk projek yang dimaksudkan atas budibicara sendiri.

Sekian, harap maklum.

"BERKHIDMAT UNTUK NEGARA DENGAN BERSIH, CEKAP DAN AMANAH"

Saya yang menurut perintah

(MOHD RIZAL ABD GHANI)
Penolong Jurutera
B.p Penolong Pengarah Kanan
Bahagian Hidrologi dan Ukur
INANAM

Mrg/jb

'BERJIMAT DAN MENABUNG AMALAN MULIA'
'JAYAKAN PERKHIDMATAN SEMPURNA'

JABATAN PENGAIRAN DAN SALIRAN
INANAM
Bahagian Hidrologi dan Ukur
Lorong Burung Keleto
89350, Inanam, Kota Kinabalu
Sabah, Malaysia

Telefon : 088-430689
No. Faks : 088-432780
Email : jpsssi1@tm.net.my

RUJ KAMI : JPS(H)/1/2/4/6 Pt.13 (59)

TARIKH : 22 Ogos 2019

NG CHIEN FOON DONALD
MEGAMAS KONSULT SDN BHD
Lot 25, 3rd Flr, Block C, Heritage Plaza,
Off Jalan Lintas, 88300 Kota Kinabalu
SABAH.

Tuan,

KAJIAN PELAN INDUK SALIRAN BANDAR SEMPORNA, SABAH-Request for Hydrological Information

Dengan hormatnya, merujuk emel tuan yang bertarikh 23 Julai 2019 mengenai dengan perkara di atas adalah berkaitan.

2. Bersama ini disertakan maklumat stesen dan data tambahan yang akan dikirim melalui emel ke alamat **mmksb@hotmail.com** seperti yang didalam lampiran A.

3. Tiada sebarang bahagian data berkenaan dibenarkan untuk disalin atau dicetak untuk tujuan lain dan haruslah digunakan semata-mata untuk projek yang dimaksudkan atas budibicara sendiri.

Sekian, harap maklum.

"BERKHIDMAT UNTUK NEGARA DENGAN BERSIH, CEKAP DAN AMANAH"

Saya yang menurut perintah

(MOHD RIZAL ABD GHANI)
Penolong Jurutera
B.p Penolong Pengarah Kanan
Bahagian Hidrologi dan Ukur
INANAM

Mrg/jb

JABATAN PENGAIRAN DAN SALIRAN
INANAM
Bahagian Hidrologi dan Ukur
Lorong Burung Keleto
89350, Inanam, Kota Kinabalu
Sabah, Malaysia

Telefon : 088-430689
No. Faks : 088-432780
Email : jpsssi1@tm.net.my

RUJ KAMI : JPS(H)/1/2/4/8 Pt.3 (91)

TARIKH : 17 Jun 2019

NG CHIEN FOON DONALD
MEGAMAS KONSULT SDN BHD
Lot 25, 3rd Flr, Block C, Heritage Plaza,
Off Jalan Lintas, 88300 Kota Kinabalu
SABAH.

Tuan,

KAJIAN PELAN INDUK SALIRAN BANDAR SEMPORNA, SABAH-Request for Hydrological Information

Dengan hormatnya, merujuk kepada surat tuan bernombor ruj : MK1802/06 yang bertarikh 07 Jun 2019 dan borang UDH-DI.1 bertarikh 10 Jun 2019 mengenai dengan perkara di atas adalah berkaitan.

2. Bersama ini disertakan maklumat stesen dan data yang akan dikirim melalui emel ke alamat **mmksb@hotmail.com** seperti yang didalam lampiran A.

3. Tiada sebarang bahagian data berkenaan dibenarkan untuk disalin atau dicetak untuk tujuan lain dan haruslah digunakan semata-mata untuk projek yang dimaksudkan atas budibicara sendiri.

Sekian, harap maklum.

"BERKHIDMAT UNTUK NEGARA DENGAN BERSIH, CEKAP DAN AMANAH"

Saya yang menurut perintah

(MOHD RIZAL ABD GHANI)
Penolong Jurutera
B.p Penolong Pengarah Kanan
Bahagian Hidrologi dan Ukur
INANAM

Mrg/jb

Lampiran A

Rainfall Data
Ruj Kami : JPS(H)/1/2/4/8 Pt.3 (91)
Tarikh : 17 Jun 2019

1HR, DAILY & INTENSITY

No	No. Stn	Nama Stn	Lat	Long	Jenis Data	Tempoh Data
1	4278004	KUHARA AT SABAH	4.2681	117.8881	RAINFALL	1988-2019
2	4474002	KALABAKAN AT SABAH	4.4464	117.4214	RAINFALL	1987-2018
3	4486001	SEMPORNA AIRPORT AT SABAH	4.4578	118.5947	RAINFALL	1989-2019
4	4581001	KALUMPANG AT SABAH	4.5934	118.1697	RAINFALL	1985-2006

No	No. Stn	Nama Stn	Lat	Long	Jenis Data	Tempoh Data
1	4278402	SG TAWAU AT KUHARA SABAH	4.2717	117.8881	WATER LEVEL	1983-2016
2	4278403	SG TAWAU AT JAMBATAN PUTIH SABAH	4.4167	117.8833	WATER LEVEL	1994-1999
3	4378401	SG TAWAU LADANG IMAM SABAH	4.3194	117.8878	WATER LEVEL	2000-2014
4	4381401	SG BALUNG AT BALUNG BRIDGE SABAH	4.3750	118.1050	WATER LEVEL	1992-2016
5	4581401	SG KALUMPANG AT MOSTYN BRIDGE SABAH	4.6444	118.1639	WATER LEVEL	1969-1977
6	4581402	SG KALUMPANG AT MOSTYN BRIDGE SABAH	4.6444	118.1639	WATER LEVEL	1979-2016

No	No. Stn	Nama Stn	Lat	Long	Jenis Data	Tempoh Data
1	4278402	SG TAWAU AT KUHARA SABAH	4.2717	117.8881	DISCHARGE	1983-2016
2	4278403	SG TAWAU AT JAMBATAN PUTIH SABAH	4.4167	117.8833	DISCHARGE	1994-1999
3	4378401	SG TAWAU LADANG IMAM SABAH	4.3194	117.8878	DISCHARGE	2000-2014
4	4381401	SG BALUNG AT BALUNG BRIDGE SABAH	4.3750	118.1050	DISCHARGE	1992-2016
5	4581401	SG KALUMPANG AT MOSTYN BRIDGE SABAH	4.6444	118.1639	DISCHARGE	1969-1977
6	4581402	SG KALUMPANG AT MOSTYN BRIDGE SABAH	4.6444	118.1639	DISCHARGE	1979-2016

No	No. Stn	Nama Stn	Lat	Long	Jenis Data	Tempoh Data
1	5274301	KUAMUT MET STN AT SABAH	4.2717	117.8881	EVA	1969-2015
2	5361301	KENINGAU MET STN AT SABAH	4.4167	117.8833	EVA	1966-2015
3	4278301	TAWAU MET STN AT SABAH	4.2583	117.8944	EVA	1968-1981

No	No. Stn	Nama Stn	Lat	Long	Jenis Data	Tempoh Data
1	4278402	SG TAWAU AT KUHARA SABAH	4.2717	117.8881	RATING CURVE	1983-2010
2	4278403	SG TAWAU AT JAMBATAN PUTIH SABAH	4.4167	117.8833	RATING CURVE	1994-1994
3	4378401	SG TAWAU LADANG IMAM SABAH	4.3194	117.8878	RATING CURVE	2000-2010
4	4381401	SG BALUNG AT BALUNG BRIDGE SABAH	4.3750	118.1050	RATING CURVE	1992-2006
5	4581401	SG KALUMPANG AT MOSTYN BRIDGE SABAH	4.6444	118.1639	RATING CURVE	1969-1969
6	4581402	SG KALUMPANG AT MOSTYN BRIDGE SABAH	4.6444	118.1639	RATING CURVE	1979-2005

No	No. Stn	Nama Stn	Lat	Long	Jenis Data	Tempoh Data
1	4278502	SG TAWAU AT KUHARA SABAH	4.2823	117.8819	SEDIMENT	1983-2006
2	4381501	SG BALUNG AT BALUNG BRIDGE SABAH	4.3764	118.1064	SEDIMENT	1992-2006
3	4581502	SG KALUMPANG AT MOSTYN BRIDGE SABAH	4.6444	118.1639	SEDIMENT	1970-2000

No	No. Stn	Nama Stn	Lat	Long	Jenis Data	Tempoh Data
1	4278402	SG TAWAU AT KUHARA SABAH	4.2717	117.8881	X-SECTION	2001
2	4278403	SG TAWAU AT JAMBATAN PUTIH SABAH	4.4167	117.8833	X-SECTION	1999
3	4378401	SG TAWAU LADANG IMAM SABAH	4.3194	117.8878	X-SECTION	2001-2008
4	4381401	SG BALUNG AT BALUNG BRIDGE SABAH	4.3750	118.1050	X-SECTION	1999-2010
5	4581402	SG KALUMPANG AT MOSTYN BRIDGE SABAH	4.6444	118.1639	X-SECTION	1999-002

1HR,DAILY&INTENSITY

No	No. Stn	Nama Stn	Lat	Long	Jenis Data	Tempoh Data
1	4278004	KUHARA AT SABAH	4.2681	117.8810	RAINFALL	1988-2019
2	4474002	KALABAKAN AT SABAH	4.4464	117.4214	RAINFALL	1987-2018
3	4486001	SEMPORNA AIRPORT AT SABAH	4.4578	118.5947	RAINFALL	1989-2019
4	4581001	KALUMPANG AT SABAH	4.5934	118.1697	RAINFALL	1985-2006

No	No. Stn	Nama Stn	Lat	Long	Jenis Data	Tempoh Data
1	4278402	SG TAWAU AT KUHARA SABAH	4.2717	117.8881	WATER LEVEL	1983-2016
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3	4378401	SG TAWAU LADANG IMAM SABAH	4.3194	117.8878	WATER LEVEL	2000-2014
4	4381401	SG BALUNG AT BALUNG BRIDGE SABAH	4.3750	118.1050	WATER LEVEL	1992-2016
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6	4581402	SG KALUMPANG AT MOSTYN BRIDGE SABAH	4.6444	118.1639	WATER LEVEL	1979-2016

No	No. Stn	Nama Stn	Lat	Long	Jenis Data	Tempoh Data
1	4278402	SG TAWAU AT KUHARA SABAH	4.2717	117.8881	DISCHARGE	1983-2016
2	4278403	SG TAWAU AT JAMBATAN PUTIH SABAH	4.4167	117.8833	DISCHARGE	1994-1999
3	4378401	SG TAWAU LADANG IMAM SABAH	4.3194	117.8878	DISCHARGE	2000-2014
4	4381401	SG BALUNG AT BALUNG BRIDGE SABAH	4.3750	118.1050	DISCHARGE	1992-2016
5	4581401	SG KALUMPANG AT MOSTYN BRIDGE SABAH	4.6444	118.1639	DISCHARGE	1969-1977
6	4581402	SG KALUMPANG AT MOSTYN BRIDGE SABAH	4.6444	118.1639	DISCHARGE	1979-2016

No	No. Stn	Nama Stn	Lat	Long	Jenis Data	Tempoh Data
1	5274301	KUAMUT MET STN AT SABAH	4.2717	117.8881	EVA	1969-2015
2	5361301	KENINGAU MET STN AT SABAH	4.4167	117.8833	EVA	1966-2015
3	4278301	TAWAU MET STN AT SABAH	4.2583	117.8944	EVA	1968-1981

No	No. Stn	Nama Stn	Lat	Long	Jenis Data	Tempoh Data
1	4278402	SG TAWAU AT KUHARA SABAH	4.2717	117.8881	RATING CURVE	1983-2010
2	4278403	SG TAWAU AT JAMBATAN PUTIH SABAH	4.4167	117.8833	RATING CURVE	1994-1994
3	4378401	SG TAWAU LADANG IMAM SABAH	4.3194	117.8878	RATING CURVE	2000-2010
4	4381401	SG BALUNG AT BALUNG BRIDGE SABAH	4.3750	118.1050	RATING CURVE	1992-2006
5	4581401	SG KALUMPANG AT MOSTYN BRIDGE SABAH	4.6444	118.1639	RATING CURVE	1969-1969
6	4581402	SG KALUMPANG AT MOSTYN BRIDGE SABAH	4.6444	118.1639	RATING CURVE	1979-2005

No	No. Stn	Nama Stn	Lat	Long	Jenis Data	Tempoh Data
1	4278502	SG TAWAU AT KUHARA SABAH	4.2823	117.8819	SEDIMENT	1983-2006
2	4381501	SG BALUNG AT BALUNG BRIDGE SABAH	4.3764	118.1064	SEDIMENT	1992-2006
3	4581502	SG KALUMPANG AT MOSTYN BRIDGE SABAH	4.6444	118.1639	SEDIMENT	1970-2000

No	No. Stn	Nama Stn	Lat	Long	Jenis Data	Tempoh Data
1	4278402	SG TAWAU AT KUHARA SABAH	4.2717	117.8881	X-SECTION	2001
2	4278403	SG TAWAU AT JAMBATAN PUTIH SABAH	4.4167	117.8833	X-SECTION	1999
3	4378401	SG TAWAU LADANG IMAM SABAH	4.3194	117.8878	X-SECTION	2001-2008
4	4381401	SG BALUNG AT BALUNG BRIDGE SABAH	4.3750	118.1050	X-SECTION	1999-2010
5	4581402	SG KALUMPANG AT MOSTYN BRIDGE SABAH	4.6444	118.1639	X-SECTION	1999-2002

Figure C1: Hydrological Network For The Present

1HR,DAILY&INTENSITY

No	No. Stn	Nama Stn	Lat	Long	Jenis Data	Tempoh Data
1	4278004	KUHARA AT SABAH	4.2681	117.8810	RAINFALL	1988-2019
2	4474002	KALABAKAN AT SABAH	4.4464	117.4214	RAINFALL	1987-2018
3	4486001	SEMPORNA AIRPORT AT SABAH	4.4578	118.5947	RAINFALL	1989-2019
4	4581001	KALUMPANG AT SABAH	4.5934	118.1697	RAINFALL	1985-2006

Figure C2: Rainfall Station

APPENDIX D:
IFSAR

Jurukur Professional

Registered Surveyor Licensed Under Surveyors Ordinance 1960 (Sabah)

Office: 088-211193 Fax: 088-311193 H/P: 016-8333278 e-Mail: jurukurprofessional@gmail.com

Company no: DBKK Lesen no. 582153

2nd floor, Lot 2, Wisma HCS
Jalan Kolam, Luyang, 88300
Kota Kinabalu, Sabah

P. O. Box: 11688 88818
Kota Kinabalu, Sabah

Innovative, Proactive and Committed

Our Ref: JPro/P20/300-(01)/jc
Your Ref: MK1802/31

02nd January 2020

Megamas Konsult Sdn. Bhd.,
Lot 26, 3rd floor, Block C, Heritage Plaza,
Off Jalan Lintas,
88300 Kota Kinabalu

Attention: Ir. Ng Chien Faan Donald

Dear Sir,

PROJECT: KAJIAN PELAN INDUK SALIRAN BANDAR SEMPORNA, SABAH
Mobile Lidar Scanning

Thank you for your letter of invitation ref: MK 1802/31 dated 18/12/2019.

We are pleased to inform your gododfice that data acquisition for Mobile LiDAR Scanning was completed on 28th December 2019. The based station for this LiDAR Scanning is based on Benchmark no. BM SA1162 from JUPEM.

Our submissions herewith one Data Bank contain Raw LiDAR data in LAS format for your perusal.

Should you require further information or clarification please do not hesitate to contact us.

Thank you.

Yours faithfully,
JURUKUR PROFESSIONAL

SABAH SURVEYORS ORDINANCE 1960
REG. NO. 0107
SIMON CHUNG CHEE KONG
REGISTERED & LICENSED LAND SURVEYOR

Sr. Simon Chung Chee Kong
Registered Surveyor Licensed under
Surveyors Ordinance 1960 (Sabah)
B.Sc.(Hon) Survey & Mapping Sc.(U.K.) MRISM

geoplanit
design | engineering | construction
No. 1050043-K

GeoPlanIT DEC Sdn Bhd
J-3A-16, Solaris Mont Kiara (SOHO KL),
Jalan Solaris, 50480, Mont Kiara, Kuala Lumpur
Tel: 03 7733 8200 / Fax: 03 7733 8802

Ref : G-20-011
Date : 25th May 2020

Megamas Konsult Sdb Bhd.
Lot 26, 3rd Floor, Block C,
Heritage Plaza, Off Jalan Lintas,
88300 Kota Kinabalu,
Sabah, Malaysia.
Attn: Ir. Donald Ng Chien Faan

Dear Sirs,

Project Drainage Master Plan Studies for Semporna, Sabah
: Provisional Archived PhoDAR Dataset – Final Data Delivery

Refer to above matter, we wish to inform that we have completed our data analysis and ready for Product delivery of archived PhoDAR dataset. The final data was compared with mobile laser scanning dataset given and it' was matching well accordingly. The dataset has been adjusted reference to local benchmark SA1162 from JUPEM.

2. The data package contains volume 884A00182N01 for Terrain and Orthophoto Product via new 3D capture technology called "PhoDAR" which is UAV photo data capturing with advanced processing technique of *Structure from Motion* (SfM) photogrammetry to derive following dataset: -

- Terrain DTM / DSM 1 meter in geotif file format
- Orthophoto 5cm in ecw file format

3. The archived PhoDAR dataset captured on May 2019 are delivered 'as-is'. Whilst every effort has been made to process data with thoroughness and diligence, minor deficiencies should be expected.

If you have any queries, please contact me via email eric@geoplanit.com.my . Your kind attention is highly appreciated.

Thank you.

Yours sincerely,

GeoPlanIT DEC Sdn Bhd 1050043-K

Choy Kam Thye
Project Manager

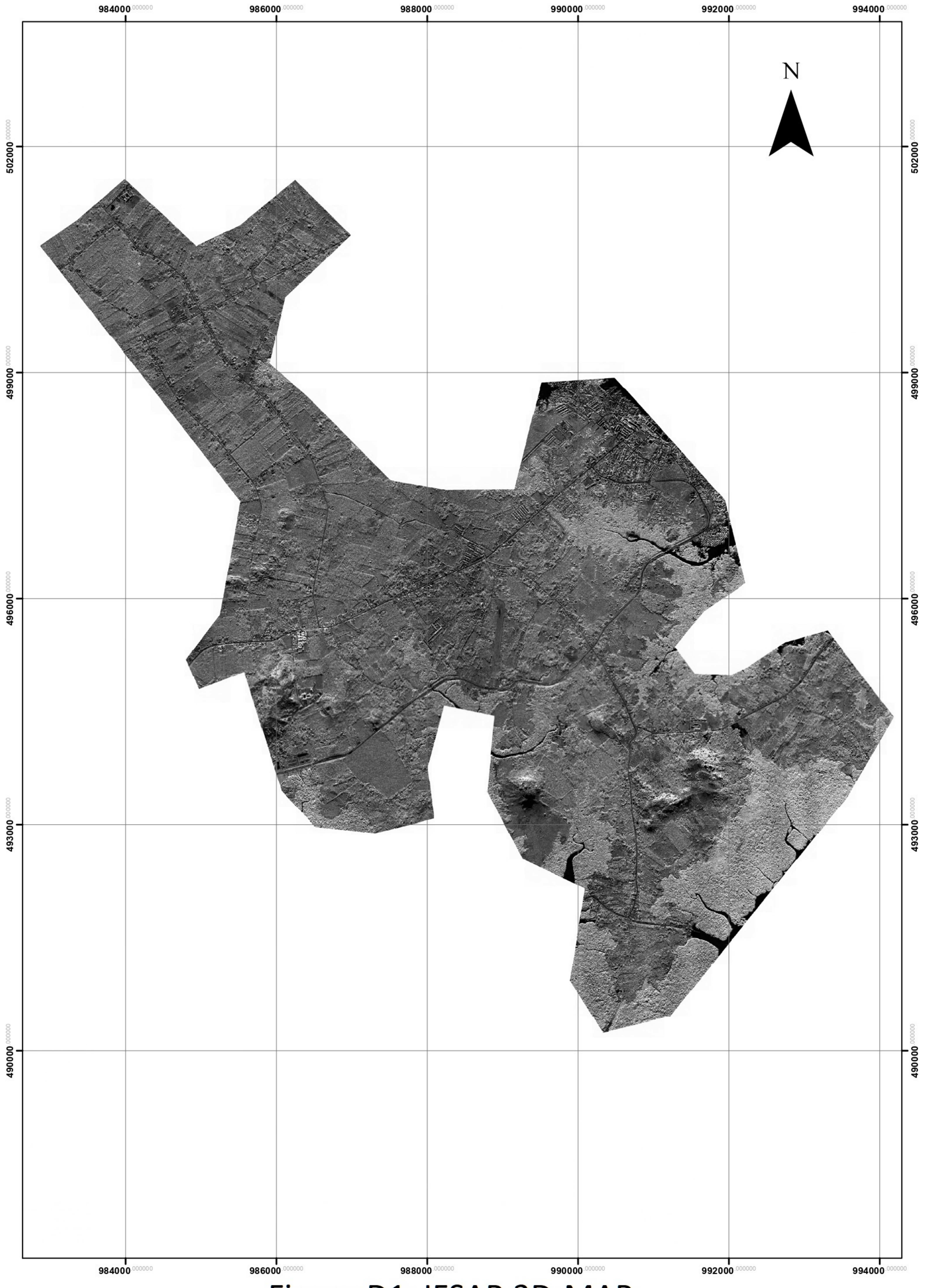


Figure D1: IFSAR 3D-MAP

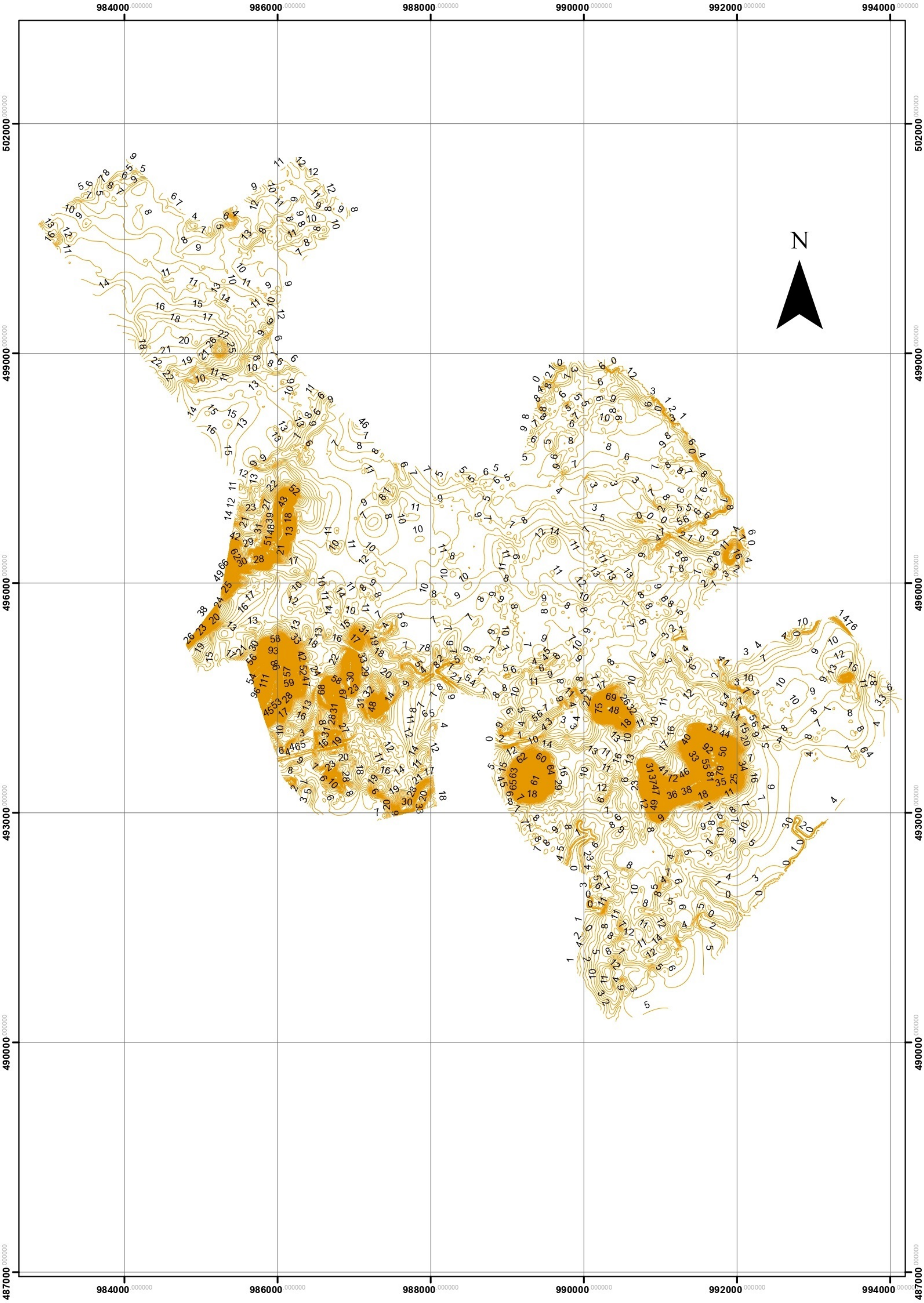
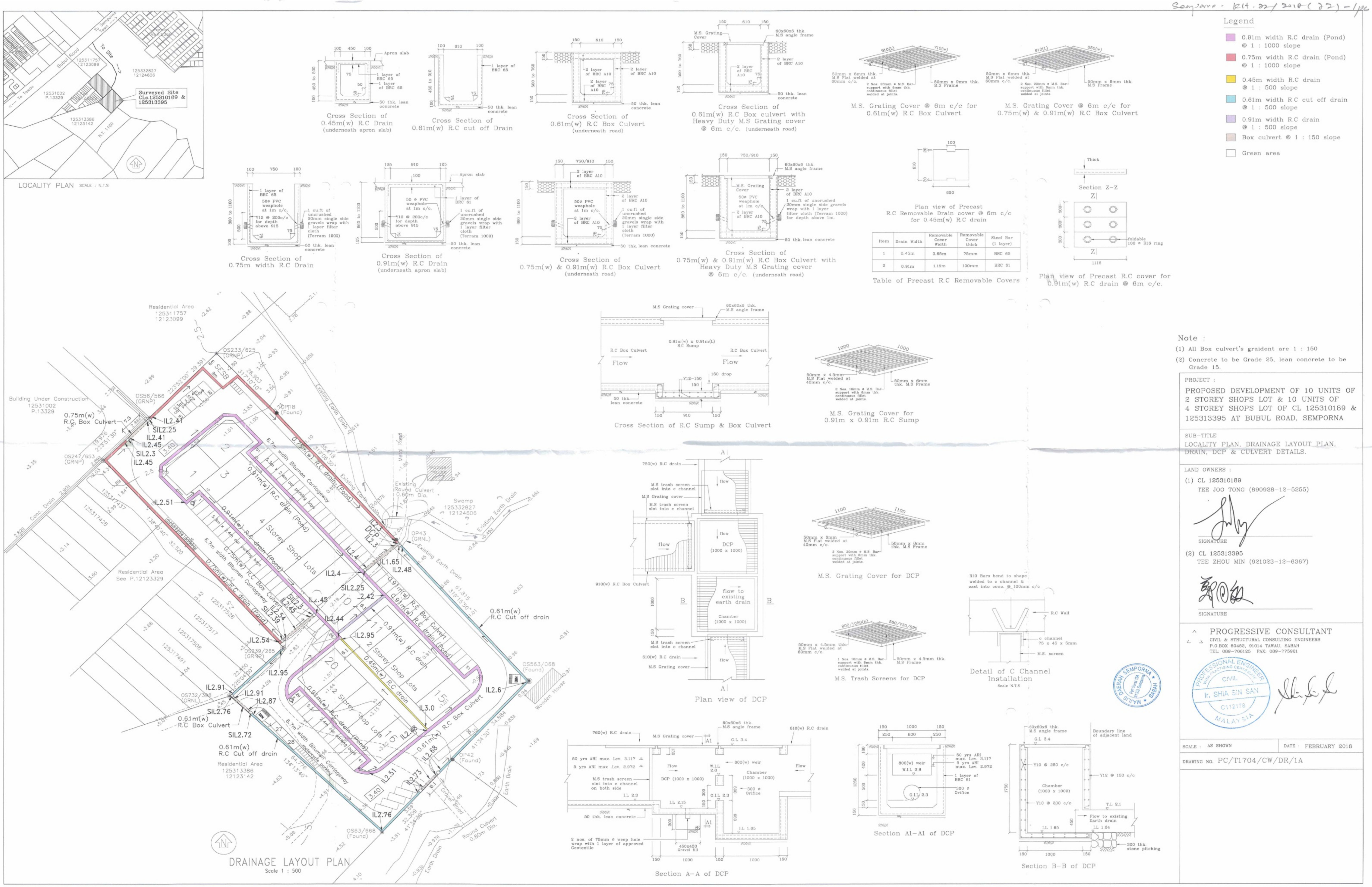


Figure D2: 1m INTERVAL CONTOUR PLAN

APPENDIX E:

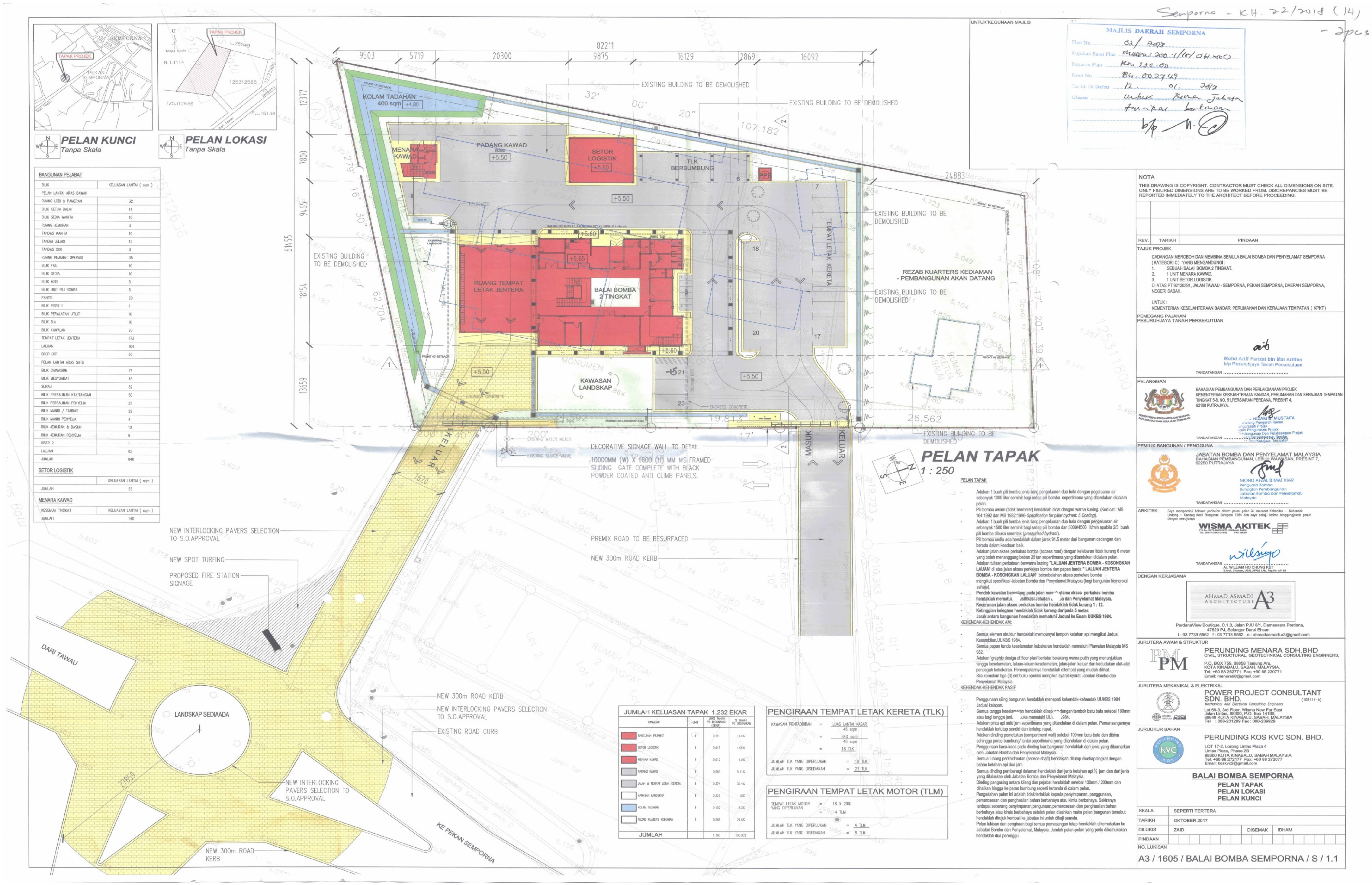
DRAWING PLAN, DRAIN DRAWINGS (JPS)

Figure E1: LOCATION OF DRAWING PLANS



LOCALITY PLAN SCALE : N.T.S
Surveyed Site CLs.125310189 & 125313395
Cross Section of 0.45m(w) R.C Drain (underneath apron slab)
Cross Section of 0.61m(w) R.C cut off Drain
Cross Section of 0.61m(w) R.C Box Culvert (underneath road)
Cross Section of 0.61m(w) R.C Box culvert with Heavy Duty M.S Grating cover @ 6m c/c. (underneath road)
M.S. Grating Cover @ 6m c/c for 0.61m(w) R.C Box Culvert
M.S. Grating Cover @ 6m c/c for 0.75m(w) & 0.91m(w) R.C Box Culvert
Legend
0.91m width R.C drain (Pond) @ 1 : 1000 slope
0.75m width R.C drain (Pond) @ 1 : 1000 slope
0.45m width R.C drain @ 1 : 500 slope
0.61m width R.C cut off drain @ 1 : 500 slope
0.91m width R.C drain @ 1 : 500 slope
Box culvert @ 1 : 150 slope
Green area
Cross Section of 0.75m width R.C Drain
Cross Section of 0.91m(w) R.C Drain (underneath apron slab)
Cross Section of 0.75m(w) & 0.91m(w) R.C Box Culvert (underneath road)
Cross Section of 0.75m(w) & 0.91m(w) R.C Box Culvert with Heavy Duty M.S Grating cover @ 6m c/c. (underneath road)
Plan view of Precast R.C Removable Drain cover @ 6m c/c for 0.45m(w) R.C drain
Table of Precast R.C Removable Covers
Section Z-Z
Plan view of Precast R.C cover for 0.91m(w) R.C drain @ 6m c/c.
Cross Section of R.C Sump & Box Culvert
M.S. Grating Cover for 0.91m x 0.91m R.C Sump
Note :
(1) All Box culvert's graident are 1 : 150
(2) Concrete to be Grade 25, lean concrete to be Grade 15.
PROJECT :
PROPOSED DEVELOPMENT OF 10 UNITS OF 2 STOREY SHOPS LOT & 10 UNITS OF 4 STOREY SHOPS LOT OF CL 125310189 & 125313395 AT BUBUL ROAD, SEMPORNA
SUB-TITLE
LOCALITY PLAN, DRAINAGE LAYOUT PLAN, DRAIN, DCP & CULVERT DETAILS.
LAND OWNERS :
(1) CL 125310189
TEE JOO TONG (890928-12-5255)
SIGNATURE
(2) CL 125313395
TEE ZHOU MIN (921023-12-6367)
SIGNATURE
PROGRESSIVE CONSULTANT
CIVIL & STRUCTURAL CONSULTING ENGINEERS
P.O.BOX 60452, 91014 TAWAU, SABAH
TEL: 089-766125 FAX: 089-775921
Ir. SHIA SIN SAN
SCALE : AS SHOWN
DATE : FEBRUARY 2018
DRAWING NO. PC/T1704/CW/DR/1A
Plan view of DCP
M.S. Grating Cover for DCP
M.S. Trash Screens for DCP
Detail of C Channel Installation
Section A-A of DCP
Section A1-A1 of DCP
Section B-B of DCP
DRAINAGE LAYOUT PLAN
Scale 1 : 500

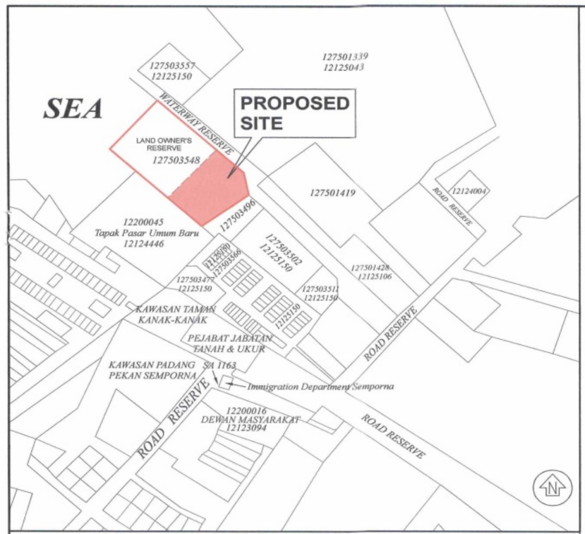
FIGURE E2



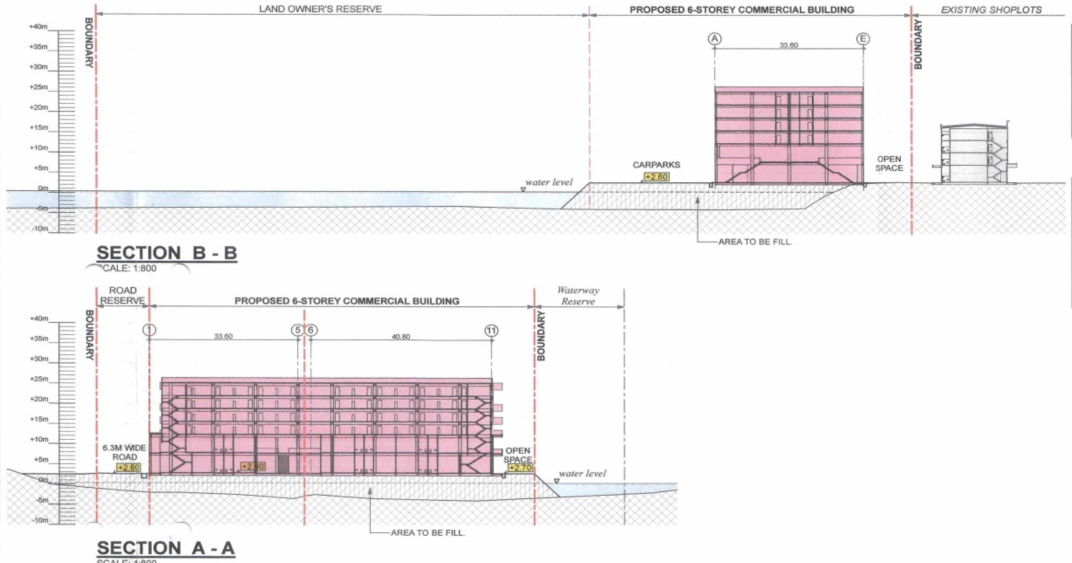
PELAN KUNCI
Tanpa Skala
PELAN LOKASI
Tanpa Skala
TAPAK PROJEK
SEMPORNA
BANGUNAN PEJABAT
SETOR LOGISTIK
MENARA KAWAD
KOLAM TADAHAN 400 sqm
PADANG KAWAD
SETOR LOGISTIK
TLK BERSUMBUNG
MENARA KAWAD
RUANG TEMPAT LETAK JENTERA
BALAI BOMBA 2 TINGKAT
KAWASAN LANDSKAP
TEMPAT LETAK KERETA
REZAB KUARTERS KEDIAMAN - PEMBANGUNAN AKAN DATANG
EXISTING BUILDING TO BE DEMOLISHED
MASUK
KELUAR
DECORATIVE SIGNAGE WALL TO DETAIL
10000MM (W) X 1800 (H) MM MS FRAMED SLIDING GATE COMPLETE WITH BLACK POWDER COATED ANTI CLIMB PANELS.
PREMIX ROAD TO BE RESURFACED
NEW 300m ROAD KERB
NEW INTERLOCKING PAVERS SELECTION TO S.O.APPROVAL
NEW SPOT TURFING
PROPOSED FIRE STATION SIGNAGE
DARI TAWAU
LANDSKAP SEDIAADA
EXISTING ROAD CURB
KE PEKAN SEMPORNA
PELAN TAPAK
1 : 250
JUMLAH KELUASAN TAPAK 1.232 EKAR
PENGIRAAN TEMPAT LETAK KERETA (TLK)
PENGIRAAN TEMPAT LETAK MOTOR (TLM)
MAJLIS DAERAH SEMPORNA
Semporna - KH. 22/2018 (14)
NOTA
THIS DRAWING IS COPYRIGHT. CONTRACTOR MUST CHECK ALL DIMENSIONS ON SITE. ONLY FIGURED DIMENSIONS ARE TO BE WORKED FROM. DISCREPANCIES MUST BE REPORTED IMMEDIATELY TO THE ARCHITECT BEFORE PROCEEDING.
TAJUK PROJEK
CADANGAN MEROBOH DAN MEMBINA SEMULA BALAI BOMBA DAN PENYELAMAT SEMPORNA (KATEGORI C) YANG MENGANDUNGI :
1. SEBUAH BALAI BOMBA 2 TINGKAT.
2. 1 UNIT MENARA KAWAD.
3. 1 UNIT SETOR LOGISTIK.
DI ATAS PT 92120391, JALAN TAWAU - SEMPORNA, PEKAN SEMPORNA, DAERAH SEMPORNA, NEGERI SABAH.
UNTUK :
KEMENTERIAN KESEJAHTERAAN BANDAR, PERUMAHAN DAN KERAJAAN TEMPATAN (KPKT)
PEMEGANG PAJAKAN
PESURUHJAYA TANAH PERSEKUTUAN
PELANGGAN
PEMILIK BANGUNAN / PENGGUNA
JABATAN BOMBA DAN PENYELAMAT MALAYSIA
ARKITEK
WISMA AKITEK
DENGAN KERJASAMA
AHMAD ASMADI ARCHITECTURE
JURUTERA AWAM & STRUKTUR
PERUNDING MENARA SDN.BHD
JURUTERA MEKANIKAL & ELEKTRIKAL
POWER PROJECT CONSULTANT SDN. BHD.
JURUUKUR BAHAN
PERUNDING KOS KVC SDN. BHD.
BALAI BOMBA SEMPORNA
PELAN TAPAK
PELAN LOKASI
PELAN KUNCI
SKALA SEPERTI TERTERA
TARIKH OKTOBER 2017
DILUKIS ZAID
DISEMAK IDHAM
NO. LUKISAN
A3 / 1605 / BALAI BOMBA SEMPORNA / S / 1.1

FIGURE E3

Semporna - KIt. 22/2018 (08) -2pcs



LOCALITY PLAN
SCALE 1:5,000



SECTION B - B
SCALE 1:800

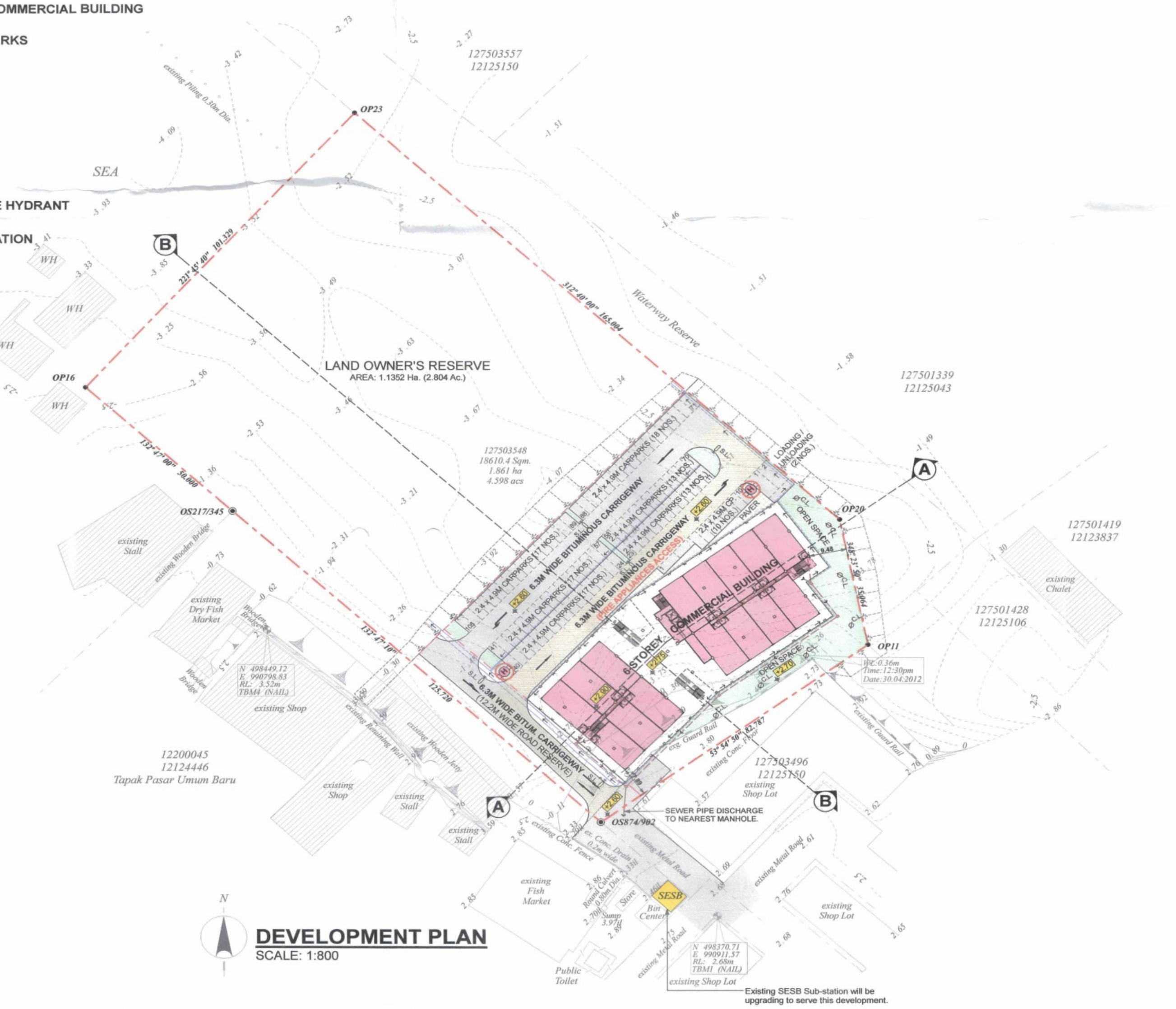
SECTION A - A
SCALE 1:800

LEGEND :

- SITE BOUNDARY LINE
- PROPOSED 6-STOREY COMMERCIAL BUILDING
- CARRIAGEWAY & CARPARKS
- PROPOSED LEVEL
- 0.00 EXIST. GROUND LEVEL
- DRAINAGE
- SEWERAGE MANHOLE
- 2-WAY PILLAR TYPE FIRE HYDRANT
- EXISTING SESB SUB-STATION
- STREET LIGHT
- COMPOUND LIGHT
- CORRIDOR / PAVER
- OPEN SPACE

Legends :

- Sump
- Road
- Drain
- Culverts
- Fence
- TBM — Temporary Bench Mark
- CH — Chainage
- OS — Boundary Stone
- OP — Old Peg



DEVELOPMENT PLAN
SCALE: 1:800

CALCULATION FOR FIRE APPLIANCES ACCESS:-

No.	Floor Level	Floor Area (m³)		Floor to Floor Height (m)	Volume (m³)
1.	Level 1	1,556.86	x	5.0	7,784.30
2.	Level 2	1,556.86	x	4.5	7,005.87
5.	Level 3 to 6	2,225.75	x	3.2 x 4	28,489.60
Total Volume of Building					**43,279.77**

Therefore, Minimum proportions of perimeter of building: **ONE-FOURTH** (28,000 m³ to 56,000 m³)
Building perimeter: A + B + C + D + E = 33.64m + 83.34m + 33.60m + 76.80m= 227.38m
Fire Appliances access length required: 227.38m x 1/4 = 56.85m
Total Fire Appliances access length provided: A + B = 33.64m + 83.34m = 116.98m

CALCULATION OF OCCUPATION LOAD AND CAPACITY OF EXIT (SEVENTH SCHEDULE - UBBL 1984)

STOREY / FLOOR	USAGE	GROSS FLOOR AREA / FLOOR (SQ.M)	PURPOSE GROUP	OCCUPATION LOAD PER SQ.M	NO. OF PERSON PER UNIT	EXIT WIDTH UNIT REQUIRED	EXIT WIDTH UNIT PROVIDED
LEVEL 1	SHOP	1,556.86	GROUP V	6 GROSS	60	4.32 U	4.91 U
LEVEL 2	SHOP	1,556.86	GROUP V	6 GROSS	60	4.32 U	4.91 U
LEVEL 3 - 6	HOTEL SUITES	2,225.75	GROUP III	24 GROSS	45	2.06 U	4.36 U

Nos. of staircase provided: #Staircase 1 (1,200 / 550= 2.18U) -Level 1 - 2
#Staircase 2 (1,500 / 550= 2.73U)
#Staircase 1 (1,200 / 550= 2.18U) -Level 3 - 6
#Staircase 2 (1,200 / 550= 2.18U)

MEMORANDUM

LOCATION OF SITE
THE PROPOSED DEVELOPMENT IS PART OF TL.127503548 AT SEAFRONT NEW TOWNSHIP, SEMPORNA.

PROPOSED DEVELOPMENT
THE TOTAL PROPOSED SITE AREA OF APPROXIMATELY 0.7258 Ha. (1.7935 Ac.) THE PROPOSED DEVELOPMENT TO 6-STOREY BUILDING AS SHOWN ON PLAN.

LEVELS
ALL LEVELS ARE BASED ON LAND & SURVEY DEPARTMENT BM SA1163 RL=5.92m (MSL) AT FRONT OF THE IMMIGRATION DEPARTMENT SEMPORNA FROM JABATAN UKUR & PEMETAAN MALAYSIA (JUPEM)

ROAD
DETAILS OF ROAD CONSTRUCTION SHALL COMPLY TO JKR STANDARD & SPECIFICATIONS & SHALL BE SUBMITTED BY THE ENGINEER AT A LATER STAGE.

CULVERT
ALL CULVERT DESIGNS SIZES AND INVERT LEVELS ARE TO BE REFERED TO ENGINEER'S DRAWINGS AND DETAIL WHICH SHALL BE SUMITTED AT A LATER DATE.

SEWERAGE DISPOSAL
SEWAGE FROM THE DEVELOPMENT SHALL BE DISCHARGED TO EXISTING GOVERNMENT MANHOLE AS SHOWN ON PLAN. ALL MANHOLES AND MANHOLE CC RS TO JKR'S NDARS AND SPECIFICATION. LAYOUT AND DETAILS TO BE RE R TO ENGINE DRAWING & TO BE SUBMITTED AT A LATER DATE.

DRAINAGE
DRAINAGE DESIGN AND REPORT COMPLYING WITH MASMA REQUIREMENTS SHALL BE SUBMITTED BY QUALIFIED ENGINEER UNDER SEPARATE COVER. SURFACE WATER OF DEVELOPMENT TO BE CHANNELLED AND DRAINED INTO R.C DRAIN AS INDICATED SHOWN ON PLAN. LAYOUT AND DETAILS OF THE DRAINAGE SYSTEM REFERED TO ENGINEER'S DRAWINGS AND DETAILS TO BE SUBMITTED AT A LATER DATE.

SERVICES
ELECTRICAL SUPPLY SHALL BE CONNECTED FROM THE NEAREST SESB MAIN TO SESB'S APPROVAL. EXISTING SESB SUB-STATION SHALL BE UPGREDED IF NEEDED. WATER SUPPLY SHALL BE CONNECTED INTO THE DEVELOPMENT FROM THE NEARBY GOVERNMENT WATER MAIN. LAYOUT AND DETAILS OF WATER PIPING SYSTEM TO BE REFER TO ENGINEER'S DRAWING TO BE SUBMITTED AT A LATER DATE. THE APPROPRIATE TYPES AND SIZES OF PIPING ARE SUBJECTED TO JABATAN AIR REQUIREMENT.

DIMENSIONS
ALL DIMENSIONS AND DISTANCES AS SHOWN ARE ONLY APPROXIMATE AND TO BE CHECKED AND VERIFIED ON SITE BY A LICENSED LAND SURVEYOR.

BOMBA
2 NOS OF 2 WAYS PILLAR TYPE FIRE HYDRANTS SHALL BE PROVIDED TO JBPM'S SPECIFICATION LOCATED NOT MORE THAN 6' 0" (1.83M) FROM THE ROAD CURB AI ERVED BY R DESIGNED FOR VEHICULAR LOADING OF 21 TONS.

REFUSE BIN REQUIREMENT & CALCULATION

A) COMMERCIAL
* 150 LITRES REFUSE BIN FOR EVERY 1,000 SQ.M. OF GROSS FLOOR AREA
- TOTAL NETT FLOOR AREA OF SHOPLOTS= 3,113.72 SQ.M.
CAPACITY OF REFUSE BIN REQUIRED:
(3,113.72 SQ.M. / 1,000 SQ.M.) x 150= 467.06 LITRES

B) HOTEL SUITES
*HOTEL SUITES= 15 LITRES REFUSE BIN CAPACITY FOR EVERY HOTEL SUITE
TOTAL BEDROOM: 25 BEDROOMS x 4 FLOOR= 100 UNITS
= 100 UNITS x 15 LITRES= 1,500 LITRES

TOTAL CAPACITY OF REFUSE BIN REQUIRED:
467.06 + 1,500= 1,967.06 LITRES

* COUNCIL'S STANDARD DESIGN REFUSE BIN CAPACITY = 1,100 LITRES
THEREFORE NO. OF REFUSE BIN REQUIRED = 1,967.06 / 1,100 = 1.79 OR 2 NOS.
TOTAL NO. OF REFUSE BIN PROVIDED= 3 NOS.

CAR PARK REQUIREMENT & CALCULATION

A) COMMERCIAL
* 1 CAR PARKING BAY FOR EVERY 46.45 SQ.M. (500 SQ.F) FLOOR AREA
TOTAL FLOOR AREA: 3,113.72 SQ.M. (LEVEL 1 + LEVEL 2)
NO. OF CAR PARK REQUIRED:-
3,113.72 SQ.M. / 46.45 SQ.M= 67.03 NOS. i.e 67 NOS.

B) HOTEL SUITES
* 1 CAR PARKING BAY FOR EVERY 8 BEDROOMS.
TOTAL BEDROOM: 25 BEDROOMS x 4 FLOOR= 100 UNITS
NO. OF CAR PARK REQUIRED: 100 / 8 SQ.M= 12.5 NOS. i.e 13 NOS.

TOTAL CAR PARK REQUIRED= A + B= 80 NOS.
TOTAL CAR PARK PROVIDED= 105 NOS. > 80 NOS.
2 NOS. OF LOADING / UNLOADING BAY PROVIDED.

LAND USE ANALYSIS	AREA (SQ.M)	(%)
SITE AREA OF TL.127503548: 1.861 Ha. (4.598 acs.)	**1,8610.40**	**100**
LAND OWNER'S RESERVE: 1.1352 Ha. (2.804 Ac.)		**61**
PROPOSED DEVELOPMENT: 0.7258 Ha. (1.7935 Ac.)		**39**
PROPOSED DEVELOPMENT		
A) 6-STOREY COMMERCIAL BUILDING	2,627.87	36.21
B) BITUMINOUS CARRIAGEWAY & CARPARKS	2,510.70	34.59
C) OPEN SPACE	1,315.75	18.13
D) 12.2M WIDE ROAD RESERVE	803.98	11.08
TOTAL SITE AREA	**7,258.30**	**100**

KEHENDAK-KEHENDAK BOMBA

Pelan Tapak
1. Diadakan 2 buah pili bomba jenis tiang dua hala dengan pengeluaran air sebanyak 1135 liter seminit bagi setiap pili bomba sepertimana yang ditandakan di dalam pelan.
2. Kedudukan pili - pili Bomba adalah dipindah sebagaimana yang akan ditandakan oleh Jabatan Bomba dan Penyelamat Malaysia di dalam pelan.
3. Saiz paip air bagi saluran pili Bomba adalah tidak kurang daripada 6 inci garis pusat / 8 inci garis pusat.
4. Penempatan / pemasangan pili Bomba adalah tidak kurang daripada 2 meter daripada tepi jalan raya, tidak terhalang dan terlalu dekat dengan bangunan.
5. Diadakan jalan masuk perkakas bomba (access road) dengan kelebaran tidak kurang 6 meter yang boleh menanggung beban 25 tan sepertimana yang ditandakan di dalam pelan.

Peringatan
1. gala syarat-s at yang dikemukakan adalah tertakluk kepada rekabentuk n kegunaan gunan Tersebut. Sekiranya terdapat sebarang perubahan yang dilakukan ke atas rekabentuk atau kegunaannya seperti yang dicatatkan di atas pelan maka hendaklah dirujuk kepada Jabatan Bomba dan Penyelamat, Malaysia.
2. Segala pemilihan bahan dan penggunaannya yang berkaitan dengan keselamatan kebakaran bagi projek Cadangan serta sistem pencegahan kebakaran adalah mematuhi UBBL 1984 dan peraturan-peraturan yang diterima sahaja yang dibenarkan oleh Jabatan Bomba dan Penyelamat, Malaysia.

NOTE: 1) All dimensions shall be in metre.

MAJLIS DAERAH SEMPORNA
Plan No. 40/2017
Rujukan Surat Plan MDSPN:200-1/15/24.XX(..)
Bayaran Plan KM 250.00
Resit No. BG. 602726
Tarikh Di Daftar 20. 12. 2017
Ulasan untuk komen Jabatan teknikal berkenaan
s/p PEGAWAI ... MAJLIS ...

REVISION	AMENDMENT	DATE	DRAWN

LANDOWNER'S SIGNATURE:
DOLTON SDN. BHD.
(Company No. 158175-M)
Manager
DOLTON SDN. BHD.
C/O. MPT 4208, LOT 39-42, 2nd. FLOOR,
BLOCK C, BANDARAN BARU,
P.O. BOX 61777, 91027 TAWAU, SABAH.

DEVELOPER'S SIGNATURE:
TOTAL-ONE RESOURCES SDN. BHD.
TAWAU PLAZA SDN. BHD.
MPT 4208, LOT 39-42, 2nd. FLOOR,
BLOCK C, BANDARAN BARU,
P.O. BOX 61777, 91027 TAWAU, SABAH.

PROJECT:
PROPOSED COMMERCIAL DEVELOPMENT PART OF TL.127503548 AT SEAFRONT NEW TOWNSHIP, SEMPORNA.

TITLE:
LOCATION PLAN, DEVELOPMENT PLAN AND CROSS SECTION A-A & B-B.

ARKITEK OMA SDN. BHD.
LOT 1, 1ST & 2ND FLOOR, TAMAN FORTUNA SHOPLOTS,
PHASE 2, LORONG SEROJA 1, JALAN PENAMPANG,
88200 KOTA KINABALU, SABAH
MALAYSIA
TEL : 088- 231161, 231162 FAX : 088 - 239861

ARCHITECT:
LEMBAGA ARKITEK MALAYSIA
Ar. Lim Chun Piaw, David
ARKITEK
No. Pendaftaran LAM: A/L 213

CONTROLLED COPY OF DRAWING ISSUANCE UNLESS STATED OTHERWISE

DRAWN BY: ALAM	DATE: JUN. 2017	CHECKED BY : D. LIM	DATE: JUN. 2017
SCALE: 1:800		APPROVED BY : LHL	DATE: JUN. 2017
REVISION HISTORY			
DRAWING NO.	OMA/SEMP9/DP1	PAGE NO 1	TOTAL NO 2

DP_200610

FIGURE E4

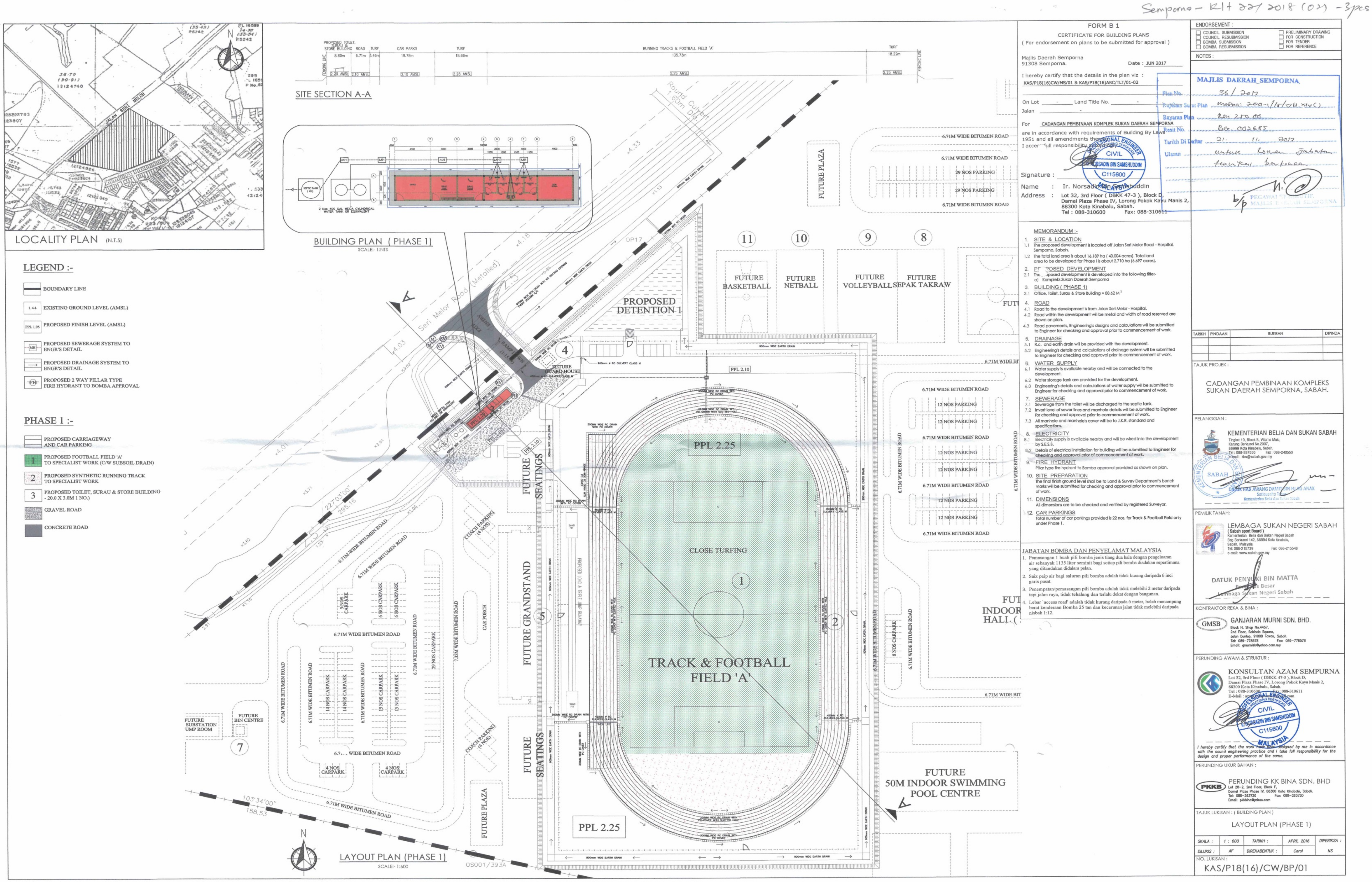
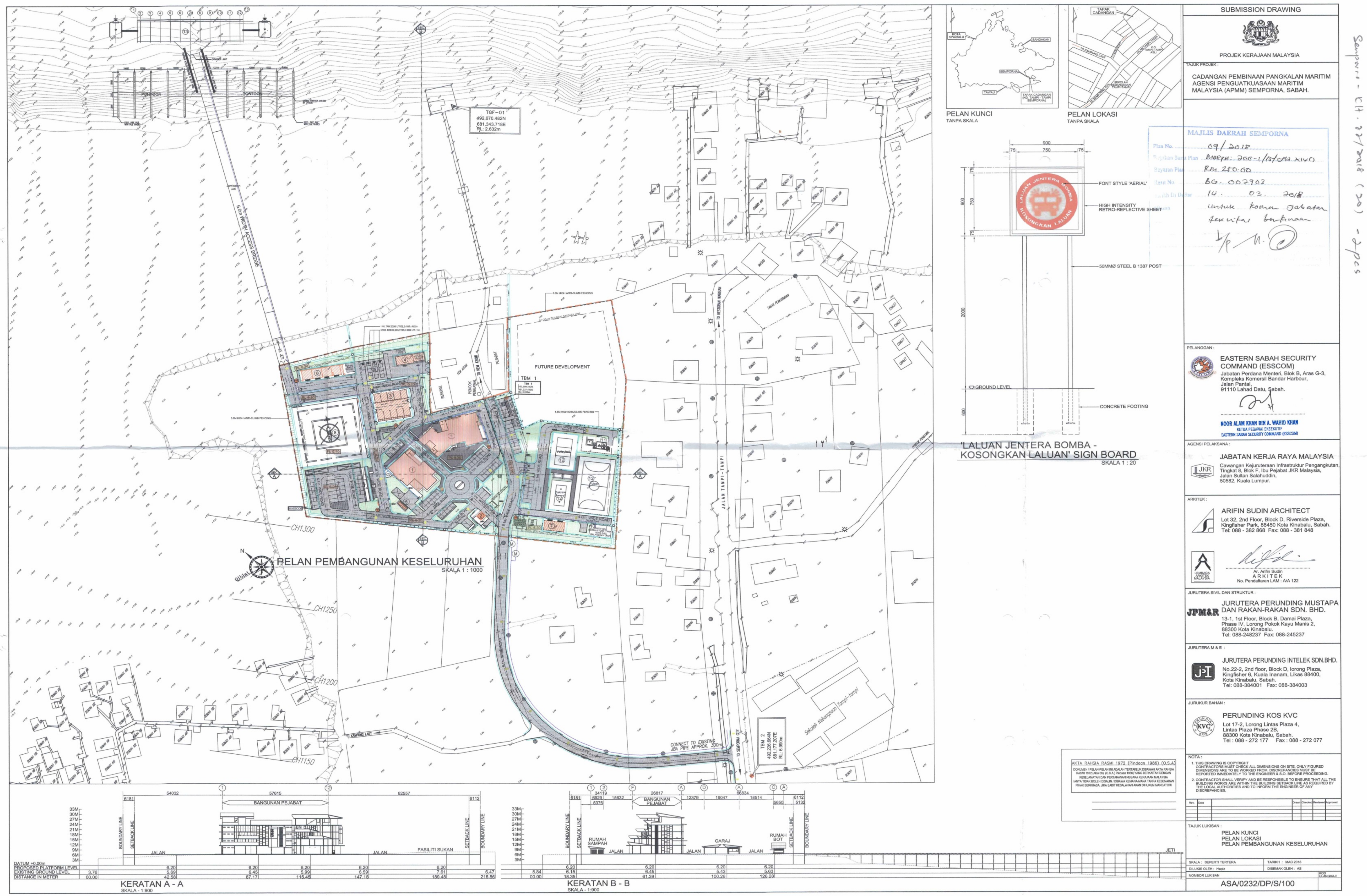

Semporna – KIt 22/ 2018 (02) – 3pcs
LOCALITY PLAN (N.T.S)
SITE SECTION A-A
BUILDING PLAN (PHASE 1)
LEGEND :-
BOUNDARY LINE
EXISTING GROUND LEVEL (AMSL)
PROPOSED FINISH LEVEL (AMSL)
PROPOSED SEWERAGE SYSTEM TO ENGR'S DETAIL
PROPOSED DRAINAGE SYSTEM TO ENGR'S DETAIL
PROPOSED 2 WAY PILLAR TYPE FIRE HYDRANT TO BOMBA APPROVAL
PHASE 1 :-
PROPOSED CARRIAGEWAY AND CAR PARKING
PROPOSED FOOTBALL FIELD 'A' TO SPECIALIST WORK (C/W SUBSOIL DRAIN)
PROPOSED SYNTHETIC RUNNING TRACK TO SPECIALIST WORK
PROPOSED TOILET, SURAU & STORE BUILDING - 20.0 X 3.0M 1 NO.)
GRAVEL ROAD
CONCRETE ROAD
Seri Melor Road (Metalled)
PROPOSED DETENTION 1
FUTURE PLAZA
FUTURE BASKETBALL
FUTURE NETBALL
FUTURE VOLLEYBALL
FUTURE SEPAK TAKRAW
6.71M WIDE BITUMEN ROAD
29 NOS PARKING
12 NOS PARKING
PPL 2.25
PPL 2.10
CLOSE TURFING
TRACK & FOOTBALL FIELD 'A'
FUTURE SEATINGS
FUTURE GRANDSTAND
FUTURE GUARD HOUSE
COACH PARKING (4 NOS)
CAR PORCH
FUTURE SUBSTATION
FUTURE BIN CENTRE
FUTURE 50M INDOOR SWIMMING POOL CENTRE
LAYOUT PLAN (PHASE 1)
SCALE:- 1:600
FORM B 1
CERTIFICATE FOR BUILDING PLANS
(For endorsement on plans to be submitted for approval)
Majlis Daerah Semporna
91308 Semporna.
Date : JUN 2017
For CADANGAN PEMBINAAN KOMPLEK SUKAN DAERAH SEMPORNA
Name : Ir. Norsadin Bin Samshuddin
Address : Lot 32, 3rd Floor (DBKK 47-3), Block D, Damai Plaza Phase IV, Lorong Pokok Kayu Manis 2, 88300 Kota Kinabalu, Sabah.
Tel : 088-310600 Fax: 088-310611
MAJLIS DAERAH SEMPORNA
MEMORANDUM :-
SITE & LOCATION
PROPOSED DEVELOPMENT
BUILDING (PHASE 1)
ROAD
DRAINAGE
WATER SUPPLY
SEWERAGE
ELECTRICITY
FIRE HYDRANT
SITE PREPARATION
DIMENSIONS
CAR PARKINGS
JABATAN BOMBA DAN PENYELAMAT MALAYSIA
TAJUK PROJEK :
CADANGAN PEMBINAAN KOMPLEKS SUKAN DAERAH SEMPORNA, SABAH.
PELANGGAN :
KEMENTERIAN BELIA DAN SUKAN SABAH
PEMILIK TANAH:
LEMBAGA SUKAN NEGERI SABAH
DATUK PENYUKI BIN MATTA
KONTRAKTOR REKA & BINA :
GANJARAN MURNI SDN. BHD.
PERUNDING AWAM & STRUKTUR :
KONSULTAN AZAM SEMPURNA
PERUNDING UKUR BAHAN :
PERUNDING KK BINA SDN. BHD
TAJUK LUKISAN : (BUILDING PLAN)
LAYOUT PLAN (PHASE 1)
SKALA : 1 : 600
TARIKH : APRIL 2016
NO. LUKISAN :
KAS/P18(16)/CW/BP/01

FIGURE E5



SUBMISSION DRAWING
PROJEK KERAJAAN MALAYSIA
TAJUK PROJEK :
CADANGAN PEMBINAAN PANGKALAN MARITIM AGENSI PENGUATKUASAAN MARITIM MALAYSIA (APMM) SEMPORNA, SABAH.
MAJLIS DAERAH SEMPORNA
Plan No. 09/2018
Rujukan Surat Plan MDSPN: 200-1/15/JLD. XIV()
Bayaran Plan RM 250.00
Resit No. BG. 002903
Tarikh Di Daftar 14. 03. 2018
Untuk komen Jabatan teknikal berkenaan
PELAN KUNCI
TANPA SKALA
PELAN LOKASI
TANPA SKALA
PELAN PEMBANGUNAN KESELURUHAN
SKALA 1 : 1000
FUTURE DEVELOPMENT
TGF-01
492,670.482N
681,343.718E
RL: 2.632m
LALUAN JENTERA BOMBA - KOSONGKAN LALUAN' SIGN BOARD
SKALA 1 : 20
FONT STYLE 'AERIAL'
HIGH INTENSITY RETRO-REFLECTIVE SHEET
50MMØ STEEL B 1387 POST
GROUND LEVEL
CONCRETE FOOTING
LALUAN JENTERA BOMBA
KOSONGKAN LALUAN
JALAN TAMPI - TAMPI
KERATAN A - A
SKALA - 1:900
KERATAN B - B
SKALA - 1:900
BANGUNAN PEJABAT
BOUNDARY LINE
SETBACK LINE
JALAN
FASILITI SUKAN
RUMAH SAMPAH
GARAJ
RUMAH BOT
JETI
DATUM +0.00m
PROPOSED PLATFORM LEVEL
EXISTING GROUND LEVEL
DISTANCE IN METER
PELANGGAN :
EASTERN SABAH SECURITY COMMAND (ESSCOM)
Jabatan Perdana Menteri, Blok B, Aras G-3, Kompleks Komersil Bandar Harbour, Jalan Pantai, 91110 Lahad Datu, Sabah.
NOOR ALAM KHAN BIN A. WAHID KHAN
KETUA PEGAWAI EKSEKUTIF
EASTERN SABAH SECURITY COMMAND (ESSCOM)
AGENSI PELAKSANA :
JABATAN KERJA RAYA MALAYSIA
Cawangan Kejuruteraan Infrastruktur Pengangkutan, Tingkat 8, Blok F, Ibu Pejabat JKR Malaysia, Jalan Sultan Salahuddin, 50582, Kuala Lumpur.
ARKITEK :
ARIFIN SUDIN ARCHITECT
Lot 32, 2nd Floor, Block D, Riverside Plaza, Kingfisher Park, 88450 Kota Kinabalu, Sabah.
Tel: 088 - 382 868 Fax: 088 - 381 848
Ar. Arifin Sudin
ARKITEK
No. Pendaftaran LAM : A/A 122
JURUTERA SIVIL DAN STRUKTUR :
JURUTERA PERUNDING MUSTAPA DAN RAKAN-RAKAN SDN. BHD.
13-1, 1st Floor, Block B, Damai Plaza, Phase IV, Lorong Pokok Kayu Manis 2, 88300 Kota Kinabalu.
Tel: 088-248237 Fax: 088-245237
JURUTERA M & E :
JURUTERA PERUNDING INTELEK SDN.BHD.
No.22-2, 2nd floor, Block D, lorong Plaza, Kingfisher 6, Kuala Inanam, Likas 88400, Kota Kinabalu, Sabah.
Tel: 088-384001 Fax: 088-384003
JURUKUR BAHAN :
PERUNDING KOS KVC
Lot 17-2, Lorong Lintas Plaza 4, Lintas Plaza Phase 2B, 88300 Kota Kinabalu, Sabah.
Tel : 088 - 272 177 Fax : 088 - 272 077
NOTA :
1. THIS DRAWING IS COPYRIGHT CONTRACTORS MUST CHECK ALL DIMENSIONS ON SITE. ONLY FIGURED DIMENSIONS ARE TO BE WORKED FROM. DISCREPANCIES MUST BE REPORTED IMMEDIATELY TO THE ENGINEER & S.O. BEFORE PROCEEDING.
2. CONTRACTOR SHALL VERIFY AND BE RESPONSIBLE TO ENSURE THAT ALL THE BUILDING WORKS ARE WITHIN THE BUILDING SETBACK LINE AS REQUIRED BY THE LOCAL AUTHORITIES AND TO INFORM THE ENGINEER OF ANY DISCREPANCIES.
TAJUK LUKISAN :
PELAN KUNCI
PELAN LOKASI
PELAN PEMBANGUNAN KESELURUHAN
SKALA : SEPERTI TERTERA
TARIKH : MAC 2018
DILUKIS OLEH : Hapiz
DISEMAK OLEH : AS
NOMBOR LUKISAN
ASA/0232/DP/S/100
Semporna - CH. 22/2018 (20) - 2pcs

FIGURE E6

Semporna - KH 27/2018 (34) - 1 pc.

Note

PROPOSED SITE
The proposed mixed development is located on CL.125312334, at Bubul Road, Semporna.

PROPOSED DEVELOPMENT
The proposed mixed development shall be developed into :-

(a) 34 units of 2 storey Shop Lots (7.62m x 12.2m)
(b) 103 units of 2 Storey Terrace House (6.71m x 21.33m)
(c) 9 units of 4 Storey Apartment (8.53m x 9.75m)

LEVELS
Proposed & existing level are indicated. All levels are based on BM SA2983 (Height 12.042M)

DIMENSIONS
All the dimensions indicated on the nearest decimal and subject to final survey by a license surveyor.

SURFACE WATER DRAINAGE
Drainage system shall be provided to collect surface rain water provided discharged to the nearest existing drain.

SEWERAGE
All sewerage manholes will be connected to swerage treatment plant as indicated on plan.

SERVICES
1. Water supply pipes will be connected from nearest Government water main.
2. Electricity supply to be connected from SESB ..ation
3. Street light to be provided as shown on plan.

FIRE FIGHTING
13 nos. pillar type fire hydrant are provided.

Car Parking Requirement for shop lots

* Every 70 sqm required 1 car parking bay

Total build up area for 34 units 2 storey shop lot (7.62m x 12.2m)

Car Parking bay required = 6,321.6 Sq.m / 70 sq.m = 90.3 nos.
Car Parking bay proivided = 117 nos. (o.k)
Motorcycle Parking bay proivided = 90 nos. (o.k)

Car Parking Requirement for apartments

* Every 70 sqm required 1.25 car parking bay

Total build up area for 9 units 4 storey apartment (8.53m x 9.75m)

Car Parking bay required for 36 units x 1.25 bays = 45 nos.
Car Parking bay proivided = 45 nos. (o.k)

Rubbish Bin Centre

2 no. of council's standard 4-wheeled bin (capacity = 1,100 litres) to be used.

OTHERS
1. Approved type toilet flush with water quantity of not more than 6 litre will be provided.
2. Approved type wheeled 120 litre dustbin and building No. plate will be provided by developer.
3. Contractor must give ultimate attention to provide safety measures and precautions for the workers and public during construction period.
4. Construction signboard for job, Architect, Consultants and Owner name must be erected at the site.
5. Adalah menjadi tanggungjawab pemaju/pemilik bagi mengelakkan pembiakan vektor penyebab penyakit berjangkit di tapak sepanjang perlaksanaan projek. Pemaju juga hendaklah mengadakan kemudahan-kemudahan asas sanitasi (tandas yang sempurna/bekalan air yang bersih dan selamat dan lain-lain) untuk perkerja-pekerja bagi mengelakkan kejadian penyakit.

Land area = 57,932.4 sq.m (14.316 Acres)
Less Future Development (Lot 1) = 7,293.3 sq.m (1.8 Acres)
Less Existing Water Reservoir (Lot 2) = 996.7 sq.m (0.25 Acres)

Net Development area = 49,642.4 sq.m (12.3 Acres)

Land Use Analysis	Land area (sq.m)	Percentage of total site area
34 units 2 Storey Shop Lots	3,160.8	6.4 %
103 units 2 Storey Terrace Houses	17,115.9	34.5 %
9 units 4 Storey Apartments	748.5	1.5 %
Open Space	4,965.0	10 %
Sewerage Treatment Plant	558.0	1.1 %
Detention Pond	1,764.0	3.6 %
SESB Substation	54.0	0.1 %
Easement & Drain Reserve	2,628.0	5.3 %
Road Reserve	18,648.2	37.6 %
Total	49,642.4	100 %

Phases

Phase 1

12 units 2 Storey Shop Lots (7.62m x 12.2m)
38 units 2 Storey Terrace Houses (6.71m x 21.33m)

Phase 2

12 units 2 Storey Shop Lots (7.62m x 12.2m)
65 units 2 Storey Terrace Houses (6.71m x 21.33m)

Phase 3

10 units 2 Storey Shop Lots (7.62m x 12.2m)
9 units 4 Storey Apartments (8.53m x 9.75m)

Land Use Analysis/Subdivision Area

2 Storey Terrace Houses			
LOT NO.	Nos. OF LOT (A)	LOT AREA PER LOT (sq.m) (B)	TOTAL AREA (sq.m) (A x B)
1	1	268.8	268.8
2 to 5	4	143.1	572.4
6 to 7	2	208.2	416.4
8 to 12	5	143.1	715.5
13 to 14	2	203.0	406.0
15 to 19	5	143.1	715.5
20 to 21	2	208.2	416.4
22 to 25	4	143.1	572.4
26	1	268.8	268.8
27	1	236.6	236.6
28 to 37	10	143.1	1,431.0
38 to 39	2	203.0	406.0
40 to 44	5	143.1	715.5
45 to 46	2	208.2	416.4
47 to 50	4	143.1	572.4
51 to 52	2	268.8	537.6
53 to 56	4	143.1	572.4
57 to 58	2	208.2	416.4
59 to 63	5	143.1	715.5
64 to 65	2	203.0	406.0
66 to 70	5	143.1	715.5
71 to 72	2	208.2	416.4
73 to 76	4	143.1	572.4
77 to 78	2	268.8	537.6
79 to 82	4	143.1	572.4
83 to 84	2	208.2	416.4
85 to 89	5	143.1	715.5
90	1	215.6	215.6
91	1	203.0	203.0
92 to 96	5	143.1	715.5
97 to 98	2	208.2	416.4
99 to 102	4	143.1	572.4
103	1	268.8	268.8
Total	103		17,115.9

KEHENDAK-KEHENDAK AM JABATAN BOMBA DAN PENYELAMAT MALAYSIA

1. Adakan 13 buah pili bomba jenis 'Pillar' pengeluaran dua hala seperti yang tertanda dalam pelan. Pemasangannya hendaklah menepati spesifikasi Jabatan Bomba dan Penyelamat Malaysia.
2. Saiz paip air untuk pili bomba hendaklah tidak kurang daripada 150mm garis pusat.
3. Pemasangan pili bomba hendaklah tidak kurang 2 meter daripada tepi jalan raya, tidak terhalang dan tidak terlalu dekat dengan bangunan.
4. Jalan akses perkakas bomba (Access road) hendaklah menpunyai lebar berukuran min 6 meter, boleh menampung berat kenderaan bomba 30 tan dan sebarang kecerunan jalan hendaklah tidak lebih daridapa 1 : 15. Jalan masuk hendaklah disediakan pada kecerunan tidak melebihi 1:8:3. (Sila rujuk Undang-undang Kecil Bangunan Seragam 1984 (Pindaan 2012)
5. Lain-lain keperluan berhubung keselamatan nyawa dan harta benda d kebakaran sepertimana yang dikehendaki oleh Ketua Pengarah Jabatan Bomba dan Penyalamat Malaysia hendaklah disempurnakan.

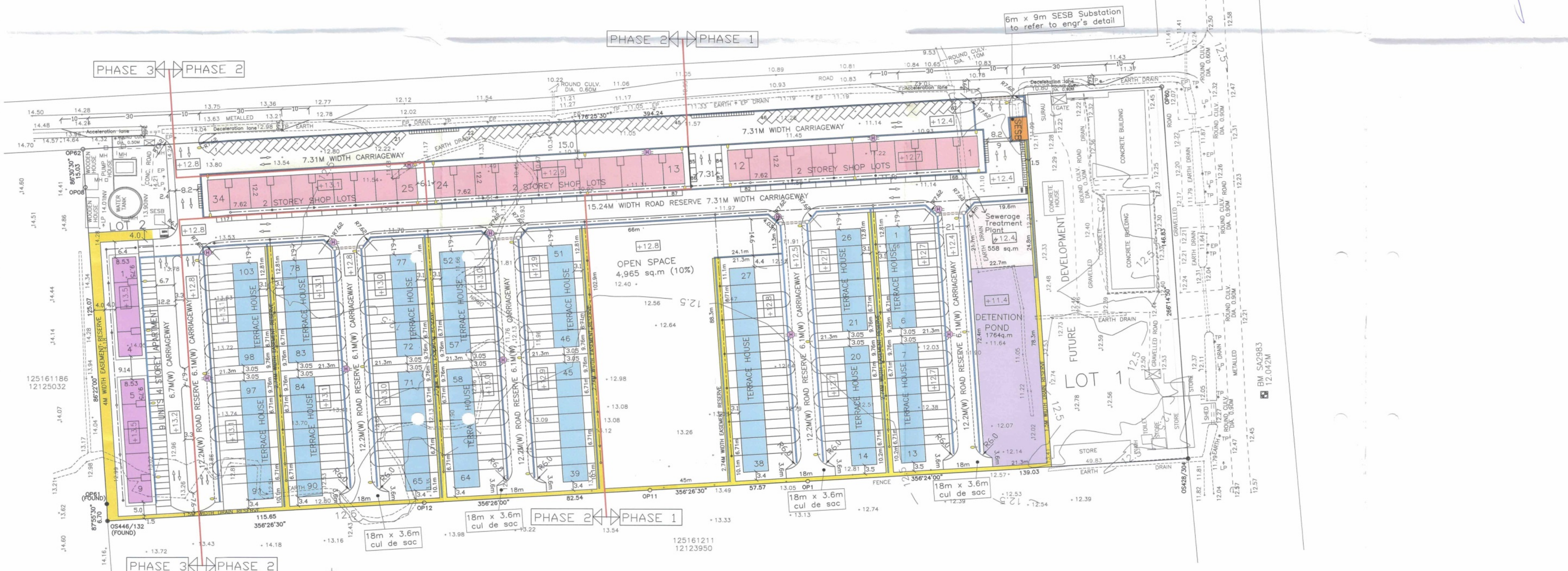
PERINGATAN JABATAN BOMBA DAN PENYELAMAT MALAYSIA

1. Segala syarat-syarat yang dikemukakan adalah tertakluk kepada rekabentuk dan kegunaan bangunan tersebut. Sekiranya terdapat sebarang perubahan yang dilakukan ke atas rekabentuk atau kegunaannya seperti yang dicetakan di atas pelan maka hendaklah dirujuk ke Jabatan Bomba. dan Penyelamat Malaysia.
2. Segala pemilihan bahan dan penggunaanya yang berkaitan dengan keselamatan kebakaran bagi projek cadangan dengan sistem Pencegahan kebakaran hendaklah mematuhi UBBL 1984 dan peraturan-peraturan yang diterima sahaja yang dibenarkan oleh Jabatan Bomba dan Penyelamat Malaysia.

27/2018
mdspa: 300-1/15/JLd. xiv()
RM 250.00
BG. 005548
16. 10. 2018
untuk kom Jabatan teknikal berkena

Legend

- 2 storey shop lots
- 2 storey Terrace Houses
- 4 storey Apartments
- 2 Ways Pillar Type Fire Hydrant
- SESB Substation
- Manhole & Sewer Line
- STP Sewerage Treatment Plan Reserve
- Easement & Drain Reserve
- Detention Pond
- R.C drain
- Culvert
- Street Light
- Open space
- Carriageway/parking
- +12.7 Proposed Level



DEVELOPMENT PLAN Scale 1 : 800

FORM B
CERTIFICATE OF BUILDING/STRUCTURE PLANS
(For endorsement on plan to be submitted for approval)

Pegawai Eksekutif,
Majlis Daerah Semporna
I hereby certify that the details in the plan via :

PROPOSED MIXED DEVELOPMENT

on lot - section -
at Jalan BUBUL
Land Title No. : CL. 125312334
for RUGAYAH BINTI ISPAL, SAID QAMAR BIN ABD KADIR & SAID UMAR

are in accordance with the requirements of the Building By Laws, 1951 and all amendments thereto. I accept full responsibility accordingly.

PVY architect
SHOPLOT 4, GROUND FLOOR, GAYA PARK, 88300 PENAMPANG. TEL: 088-703678

LEMBAGA ARKITEK MALAYSIA

Ar. Patrick Vun Nyuk Pin
Architect ARKITEK
No Pendaftaran LAM : A/V 4

Name : AR. PATRICK VUN NYUK PIN
Address : Shop Lot4, Grd Flr, Gaya Park, Jalan Penampang, 88300 Kota Kinabalu

PROJECT :
PROPOSED MIXED DEVELOPMENT ON CL 125312334 AT BUBUL ROAD, SEMPORNA

SUB-TITLE
LOCATION PLAN & DEVELOPMENT PLAN

OWNERS :
(1) RUGAYAH BINTI ISPAL (720225-12-5708)

SIGNATURE

(2) SAID QAMAR BIN ABD KADIR (871213-12-5223)

SIGNATURE

(3) SAID UMAR (900129-12-6987)

SIGNATURE

SCALE : AS SHOWN | DATE : APRIL 2018

DRAWING NO. PC/T1607/DP/1

FIGURE E7

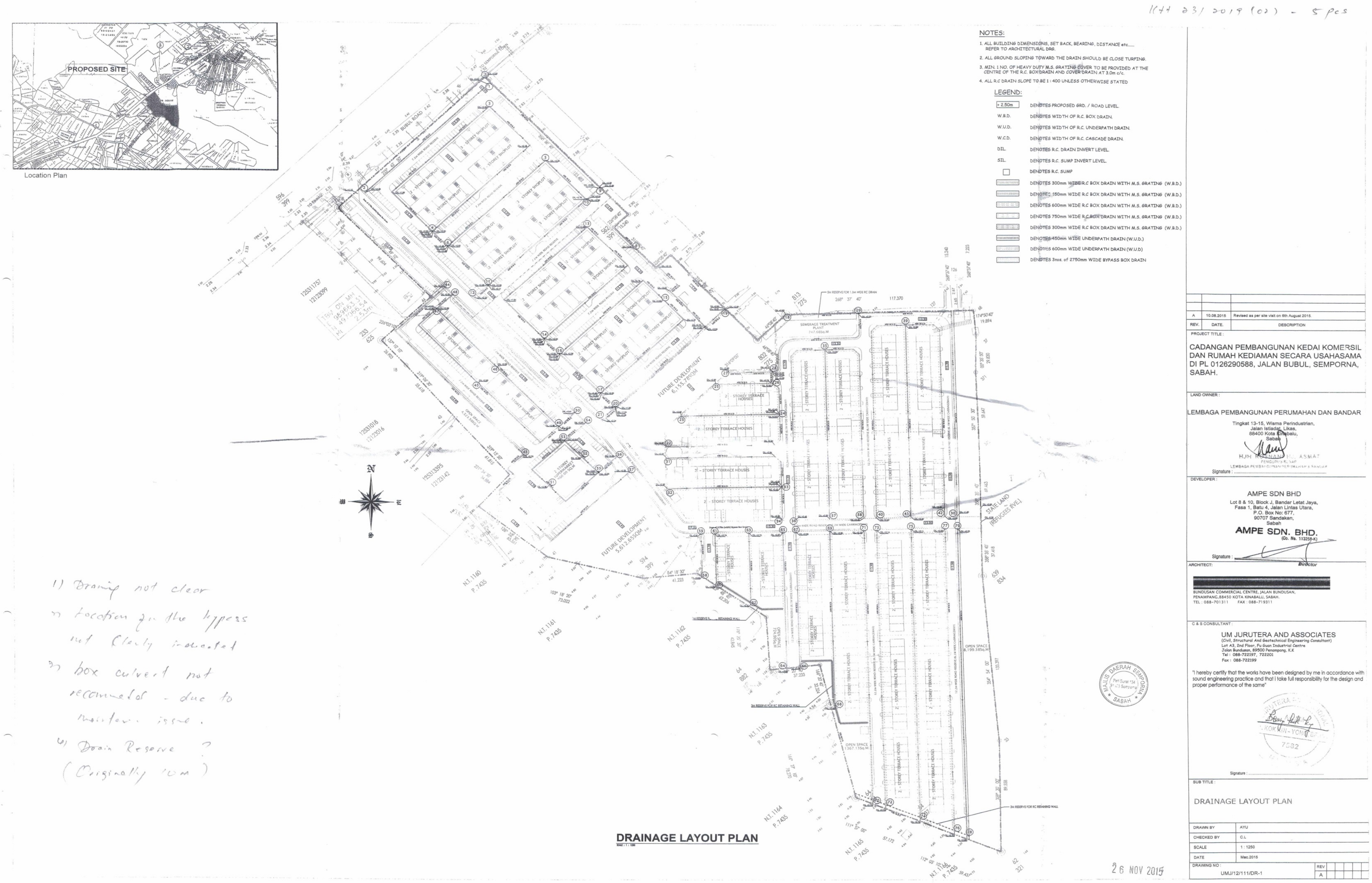
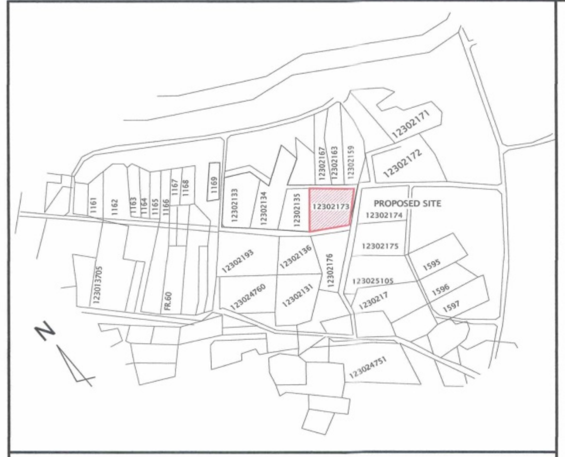

KHH 231/2019 (02) - 5 pcs
PROPOSED SITE
Location Plan
NOTES:
1. ALL BUILDING DIMENSIONS, SET BACK, BEARING, DISTANCE etc...... REFER TO ARCHITECTURAL DRG.
2. ALL GROUND SLOPING TOWARD THE DRAIN SHOULD BE CLOSE TURFING.
3. MIN. 1 NO. OF HEAVY DUTY M.S. GRATING COVER TO BE PROVIDED AT THE CENTRE OF THE R.C. BOX DRAIN AND COVER DRAIN AT 3.0m c/c.
4. ALL R.C DRAIN SLOPE TO BE 1 : 400 UNLESS OTHERWISE STATED
LEGEND:
+ 2.50m DENOTES PROPOSED GRD. / ROAD LEVEL.
W.B.D. DENOTES WIDTH OF R.C. BOX DRAIN.
W.U.D. DENOTES WIDTH OF R.C. UNDERPATH DRAIN.
W.C.D. DENOTES WIDTH OF R.C. CASCADE DRAIN.
DIL. DENOTES R.C. DRAIN INVERT LEVEL.
SIL. DENOTES R.C. SUMP INVERT LEVEL.
DENOTES R.C. SUMP
DENOTES 300mm WIDE R.C BOX DRAIN WITH M.S. GRATING (W.B.D.)
DENOTES 450mm WIDE R.C BOX DRAIN WITH M.S. GRATING (W.B.D.)
DENOTES 600mm WIDE R.C BOX DRAIN WITH M.S. GRATING (W.B.D.)
DENOTES 750mm WIDE R.C BOX DRAIN WITH M.S. GRATING (W.B.D.)
DENOTES 300mm WIDE R.C BOX DRAIN WITH M.S. GRATING (W.B.D.)
DENOTES 450mm WIDE UNDERPATH DRAIN (W.U.D.)
DENOTES 600mm WIDE UNDERPATH DRAIN (W.U.D)
DENOTES 3nos. of 2750mm WIDE BYPASS BOX DRAIN
BUBUL ROAD
SEWERAGE TREATMENT PLANT
FUTURE DEVELOPMENT
STATE LAND (REFUGEES RVE.)
OPEN SPACE
2 - STOREY TERRACE HOUSES
2 - STOREY SHOPLOT
N
1) Drainage not clear
2) Location of the bypass not clearly indicated
3) box culvert not recommended - due to maintenance issue.
4) Drain Reserve ? (Originally 10m)
DRAINAGE LAYOUT PLAN
26 NOV 2015
MAJLIS DAERAH SEMPORNA
SABAH
A | 10.08.2015 | Revised as per site visit on 6th August 2015.
REV. | DATE. | DESCRIPTION
PROJECT TITLE :
CADANGAN PEMBANGUNAN KEDAI KOMERSIL DAN RUMAH KEDIAMAN SECARA USAHASAMA DI PL 0126290588, JALAN BUBUL, SEMPORNA, SABAH.
LAND OWNER :
LEMBAGA PEMBANGUNAN PERUMAHAN DAN BANDAR
Tingkat 13-15, Wisma Perindustrian, Jalan Istiadat, Likas, 88400 Kota Kinabalu, Sabah
PENGURUS BESAR
LEMBAGA PEMBANGUNAN PERUMAHAN & BANDAR
Signature :
DEVELOPER :
AMPE SDN BHD
Lot 8 & 10, Block J, Bandar Letat Jaya, Fasa 1, Batu 4, Jalan Lintas Utara, P.O. Box No: 677, 90707 Sandakan, Sabah
AMPE SDN. BHD. (Co. No. 113258-K)
Signature :
Director
ARCHITECT:
[redacted]
BUNDUSAN COMMERCIAL CENTRE, JALAN BUNDUSAN, PENAMPANG,88450 KOTA KINABALU, SABAH.
TEL : 088-701311 FAX : 088-719311
C & S CONSULTANT :
UM JURUTERA AND ASSOCIATES
(Civil, Structural And Geotechnical Engineering Consultant)
Lot A3, 2nd Floor, Fu Guan Industrial Centre
Jalan Bundusan, 89500 Penampang, K.K
Tel : 088-722197, 722201
Fax : 088-722199
"I hereby certify that the works have been designed by me in accordance with sound engineering practice and that i take full responsibility for the design and proper performance of the same"
7582
Signature :
SUB TITLE :
DRAINAGE LAYOUT PLAN
DRAWN BY AYU
CHECKED BY C.L
SCALE 1 : 1250
DATE Mac.2015
DRAWING NO : UMJ/12/111/DR-1
REV A

FIGURE E8

Semporna - KH 221 2018 (28) - 1pc



LOCALITY PLAN (NOT TO SCALE)

CAR PARK CALCULATION

1. RESTAURANT :
   Every 7.43 sq.m (80 sq.ft) of floor area = 1 car park & motorcycle parking bays
2. OFFICE AREA :
   every 92.90 sq.m (1000 sq.ft) of floor area = 1 car park & motorcycle parking bays

total restaurant built-up area = 262.5 sq.m /7.43 sq.m
= 36 car park & motorcycle parking bays

total office/retail built-up area = 302.4 sq.m / 92.90 sq.m
= 4 car park & motorcycle parking bays

No. of car parking / motorcycle parking bays required
= 40 car park & motorcycle parking bay

Total no. of car parking bays provided (Including 3 nos. of OKU parkings) = 48 PARKING BAYS

Total no. of motorcycle parking bays provided = 42 PARKING BAYS

LAND USED ANALYSIS

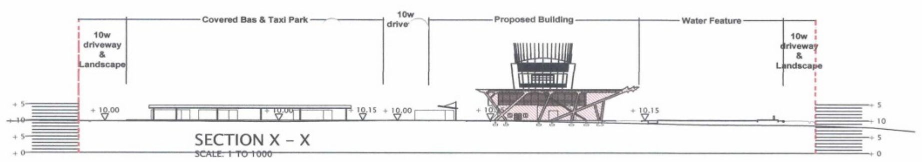
DESCRIPTION	BUILT-UP AREA	%
TOTAL LAND AREA	49,275.61 m²	
LAND AREA TO BE DEVELOPED	20,226.09 m²	100.0 %
PROPOSED MAIN BUILDING PLATFORM	2,450.58 m²	12.11 %
BUS TERMINAL / PLATFORM	3,592.53 m²	17.76 %
TURFING	4,850.69 m²	23.98 %
WATER FEATURE	472.03 m²	2.33 %
BIN CENTRE	18.60 m²	0.09 %
SESB	37.21 m²	0.18 %
DRIVE WAY	8,804.45 m²	43.55 %
TOTAL	20,226.09 m²	100.0 %

BUILT-UP AREA

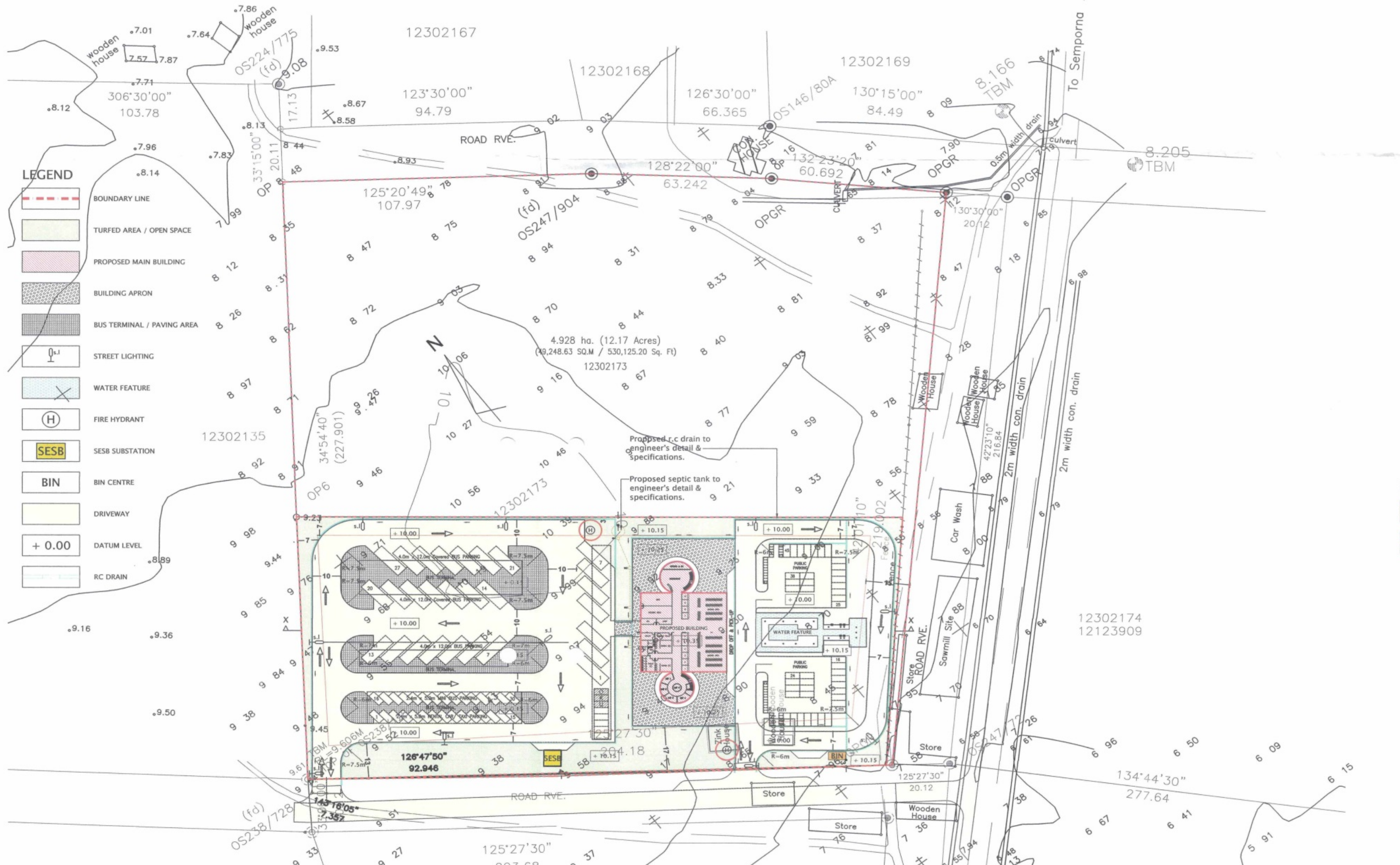
RESTAURANT	113.10 m²
SURAU (M)	28.81 m²
SURAU (F)	30.12 m²
TOILET (M)	20.76 m²
TOILET (F)	28.73 m²
DISABLE TOILET	7.09 m²
MDS	53.73 m²
HOLDING AREA	52.08 m²
UTILITY ROOM	14.56 m²
JPJ	12.78 m²
LPKP	12.44 m²
TICKETING COUNTER (1-10)	(6.0m² X 10) = 60.00 m²
RETAIL LOT (1 - 5)	(11.75m²x 10) = 58.79 m²
RETAIL LOT (6)	7.55 m²
LOBBY	633.71 m²
EXTERNAL APRON / WALKWAY	1,316.33 m²
TOTAL	2,450.58 m²

SETBACKS

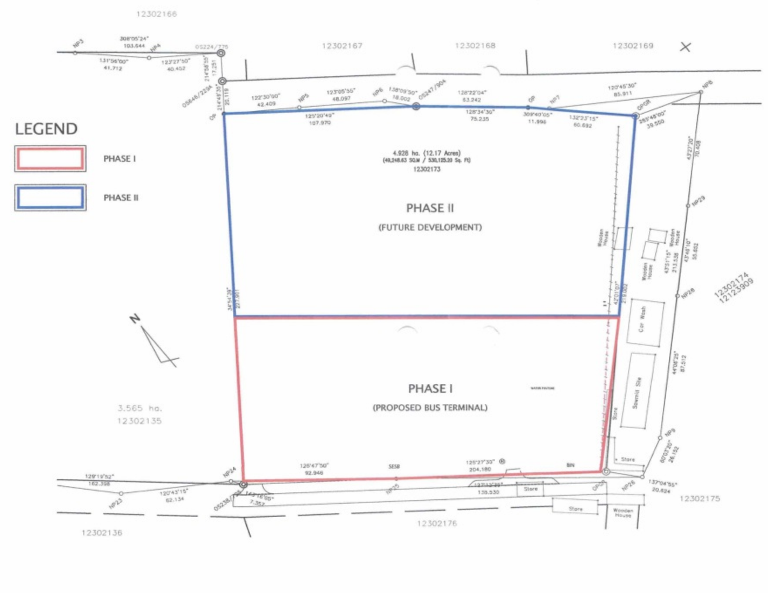
MAIN BUILDING = 6.10m Min. all round
SESB SUBSTATION = 3.05m Min. all round
BIN CENTRE = 3.05m Min. all round



SECTION X – X
SCALE: 1 TO 1000



SITE PLAN
SCALE: 1 TO 1000



PHASING PLAN
SCALE: 1 TO 2000

CADANGAN KEHENDAK-KEHENDAK KELENGKAPAN MENENTANG KEBAKARAN ATAU PEPASANGAN KESELAMATAN KEBAKARAN.

PELAN TAPAK

1. ADAKAN 2 BUAH PILI BOMBA JENIS TIANG PENGELUARAN DUA HALA DENGAN PENGELUARAN AIR SEBANYAK 1,135 LITER SEMINIT BAGI SETIAP PILI BOMBA SEPERTIMANA YANG DITANDAKAN DI DALAM PELAN SEKIRANYA TIADA TERDAPAT PILI BOMBA SEDIADA DALAM JARAK 90 METER.
2. ADAKAN JALAN MASUK PERKAKAS BOMBA (ACCESS ROAD) DENGAN KELEBARAN TIDAK KURANG 6 METER YANG BOLEH MENANGGUNG BEBAN 30 TAN SEPERTIMANA YANG DITANDAKAN DI DALAM PELAN.
3. KECERUNAN JALAN AKSES PERKAKAS BOMBA HENDAKLAH TIDAK KURANG 1 : 15.
4. KETINGGIAN KELEGAAN HENDAKLAH TIDAK KURANG DARIPADA 4.5 METER.

MAJLIS DAERAH SEMPORNA
Plan No. 14/ 2018
MDSPA: 200-1/15/JH.XIV()
Bayaran Plan RM 250.00
Resit No. BQ. 002954
23. 08. 2018
untuk komen Jabatan teknikal berkenaan

MEMORANDUM

GENERAL

1. LOCATION OF PROPOSED DEVELOPMENT
   The proposed site is on NT.12302173 at kg. bubul, off jalan pantai kampung selamat-kampung mentelip, district of semporna
2. PROPOSED DEVELOPMENT
   The site is to be developed into :
   Phase I
   i) Main building
   ii) Bus Terminal
   Phase II
   i) Future Development
3. LEVEL
   All levels are based on Bm S112 with Rl = 5.182m Amsl.
4. DRAINAGE
   All surface water drainage to be discharged to the nearest roadside drainage. Details shall be submitted by a professional registered engineer at a later stage.
5. SEWERAGE DISPOSAL
   Sewerage Disposal shall be discharged to proposed septic tank to Engineer's detail & specification.
6. ELECTRICITY
   SESB Substation is provided. Street light of approved wattage & type and S.E.B. power demand will be calculated & submitted by M & E engineer in compliance with S.E.S.B. requirement.
7. WATER SUPPLY
   Water supply is available from the existing government mains along existing road reserve. Water supply connection to government water mains is subjected to JA approval. Classification and standard of all internal and external piping and fittings will be indicated on engineer drawing to be submitted later. Developer will bear the cost for the water connection to the existing government water mains. Detail of adequate water storage capacity will be submitted later. Storage tank of non-toxic and non-rusty material will be used.
8. ENGINEERING ASPECTS
   All engineering plans and calculation for infrastructural work such as electricity, water supply, sewerage, roads, r. c. works, telephone, street light etc. will be submitted later by professional engineers.
9. DIMENSIONS & BUILDING PLAN DRAWINGS
   All dimensions are shown on plan. Other detail dimensions of the Building such as for the internal rooms, wall thickness etc. will be submitted only after the Development Plan is approved by the Council.

PROJECT:
PROPOSED BUS TERMINAL ON PORTION OF NT. 12302173 FOR MAJLIS DAERAH SEMPORNA AT KG. BUBUL, OFF JALAN PANTAI KAMPUNG SELAMAT-KAMPUNG MENTELIP, DISTRICT OF SEMPORNA

LAND OWNER :
Chang Pit Vun
690403-12-5395
Block A, Lot 210, Taman Ria, Jalan Lintas,
88400 Kota Kinabalu, Sabah.

DEVELOPER:
TBMC DEVELOPMENT SDN. BHD (340033-V)
Block A, Lot 210, Taman Ria, Jalan Lintas,
88400 Kota Kinabalu, Sabah.
TBMC DEVELOPMENT SDN. BHD. (340033-V)
Mr. Matthew Tan Yaw Tzuu
Managing Director

SUBMITTING ARCHITECT:
arkitek tressie yap
BUNDUSAN COMMERCIAL CENTRE, JALAN BUNDUSAN,
PENAMPANG,88450 KOTA KINABALU, SABAH.
TEL : 088-701311 FAX : 088-719311
LEMBAGA ARKITEK MALAYSIA
Ar. Yap Chui Kie @ Tressie
ARKITEK
No Pendaftaran LAM : A/Y 85

DESIGNED: Alex	CHECKED:
DRAWN: RyK	DATE: January 2018
APPROVED:	PROJECT NO: ATY/2018/001

TITLE:
- LOCATION PLAN
- SITE PLAN
- PHASING PLAN

DRAWING NO: ATY/2018/001/SMP/DP 01 — REVISION SUFFIX

PURPOSE	DATE
☒ COUNCIL SUBMISSION	January 2018
COUNCIL RE-SUBMISSION	
☒ BOMBA SUBMISSION	January 2018
BOMBA RE-SUBMISSION	
FOR CONSTRUCTION	
FOR TENDER	
FOR COUNCIL RE-VALIDATION	

FIGURE E9

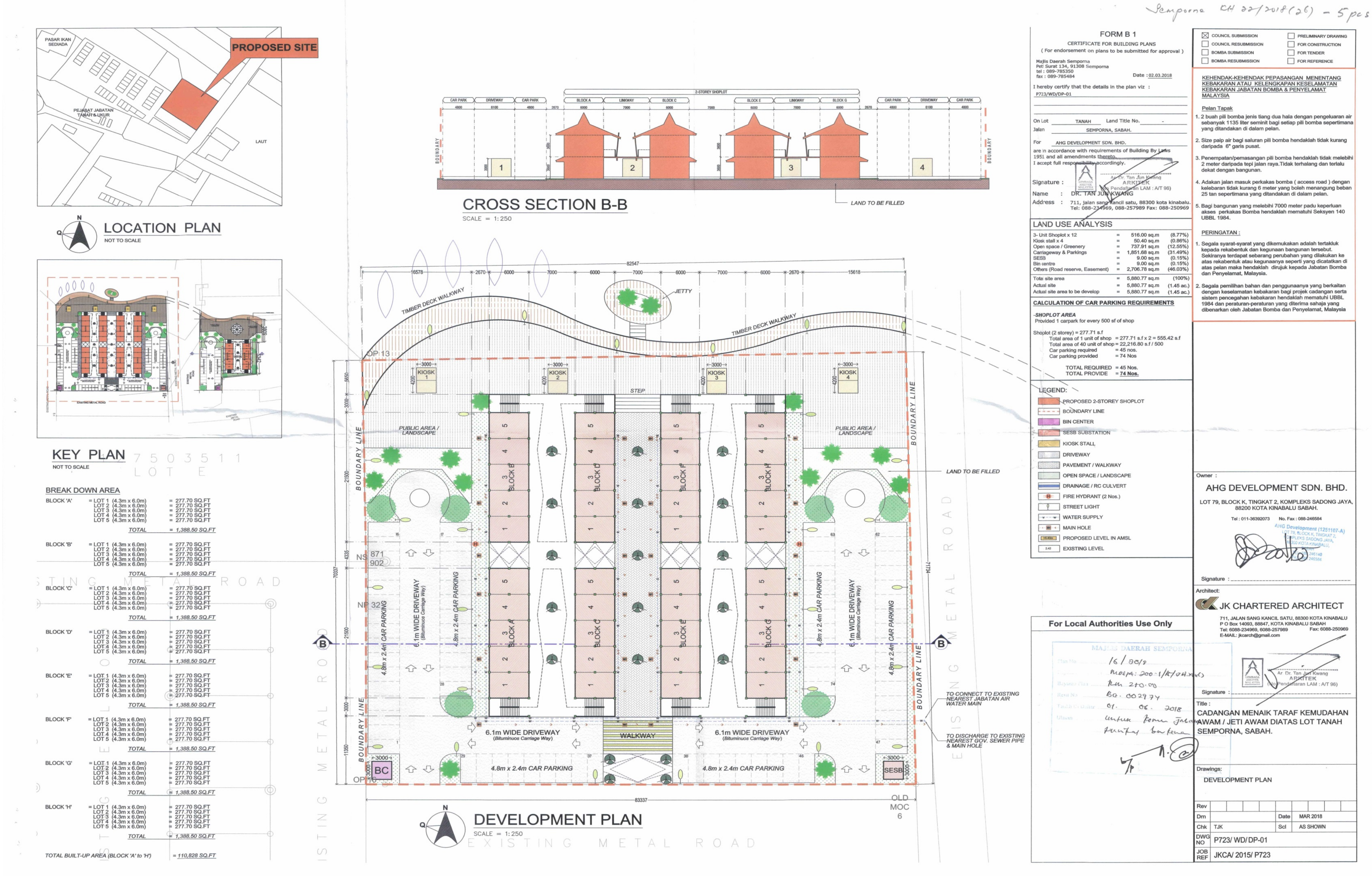
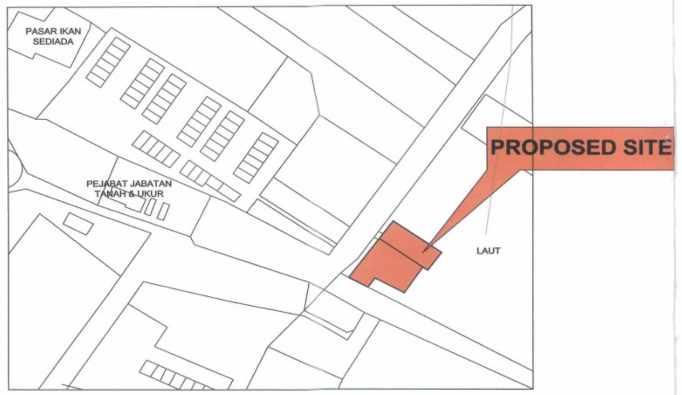

Semporna CH 22/2018 (26) – 5 pcs
PROPOSED SITE
PASAR IKAN SEDIADA
PEJABAT JABATAN TANAH & UKUR
LAUT
LOCATION PLAN
NOT TO SCALE
KEY PLAN
NOT TO SCALE
BREAK DOWN AREA
TOTAL BUILT-UP AREA (BLOCK 'A' to 'H') = 110,828 SQ.FT
CROSS SECTION B-B
SCALE = 1:250
LAND TO BE FILLED
DEVELOPMENT PLAN
SCALE = 1:250
TIMBER DECK WALKWAY
JETTY
KIOSK
STEP
PUBLIC AREA / LANDSCAPE
BOUNDARY LINE
6.1m WIDE DRIVEWAY (Bituminous Carriage Way)
4.8m x 2.4m CAR PARKING
WALKWAY
EXISTING METAL ROAD
TO CONNECT TO EXISTING NEAREST JABATAN AIR WATER MAIN
TO DISCHARGE TO EXISTING NEAREST GOV. SEWER PIPE & MAIN HOLE
FORM B 1
CERTIFICATE FOR BUILDING PLANS
(For endorsement on plans to be submitted for approval)
Majlis Daerah Semporna
Date : 02.03.2018
I hereby certify that the details in the plan viz :
P723/WD/DP-01
On Lot TANAH Land Title No.
Jalan SEMPORNA, SABAH.
For AHG DEVELOPMENT SDN. BHD.
are in accordance with requirements of Building By Laws 1951 and all amendments thereto.
I accept full responsibility accordingly.
Signature :
Name : DR. TAN JUN KWANG
LAND USE ANALYSIS
CALCULATION OF CAR PARKING REQUIREMENTS
TOTAL REQUIRED = 45 Nos.
TOTAL PROVIDE = 74 Nos.
LEGEND:
PROPOSED 2-STOREY SHOPLOT
BOUNDARY LINE
BIN CENTER
SESB SUBSTATION
KIOSK STALL
DRIVEWAY
PAVEMENT / WALKWAY
OPEN SPACE / LANDSCAPE
DRAINAGE / RC CULVERT
FIRE HYDRANT (2 Nos.)
STREET LIGHT
WATER SUPPLY
MAIN HOLE
PROPOSED LEVEL IN AMSL
EXISTING LEVEL
For Local Authorities Use Only
COUNCIL SUBMISSION
COUNCIL RESUBMISSION
BOMBA SUBMISSION
BOMBA RESUBMISSION
PRELIMINARY DRAWING
FOR CONSTRUCTION
FOR TENDER
FOR REFERENCE
KEHENDAK-KEHENDAK PEPASANGAN MENENTANG KEBAKARAN ATAU KELENGKAPAN KESELAMATAN KEBAKARAN JABATAN BOMBA & PENYELAMAT MALAYSIA
Pelan Tapak
PERINGATAN :
Owner :
AHG DEVELOPMENT SDN. BHD.
LOT 79, BLOCK K, TINGKAT 2, KOMPLEKS SADONG JAYA, 88200 KOTA KINABALU SABAH.
Architect:
JK CHARTERED ARCHITECT
711, JALAN SANG KANCIL SATU, 88300 KOTA KINABALU
Title :
CADANGAN MENAIK TARAF KEMUDAHAN AWAM / JETI AWAM DIATAS LOT TANAH SEMPORNA, SABAH.
Drawings:
DEVELOPMENT PLAN
Date MAR 2018
Chk TJK
Scl AS SHOWN
DWG NO P723/ WD/ DP-01
JOB REF JKCA/ 2015/ P723

FIGURE E10

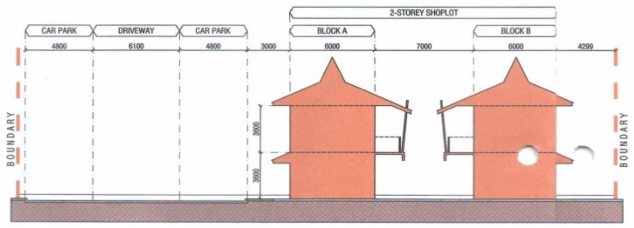
Samporna - KM. 22/2018(24) - 5 pcs



LOCATION PLAN
NOT TO SCALE

KEY PLAN
NOT TO SCALE

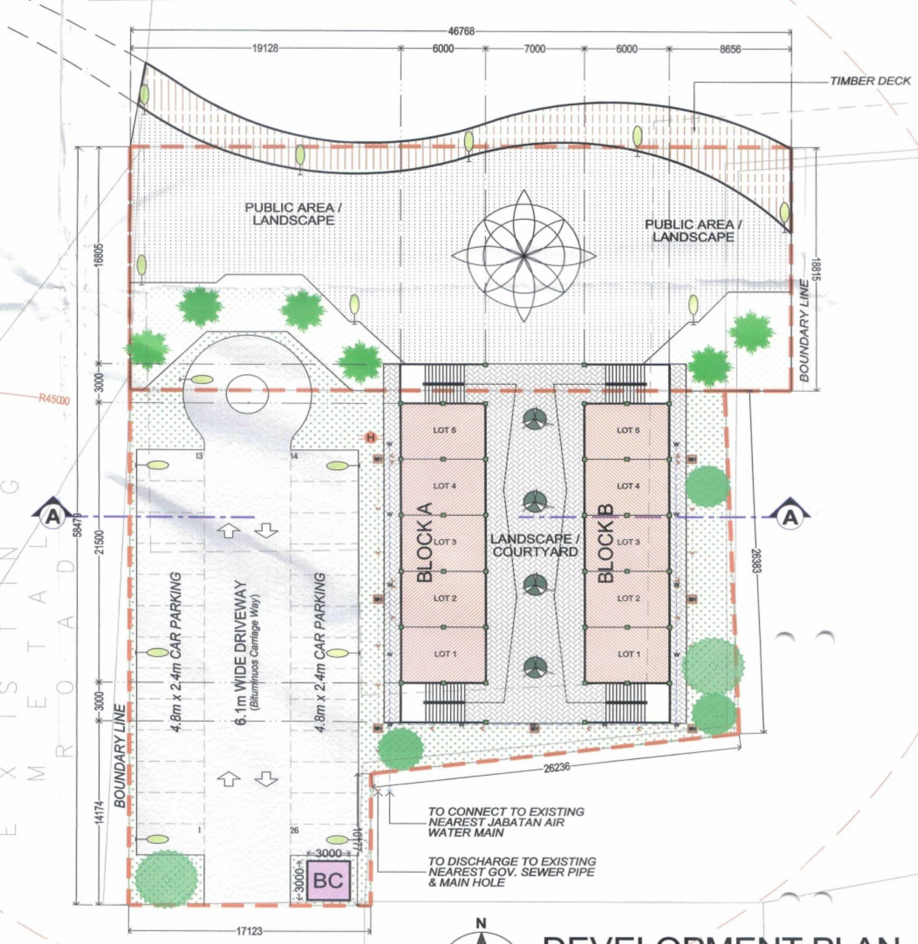
MAJLIS DAERAH SEMPORNA
15/ 2018
mesyu: 200-1/15/214.xx ()
Rm 250.00
RG. 002973
07. 06. 2018
untuk komen jabatan teknikal berkenaan



CROSS SECTION A-A
SCALE = 1: 200

BREAK DOWN AREA

BLOCK 'A'	= LOT 1 (4.3m x 6.0m)	= 277.70 SQ.FT	
	LOT 2 (4.3m x 6.0m)	= 277.70 SQ.FT	
	LOT 3 (4.3m x 6.0m)	= 277.70 SQ.FT	
	LOT 4 (4.3m x 6.0m)	= 277.70 SQ.FT	
	LOT 5 (4.3m x 6.0m)	= 277.70 SQ.FT	
	TOTAL	= 1,388.50 SQ.FT	
BLOCK 'B'	= LOT 1 (4.3m x 6.0m)	= 277.70 SQ.FT	
	LOT 2 (4.3m x 6.0m)	= 277.70 SQ.FT	
	LOT 3 (4.3m x 6.0m)	= 277.70 SQ.FT	
	LOT 4 (4.3m x 6.0m)	= 277.70 SQ.FT	
	LOT 5 (4.3m x 6.0m)	= 277.70 SQ.FT	
	TOTAL	= 1,388.50 SQ.FT	
TOTAL BUILT-UP AREA (BLOCK 'A' + 'B')		= 2,777 SQ.FT	



DEVELOPMENT PLAN
SCALE = 1: 250

FORM B 1

CERTIFICATE FOR BUILDING PLANS
(For endorsement on plans to be submitted for approval)

Majlis Daerah Semporna
Peti Surat 134, 91308 Semporna
tel : 089-785350
fax : 089-785484

Date : 02.03.2018

I hereby certify that the details in the plan viz : C441/WD/DP-01

On Lot T.L 127501151 Land Title No. -
Jalan -
For WAEZA SDN. BHD.
are in accordance with requirements of Building By Laws 1951 and all amendments thereto.
I accept full responsibility accordingly.

Signature : Ar. Dr. Tan Jun Kwang ARKITEK (No Pendaftaran LAM : A/T 96)
Name : DR. TAN JUN KWANG
Address : 711, jalan sang kancil satu, 88300 kota kinabalu. Tel: 088-234969, 088-257989 Fax: 088-250969

LAND USE ANALYSIS

5- Unit Shoplot x 2	=	258.00 sq.m	(11.35%)
Open space / Greenery	=	262.38 sq.m	(11.55%)
Carriageway & Parkings	=	569.00 sq.m	(25.04%)
Bin centre	=	9.00 sq.m	(0.40%)
Others (Road reserve, Easement)	=	1,173.81 sq.m	(51.66%)
Total site area	=	2,272.19 sq.m	(100%)
Actual site	=	2,272.19 sq.m	(0.56 ac.)
Actual site area to be develop	=	2,272.19 sq.m	(0.56 ac.)

CALCULATION OF CAR PARKING REQUIREMENTS

-SHOPLOT AREA
Provided 1 carpark for every 500 sf of shop

Shoplot (2 storey) = 277.71 s.f
Total area of 1 unit of shop = 277.71 s.f x 2 = 555.42 s.f
Total area of 10 unit of shop = 5,554.2 s.f / 500
Car parking required = 12 nos.
Car parking provided = 26 Nos

TOTAL REQUIRED = 12 Nos.
TOTAL PROVIDE = **26 Nos.**

LEGEND:
- PROPOSED 2-STOREY SHOPLOT
- BOUNDARY LINE
- BIN CENTER
- DRIVEWAY
- PAVEMENT / WALKWAY
- OPEN SPACE / LANDSCAPE
- DRAINAGE / RC CULVERT
- FIRE HYDRANT (1 Nos.)
- STREET LIGHT
- WATER SUPPLY
- MAIN HOLE
- PROPOSED LEVEL IN AMSL
- EXISTING LEVEL

For Local Authorities Use Only

- [x] COUNCIL SUBMISSION
- [ ] COUNCIL RESUBMISSION
- [ ] BOMBA SUBMISSION
- [ ] BOMBA RESUBMISSION
- [ ] PRELIMINARY DR
- [ ] FOR CONSTRUCTI
- [ ] FOR TENDER
- [ ] FOR REFERENCE

KEHENDAK-KEHENDAK PEPASANGAN MENENTANG KEBAKARAN ATAU KELENGKAPAN KESELAMATAN KEBAKARAN JABATAN BOMBA & PENYELAMAT MALAYSIA

Pelan Tapak

1. 1 buah pili bomba jenis tiang dua hala dengan pengeluaran air sebanyak 1135 liter seminit bagi setiap pili bomba sepertimana yang ditandakan di dalam pelan.
2. Size paip air bagi saluran pili bomba hendaklah tidak kurang daripada 6" garis pusat.
3. Penempatan/pemasangan pili bomba hendaklah tidak melebihi 2 meter daripada tepi jalan raya.Tidak terhalang dan terlalu dekat dengan bangunan.
4. Adakan jalan masuk perkakas bomba (access road) dengan kelebaran tidak kurang 6 meter yang boleh menangung beban 25 tan sepertimana yang ditandakan di dalam pelan.
5. Bagi bangunan yang melebihi 7000 meter padu keperluan akses perkakas Bomba hendaklah mematuhi Seksyen 140 UBBL 1984.

PERINGATAN :

1. Segala syarat-syarat yang dikemukakan adalah tertakluk kepada rekabentuk dan kegunaan bangunan tersebut. Sekiranya terdapat sebarang perubahan yang dilakukan ke atas rekabentuk atau kegunaanya seperti yang dicatatkan di atas pelan maka hendaklah dirujuk kepada Jabatan Bomba dan Penyelamat, Malaysia.
2. Segala pemilihan bahan dan penggunaanya yang berkaitan dengan keselamatan kebakaran bagi projek cadangan serta sistem pencegahan kebakaran hendaklah mematuhi UBBL 1984 dan peraturan-peraturan yang diterima sahaja yang dibenarkan oleh Jabatan Bomba dan Penyelamat, Malaysia

Owner :
KOPERASI PEMBANGUNAN DESA (KPD)
ARAS DUA, WISMA PERTANIAN SABAH, JALAN TASIK LUYANG, OFF JALAN MAKTAB GAYA, 88999 KOTA KINABALU, SABAH.
Signature :

Tenant :
WAEZA SDN. BHD.
LOT 79, BLOCK K, TINGKAT 2, KOMPLEKS SADONG JAYA, 88200 KOTA KINABALU SABAH.
Tel : 011-36392073 No. Fax : 088-246584
Signature :

Architect:
JK CHARTERED ARCHITECT
711, JALAN SANG KANCIL SATU, 88300 KOTA KINABALU
P O Box 14093, 88847, KOTA KINABALU SABAH
Tel: 6088-234969, 6088-257989 Fax: 6088-250969
E-MAIL: jkcarch@gmail.com
Ar. Dr. Tan Jun Kwang ARKITEK (No Pendaftaran LAM : A/T 96)
Signature :

Title :
CADANGAN MEMBINA KEDAI 2-TINGKAT DIATAS LOT T.L 127501151, SEMPORNA, SABAH.

Drawings:
DEVELOPMENT PLAN

Rev			
Drn		Date	MARCH 2018
Chk	TJK	Scl	AS SHOWN
DWG NO	P715/ WD/ DP-01		
JOB REF	JKCA/ 2015/ P715		

FIGURE E11

APPENDIX F: POPULATION IN SEMPORNA TOWN, 2018

Penduduk mengikut jantina dan kumpulan etnik, Daerah Pentadbiran Semporna, Sabah, 2018

Population sex and ethnic group, Administrative District of Semporna, Sabah, 2018

('000)

Jantina/ *Sex/*	Jumlah *Total*	Warganegara Malaysia *Malaysian citizens*										Bukan Warganegara Malaysia *Non-Malaysian citizens*
		Jumlah *Total*	Bumiputera							Cina *Chinese*	Lain-lain* *Others*	
			Jumlah Bumiputera *Total Bumiputera*	Melayu *Malay*	Kadazan/ Dusun	Bajau	Murut	Bumiputera Lain *Other Bumiputera*				
Jumlah *Total*	169.9	116.5	111.8	4.4	1.0	93.2	0.1	13.1		1.2	3.6	53.4
Lelaki *Male*	86.4	57.8	55.4	2.4	0.7	45.7	0.0	6.6		0.6	1.9	28.6
Perempuan *Female*	83.6	58.7	56.4	2.1	0.3	47.5	0.0	6.4		0.6	1.7	24.9

Nota/*Notes* :

1. Unjuran Penduduk (Semakan Semula) berasaskan data Banci Penduduk dan Perumahan Malaysia 2010
   Population Projections (Revised) based on the Population and Housing Census of Malaysia 2010
2. Hasil tambah mungkin berbeza kerana pembundaran
   The added total may differ due to rounding
3. *Termasuk India
   Includes Indians

APPENDIX G:
Proposed Drainage Improvement Works at Semporna Township

Proposed Drainage Improvement Works at Semporna Township

i. Pekan Lama (Zone 1)
ii. Bandar Dolton (Zone 2)

Table of Contents

FIGURE

1.1 Problems

Semporna town area has been subject to frequent flash flood around the city road area due to :

i. Kerb drain openings become too small after slowly being blocked by reasphalting works over the years.
ii. Insuffient drainage conveyance flow capacity due to increase in impervious area as a result of new development over the years
iii. The outlets of the drainage have been blocked by rubbish or timber structures
iv. Existing outlets of the drainage system have been damaged or rundown
v. Some drainage have been blocked by services/pipes punching through he drain.

1.2 Outlet A

1.2.1 Site Layout and Photos

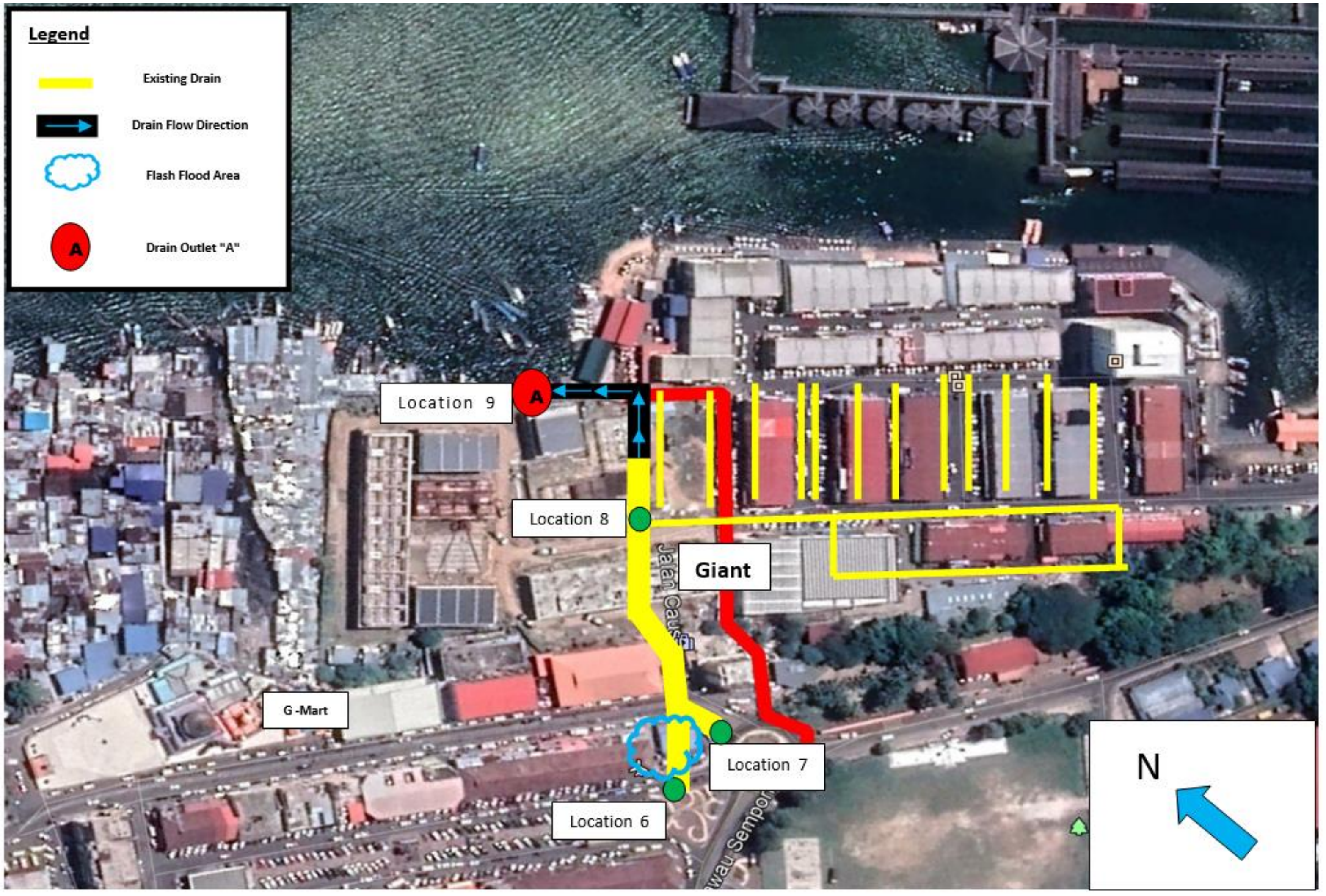
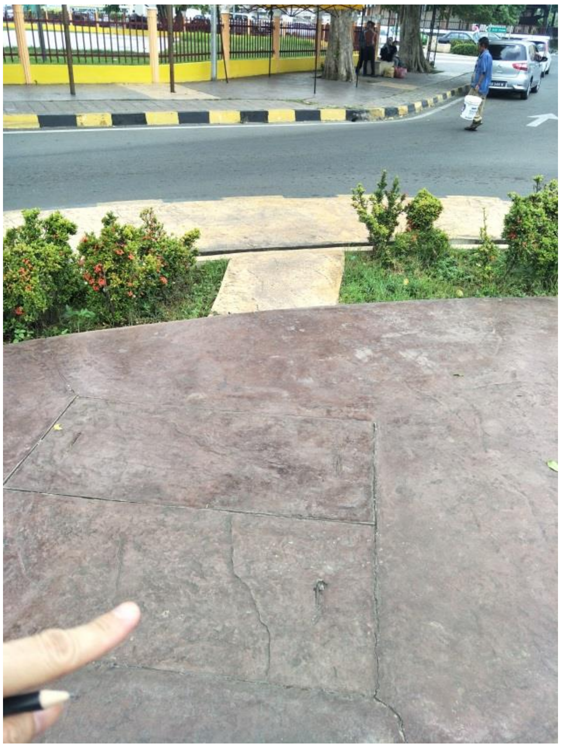
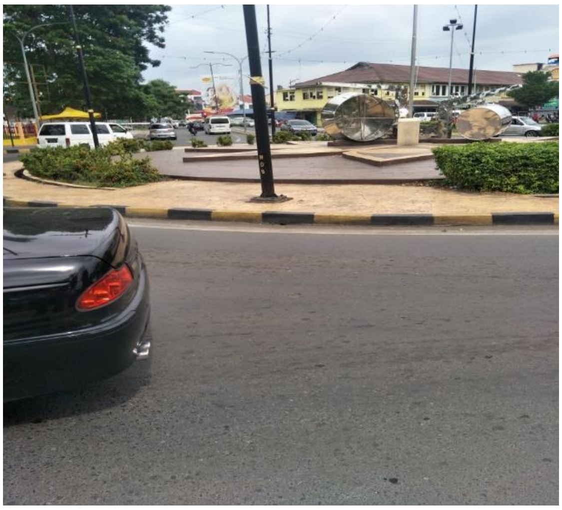


Figure 1: Location of Outlet "A" at Bandar Dolton (Zone 2), Semporna Town

Pic A1: Location 6 – The covered drain at walkway measuring 750mm width



Pic A2: Location 6 – Existing RC drain concealed under roundabout



Pic A3: Location 6 – Existing RC drain passing through roundabout

Pic A4: Location 6 – Weephole on kerbs almost fully covered up by pavement. Storm water will be difficulty to flow in.

Flash flood reported during heavy rainfall at roundabout area

Pic A5: Location 7 – The drain going from the roundabout, passing through wet market. Sump is filled with rubbish

Pic A6: Location 8 to 9 – Pedestrian walkway

Pic A7: Location 8 to 9 – Pedestrian walkway

Pic A8: Proposed new outlet for proposed drain from roundabout

Pic A9: Location 9 – Jetty station

Pic A10: Proposed new Public Market

Pic A11: Location 9 - Proposed new outlet for proposed drain from roundabout

Pic A12: Location 8 – Existing final discharge point of drain coming from the roundabout, located beside “Proposed New Public Market”

1.2.2 Proposed Drainage Improvement Works

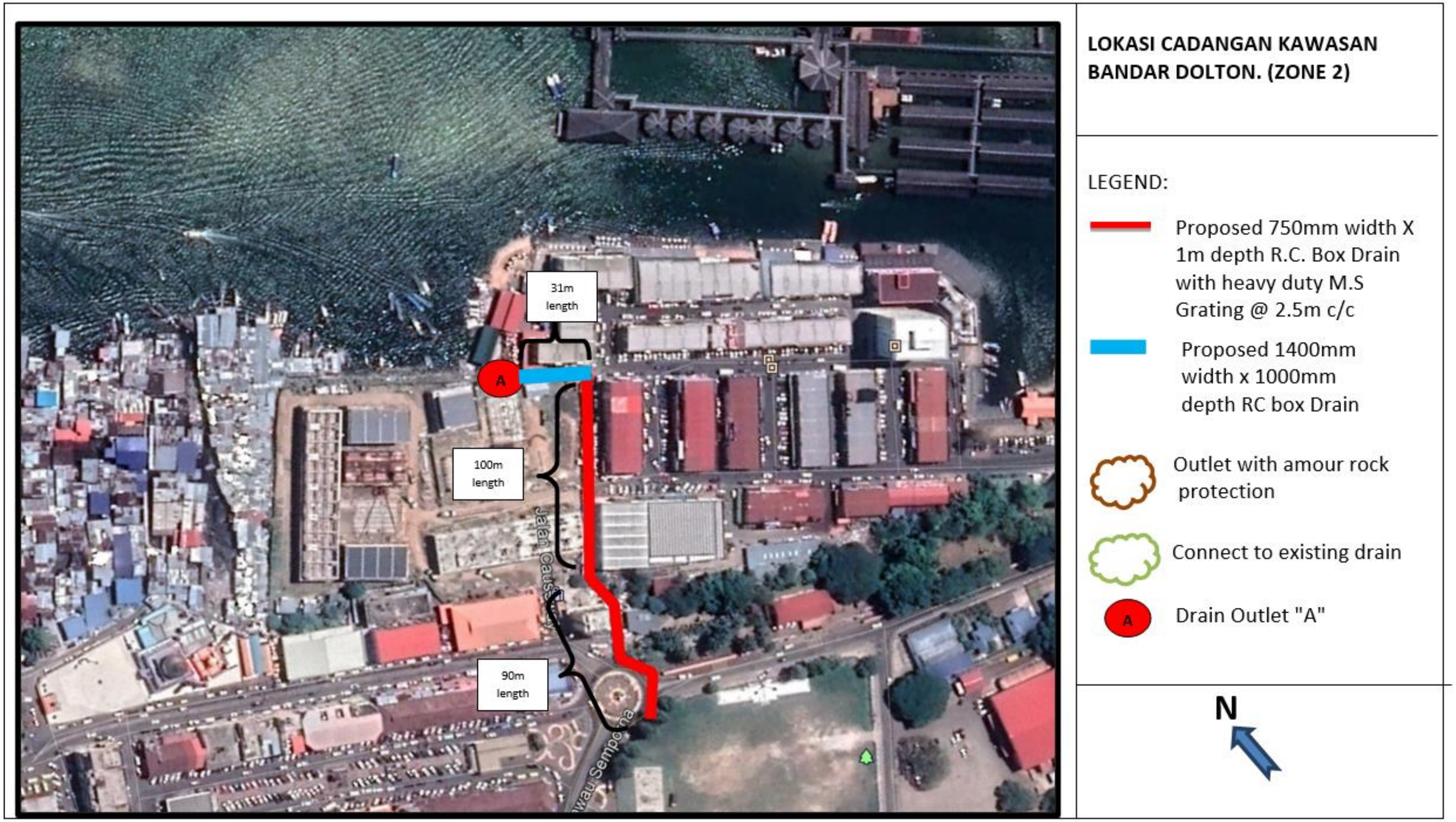
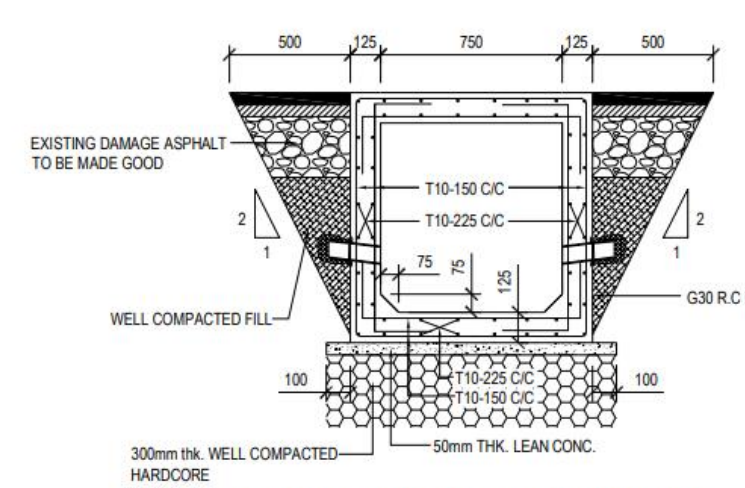
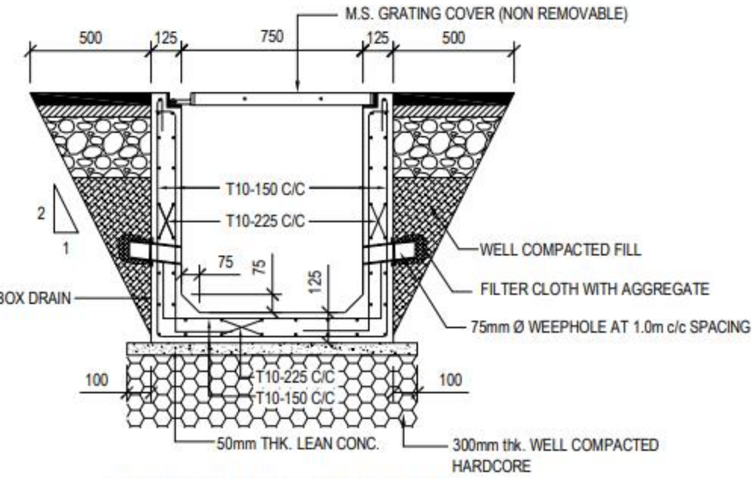


Figure 2: Proposed drain improvement work for Outlet “A”

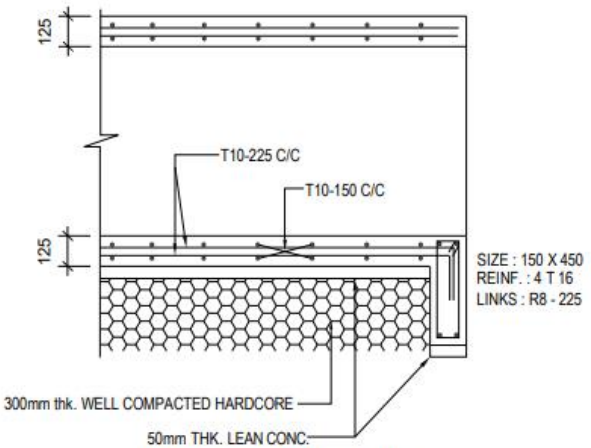
TYPICAL DETAILS OF PROPOSED DRAINAGE AT OUTLET 'A'



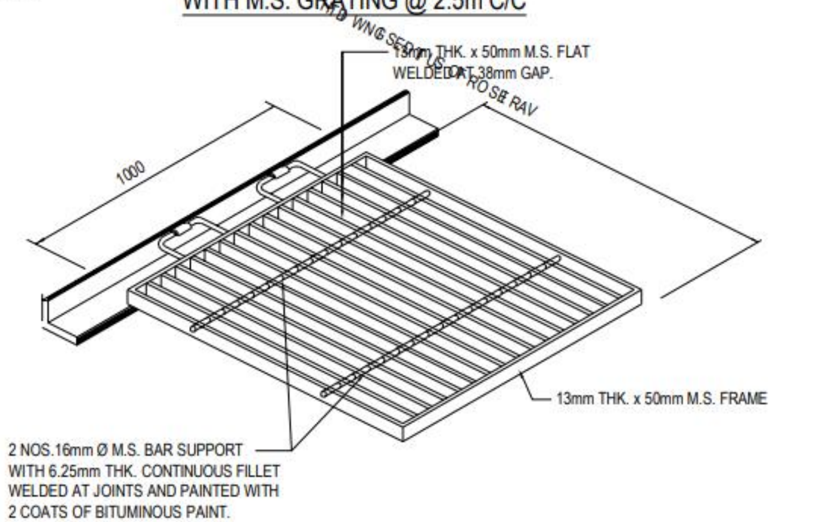
DETAILS OF 750mm WIDE R.C. BOX DRAIN



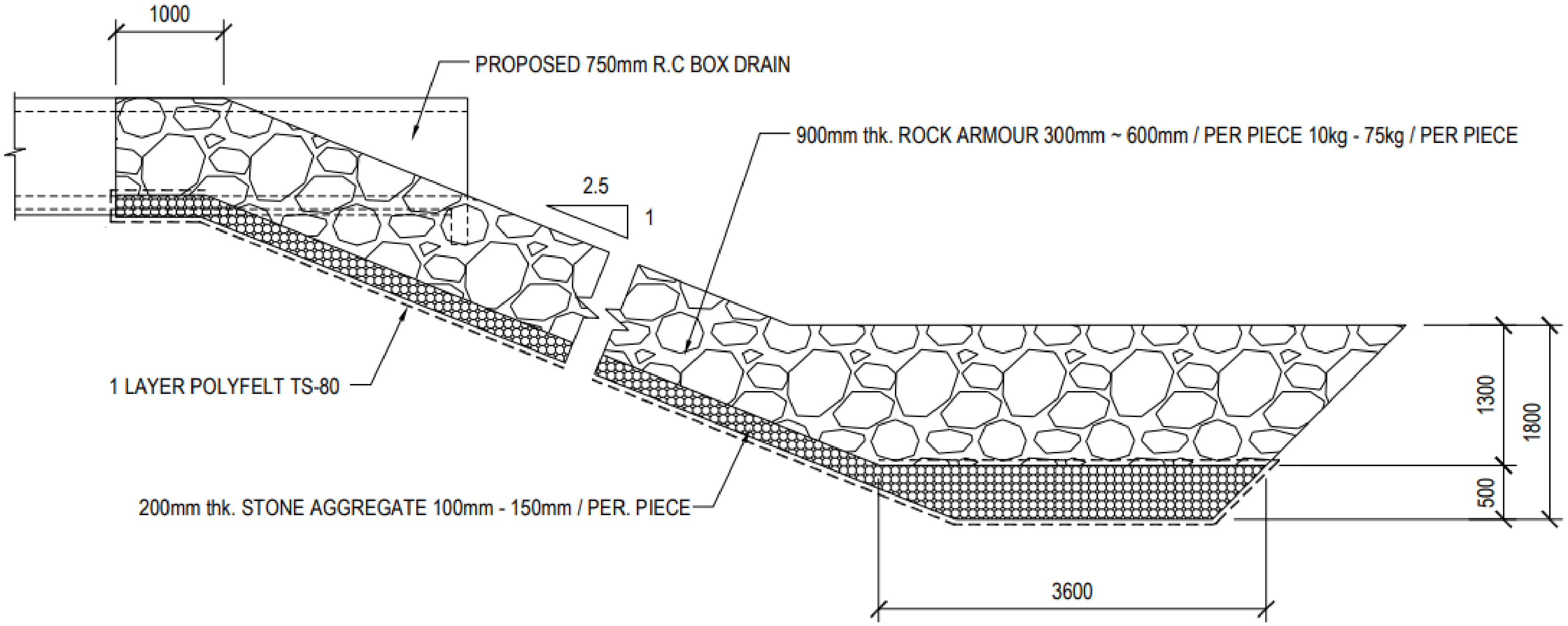
DETAILS OF 750mm WIDE DRAIN
WITH M.S. GRATING @ 2.5m C/C



DETAIL OF DRAIN OUTLET



ISOMETRIC VIEW OF M.S. GRATING COVER WITH HINGES (NON-REMOVABLE)



DETAIL OF ROCK ARMOUR

ARMOUR STONE

1. ARMOUR STONE SHALL BE CONSIST OF APPROVED QUALITY, CLEAN, SOUND, DURABLE ROCK, FREE OF EARTH AND OTHER SOFT OR DECOMPOSED MATERIALS AND SHALL SHOW NO CRACKS OR FISSURES. RANDOM SAMPLE SHALL BE ASSESSED USING THE FOLLOWING TESTS IN ACCORDANCE WITH BS812, UNLESS NOTED OTHERWISE:

A. APPARENT RELATIVE DENSITY. NINE SAMPLE OUT OF EVERY TEN SHALL HAVE A VALUE OF NOT LESS THAN 2.6 AND NO VALUE SHALL BE LESS THAN 2.5. ONE TEST TO BE CARRIED OUT FOR EVERY 50m INTERVAL.
B. WATER ABSORPTION. THE VALUE SHALL NOT BE LESS THAN 3%. ONE TEST TO BE CARRIED OUT FOR EVERY 50m INTERVAL.
C. TEN PER CENT FINES. THE VALUE SHALL NOT BE LESS THAN 10t. ONE TEST TO BE CARRIED OUT FOR EVERY 50m INTERVAL
D. AGGREGATE ABRASION VALUE. VALUE SHALL BE NOT MORE THAN 40%.ONE TEST TO BE CARRIED OUT FOR EVERY 50m INTERVAL

TYPICAL DETAILS OF PROPOSED DRAINAGE AT OUTLET 'A'

1.3 Outlet B

1.3.1 Site Layout and Photos

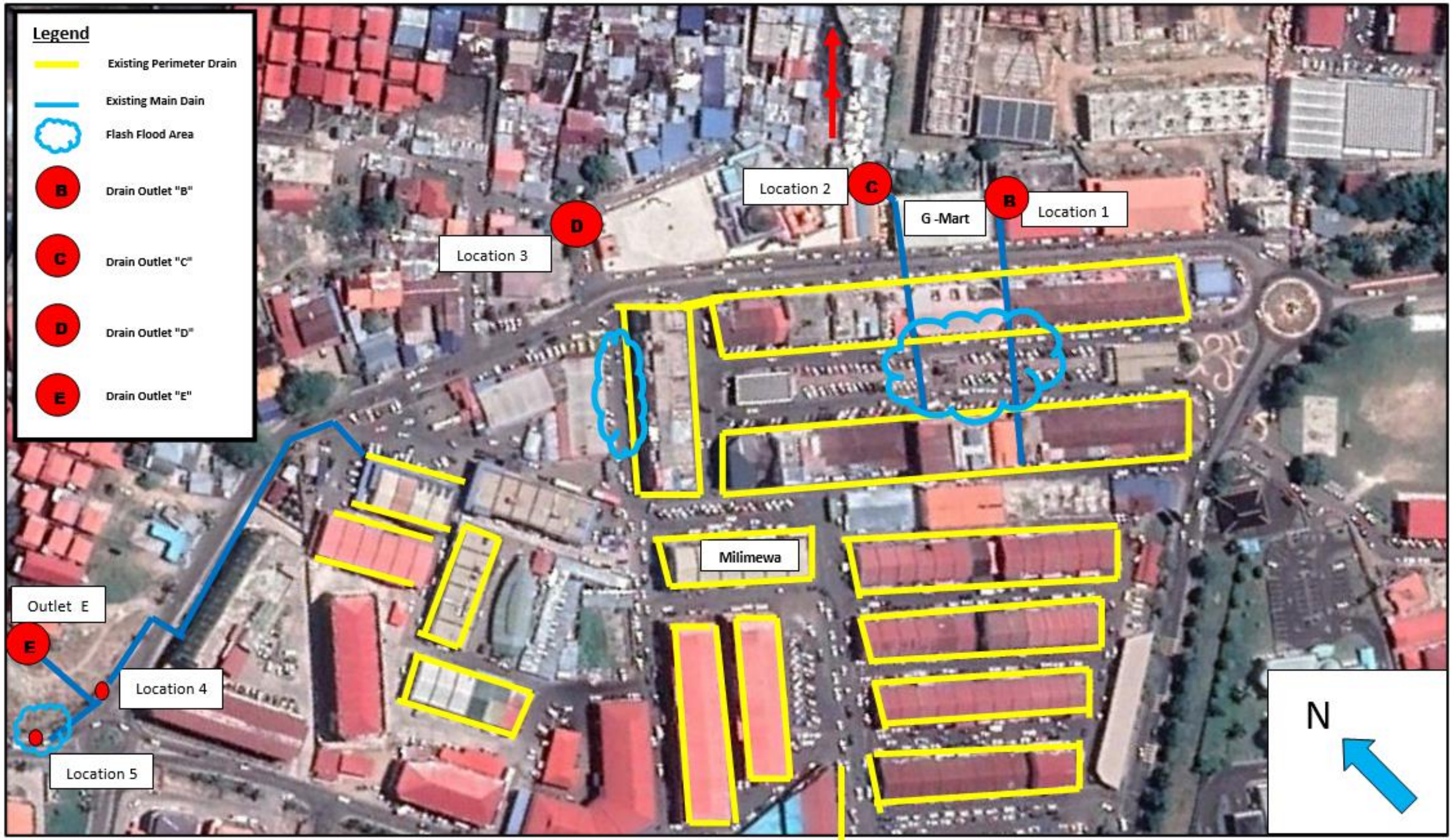


Figure 3: Location of Outlet "B", "C", "D" and "E" at Pekan Lama (Zone 1), Semporna Town

Pic B1: Walking towards outlet

Pic B2: Location 1 – Outlet from RC box drain, going towards hoarding

Pic B3: Location 1 – Outlet “B” goes through hoarding

Pic B4: Location 1 – Discharge from outlet was filled with garbages, and flowing to direction of Outlet “C”. A big lizard was resting on the box drain.

Pic B5: Outlet “B” was filled with garbage

Pic B6: :Location 2 – Garbage stuck below timber jetty

Pic B7: Location 2 – Discharge from Outlet “B” flowing towards Outlet “C”

1.3.2 Proposed Drainage Improvement Works

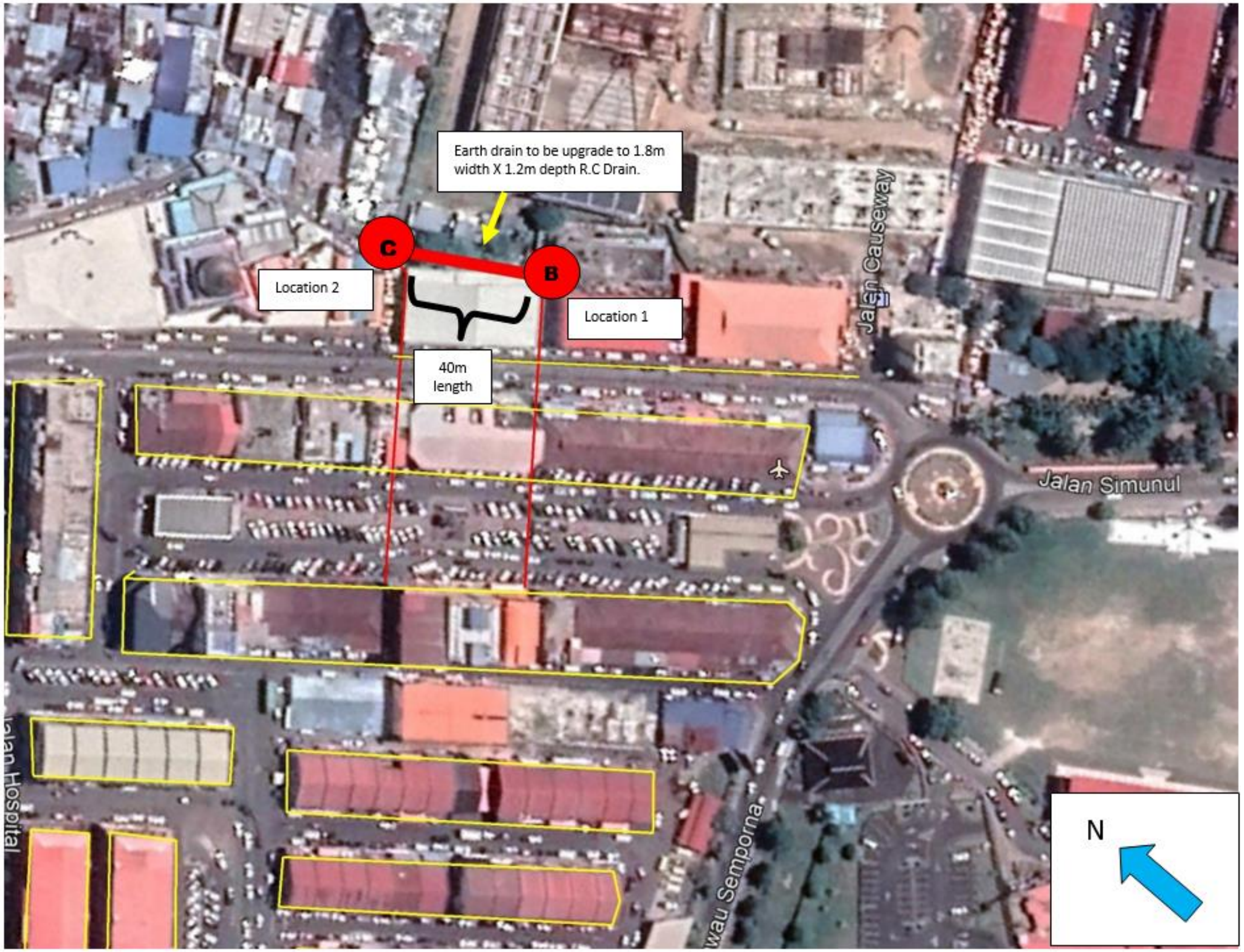


Figure 4: Proposed drain improvement work for Outlet “B”

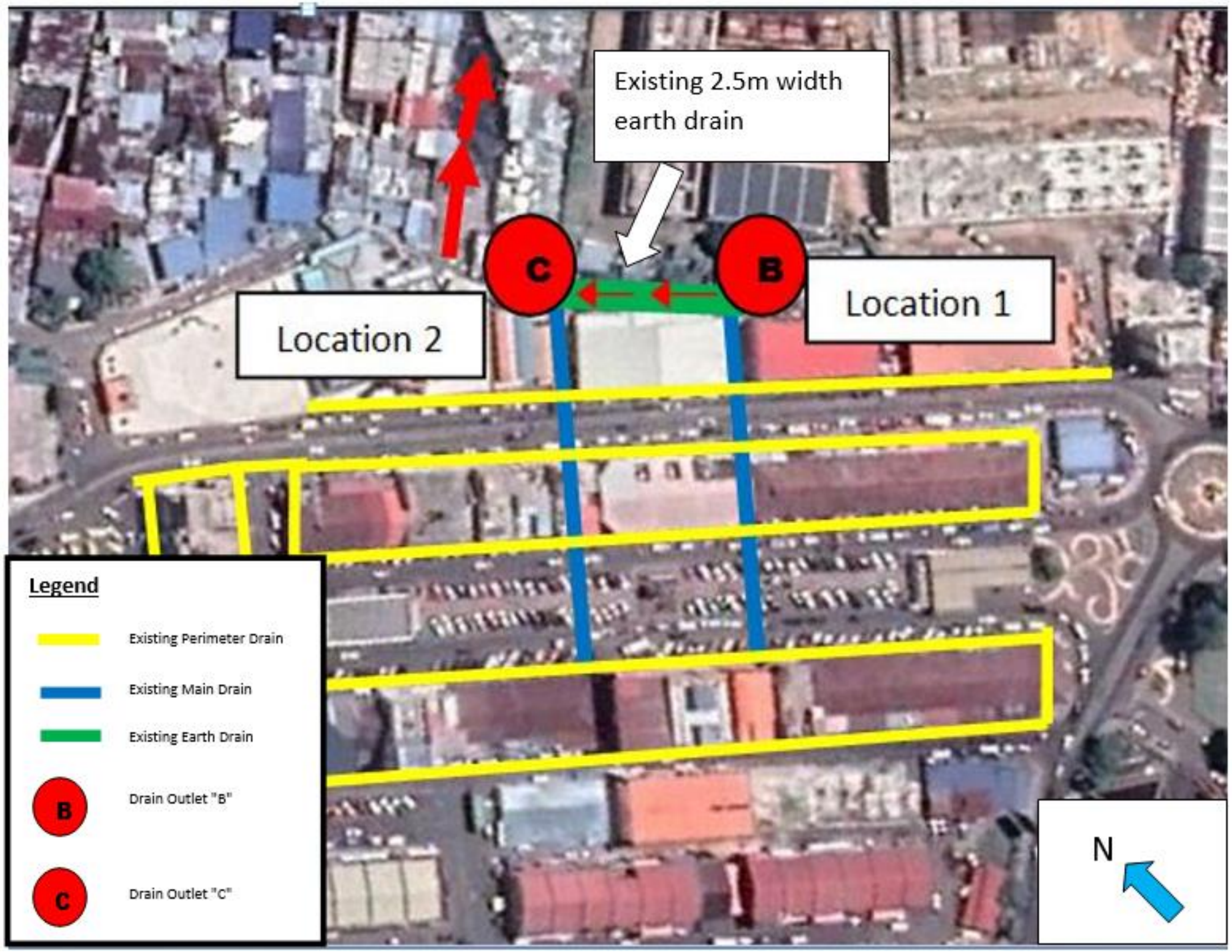
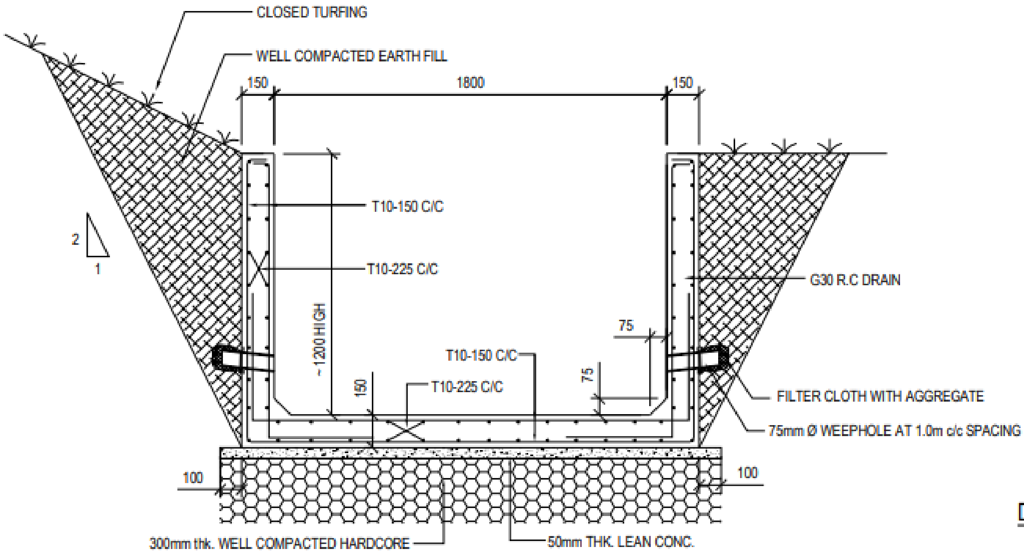
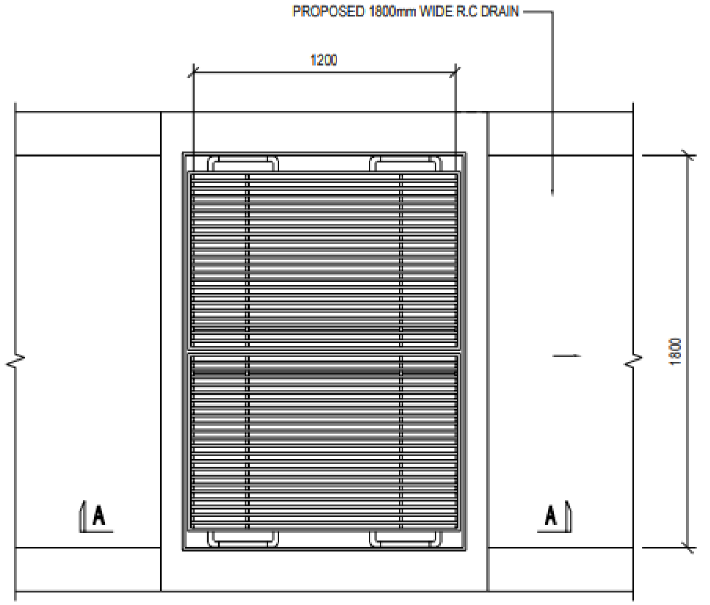


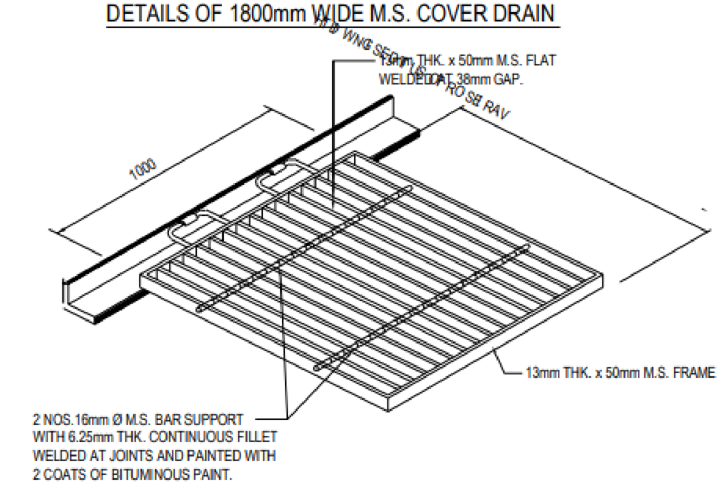
Figure 5: Existing drain at Outlet “B”



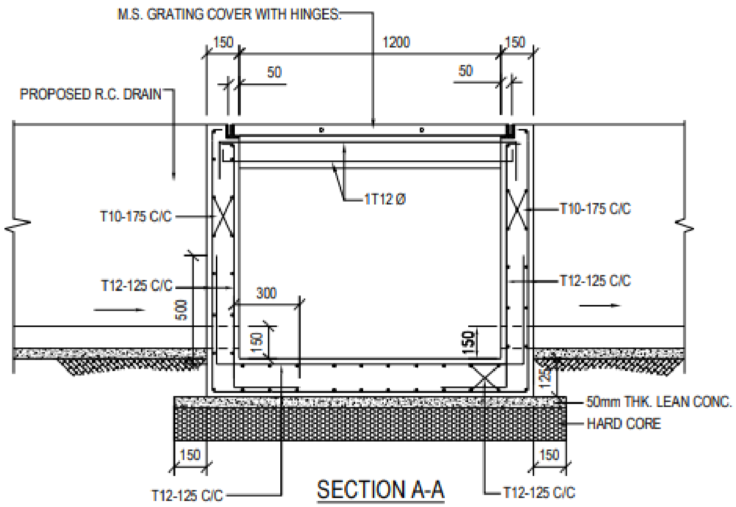
DETAILS OF 1800mm WIDE M.S. COVER DRAIN



DETAIL OF 1800mm X 1200mm DRAINAGE R.C SUMP COVER WITH HINGES

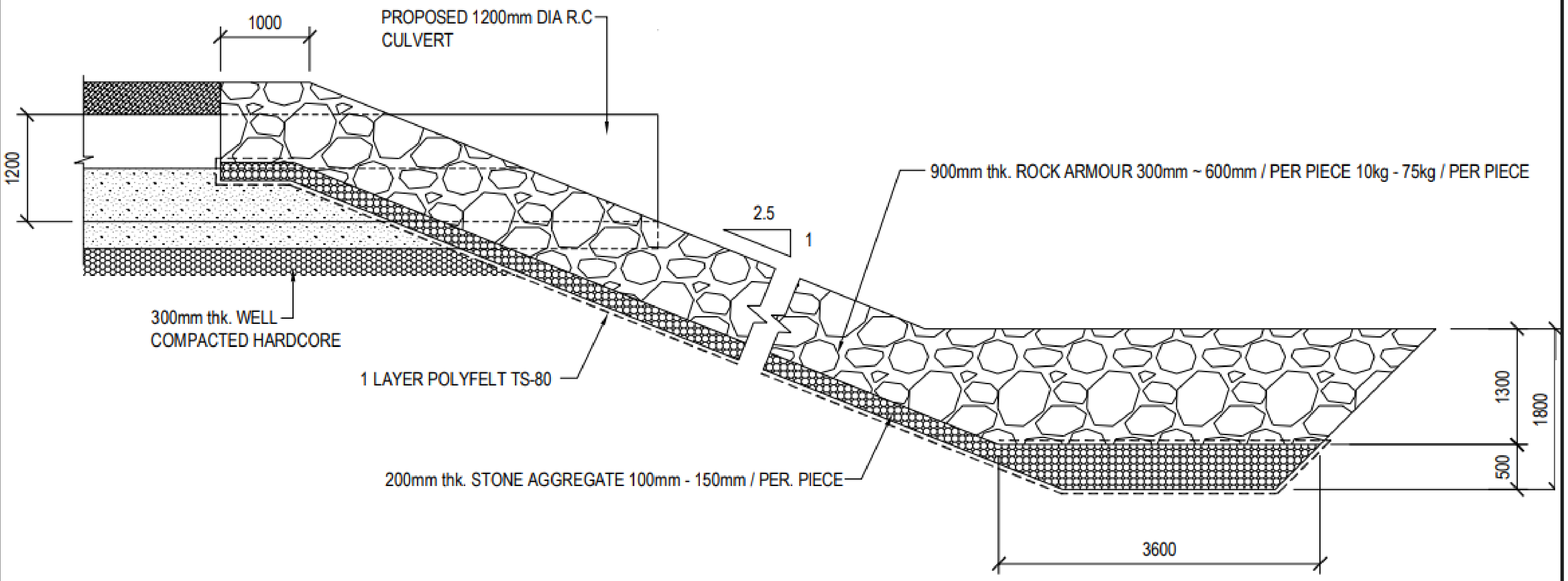


ISOMETRIC VIEW OF M.S. GRATING COVER WITH HINGES (NON-REMOVABLE)



SECTION A-A

TYPICAL DETAILS OF PROPOSED DRAINAGE AT OUTLET 'B'



DETAIL OF ROCK ARMOUR

ARMOUR STONE

1. ARMOUR STONE SHALL BE CONSIST OF APPROVED QUALITY, CLEAN, SOUND, DURABLE ROCK, FREE OF EARTH AND OTHER SOFT OR DECOMPOSED MATERIALS AND SHALL SHOW NO CRACKS OR FISSURES. RANDOM SAMPLE SHALL BE ASSESSED USING THE FOLLOWING TESTS IN ACCORDANCE WITH BS812, UNLESS NOTED OTHERWISE:

A. APPARENT RELATIVE DENSITY. NINE SAMPLE OUT OF EVERY TEN SHALL HAVE A VALUE OF NOT LESS THAN 2.6 AND NO VALUE SHALL BE LESS THAN 2.5. ONE TEST TO BE CARRIED OUT FOR EVERY 50m INTERVAL.
B. WATER ABSORPTION. THE VALUE SHALL NOT BE LESS THAN 3%. ONE TEST TO BE CARRIED OUT FOR EVERY 50m INTERVAL.
C. TEN PER CENT FINES. THE VALUE SHALL NOT BE LESS THAN 10t. ONE TEST TO BE CARRIED OUT FOR EVERY 50m INTERVAL
D. AGGREGATE ABRASION VALUE. VALUE SHALL BE NOT MORE THAN 40%.ONE TEST TO BE CARRIED OUT FOR EVERY 50m INTERVAL

TYPICAL DETAILS OF PROPOSED DRAINAGE AT OUTLET 'B'

1.4 Outlet C

1.4.1 Site Layout and Photos

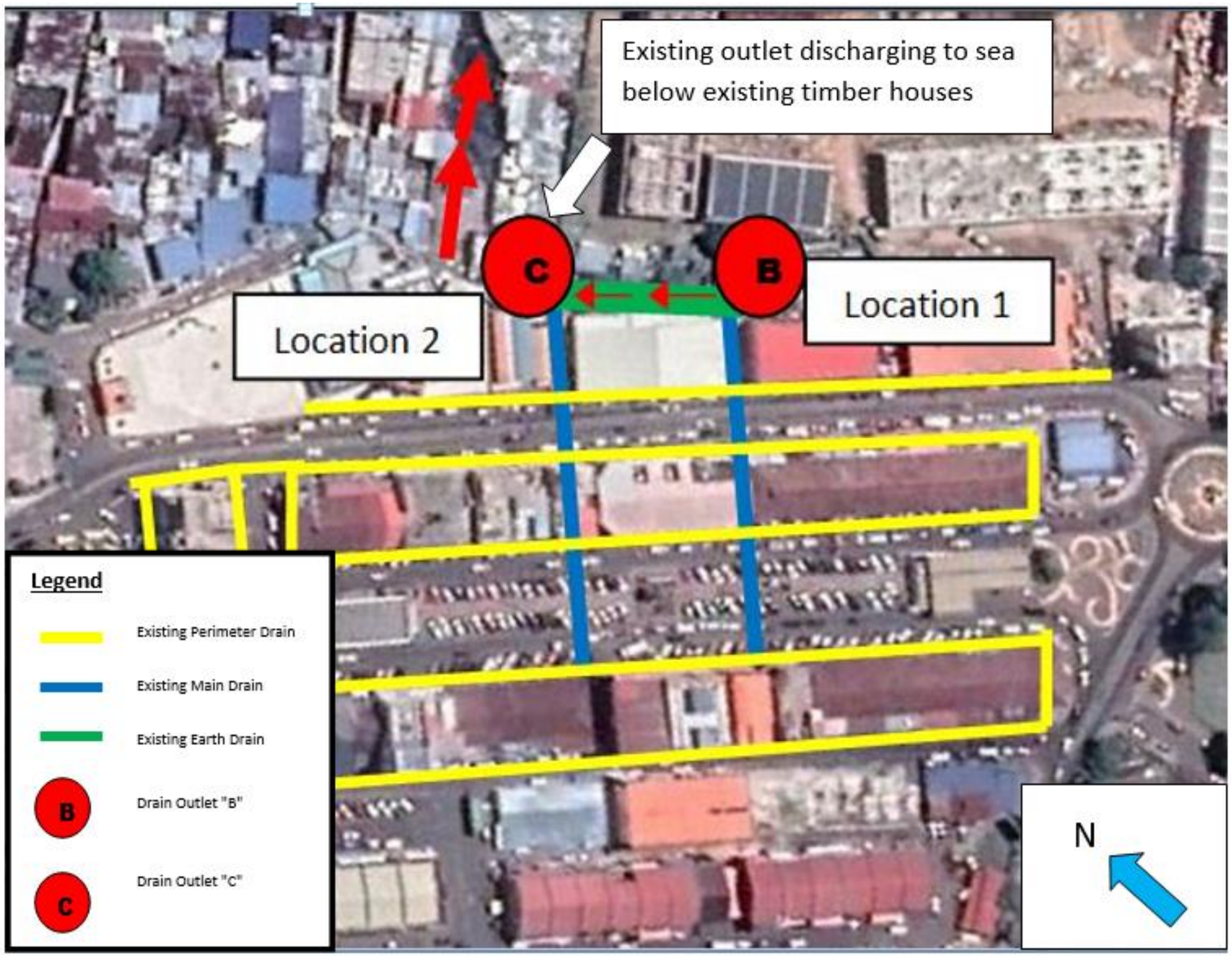


Figure 6: Location of Outlet “C” at Pekan Lama (Zone 1), Semporna Town

Pic C1: Location 2 – 1200mm diameter broken RC pipe culvert, outlet to Kampung Air

Pic C2: Location 2 – Below the stilt timber was filled with garbarge

1.4.2 Proposed Drainage Improvement Work

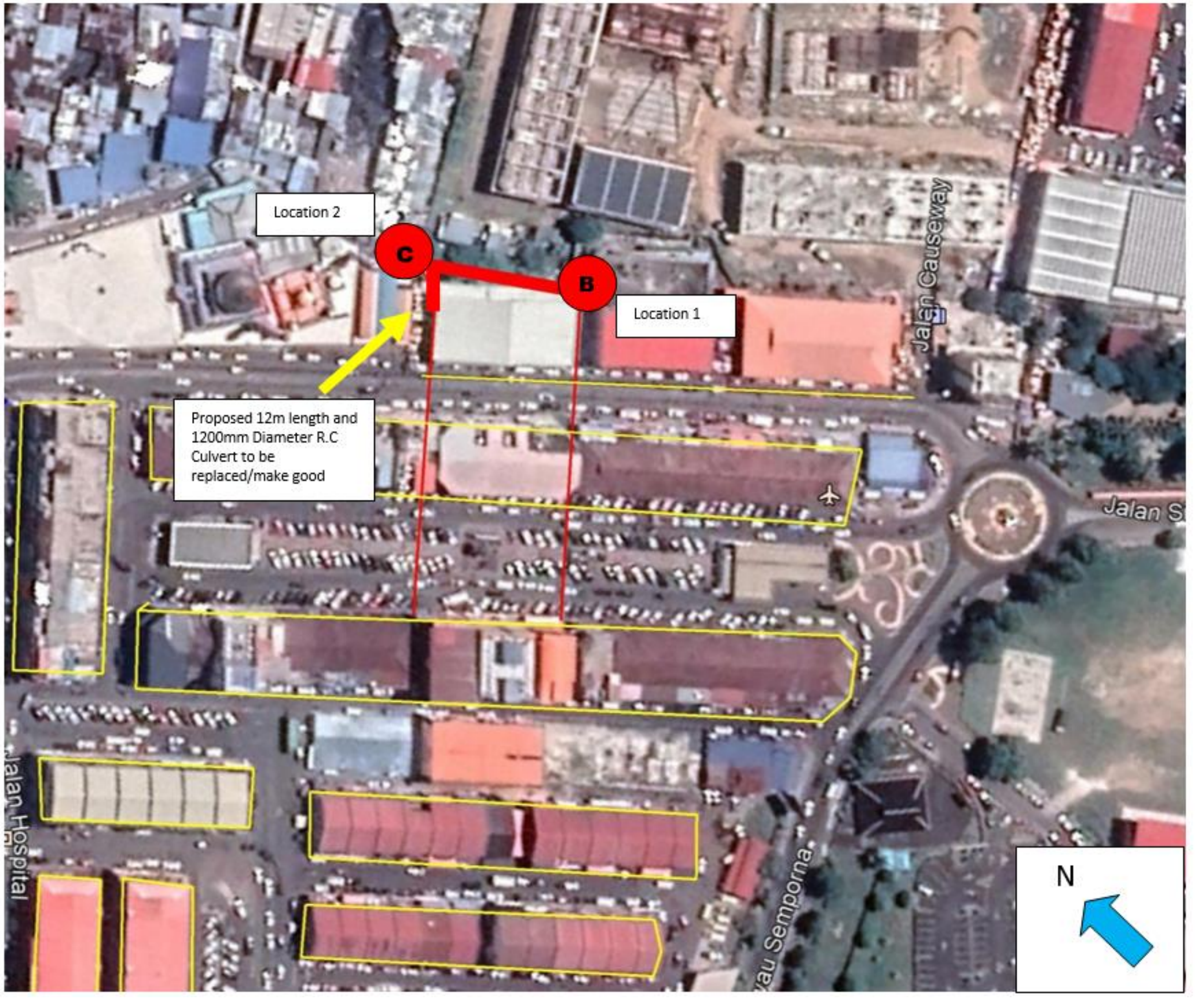
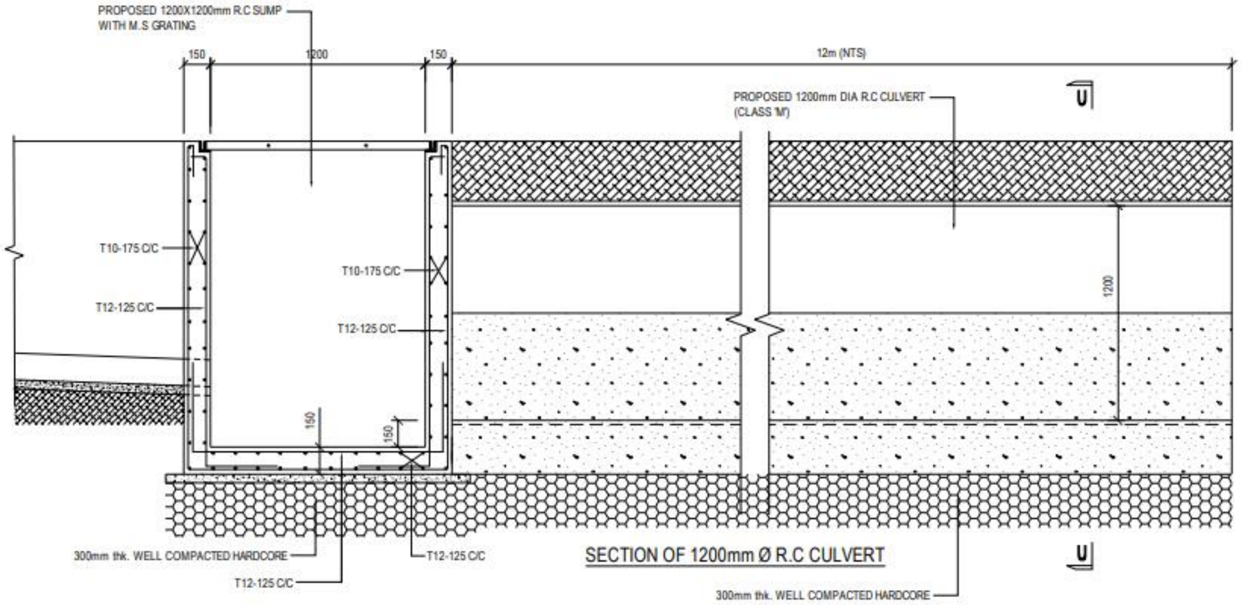
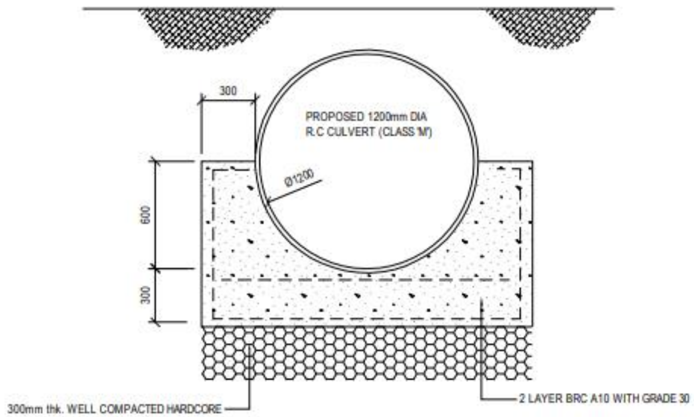


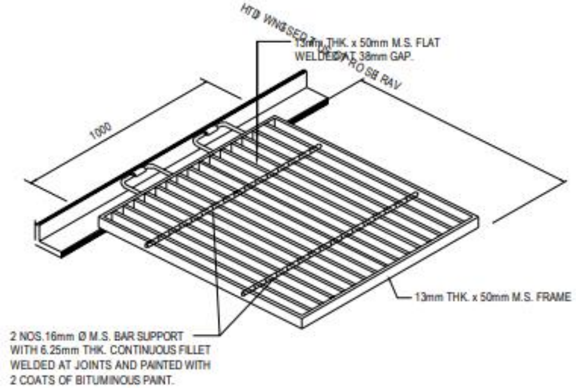
Figure 7: Proposed drain improvement work for Outlet “C”



SECTION OF 1200mm Ø R.C CULVERT



SECTION U-U



ISOMETRIC VIEW OF M.S. GRATING COVER WITH HINGES (NON-REMOVABLE)

TYPICAL DETAILS OF PROPOSED DRAINAGE AT OUTLET 'C'

1.5 Outlet D

1.5.1 Site Layout and Photos

Figure 8: Location of Outlet “D” at Pekan Lama (Zone 1), Semporna Town

Pic D1: Location 3 – Shop lot perimeter drains (Viewing from shoplot towards proposed Outlet “D”)

Pic D3: Proposed 750mm RC drain to Outlet “D” from direction of shoplot, running along side of mosque

Pic D2: Location 3 – Proposed new Outlet “D” for shoplots. Outlet “D” to be placed below timber house which behind the pedestrian timber walkway

1.5.2 Proposed Drainage Improvement Work

1.5.2.1 Option 1

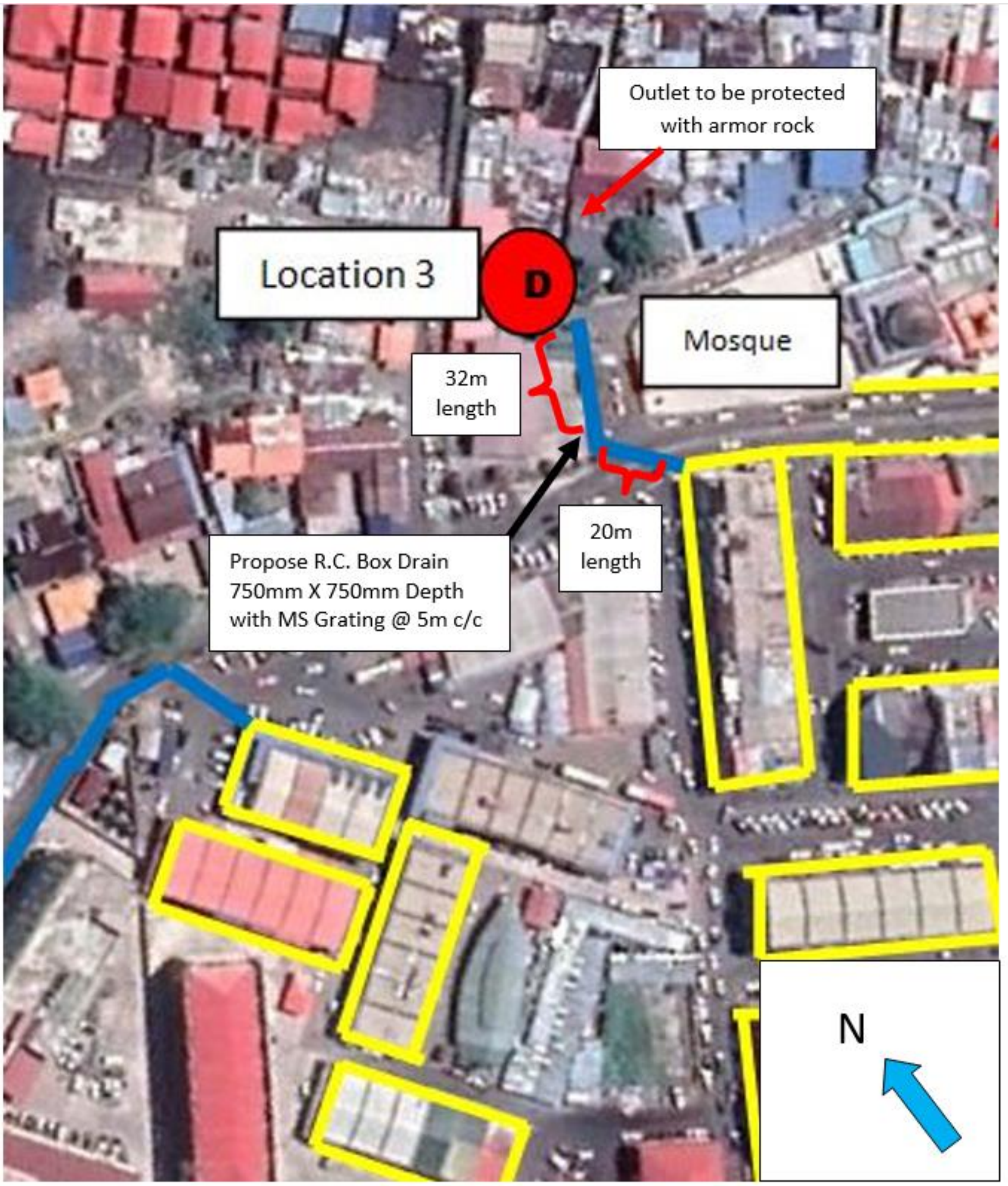
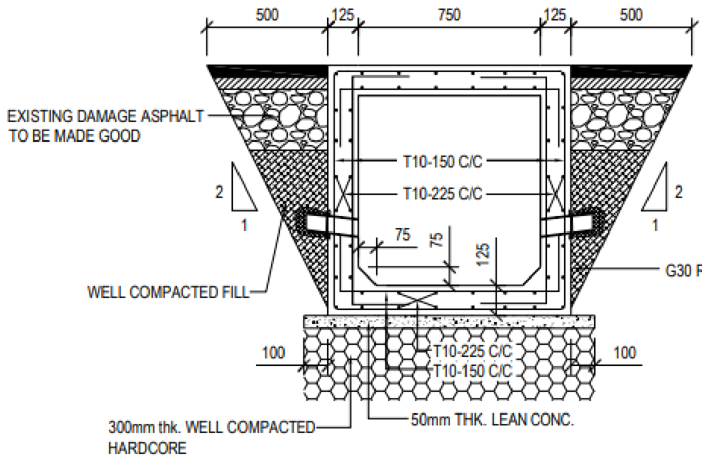
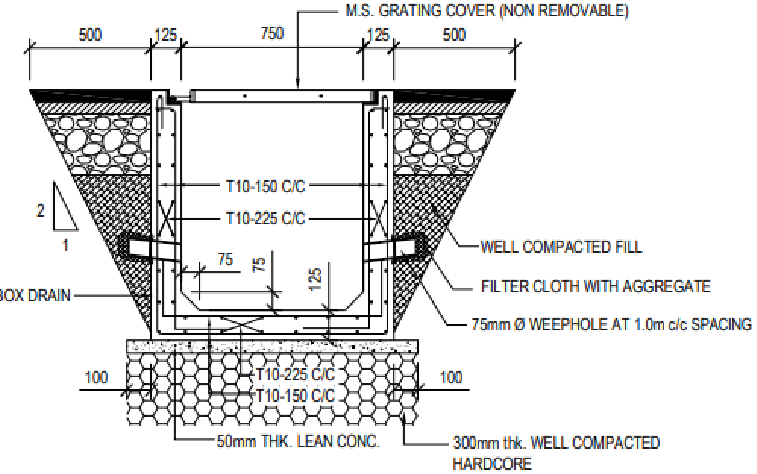


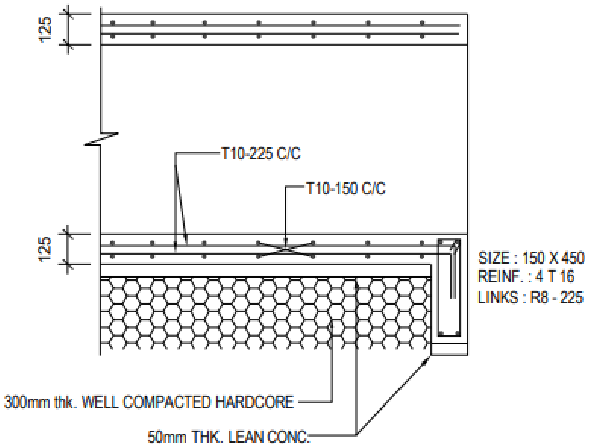
Figure 9: Proposed drain improvement work fro Outlet “D” (Option 1)



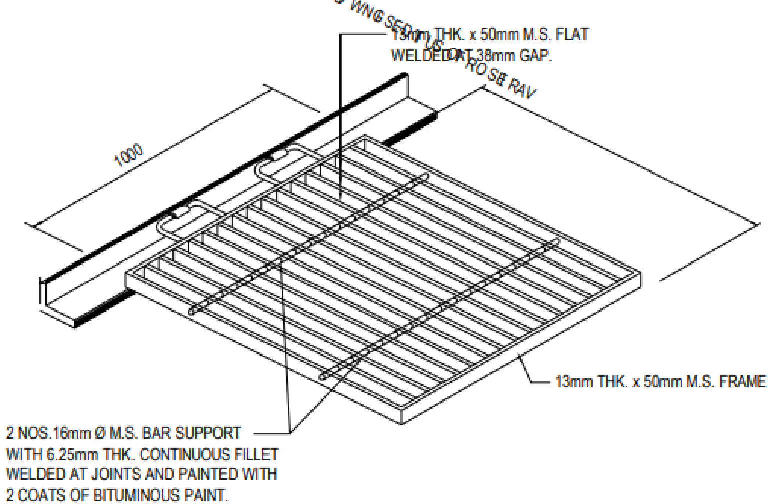
DETAILS OF 750mm WIDE R.C. BOX DRAIN



DETAILS OF 750mm WIDE DRAIN
WITH M.S. GRATING @ 2.5m C/C

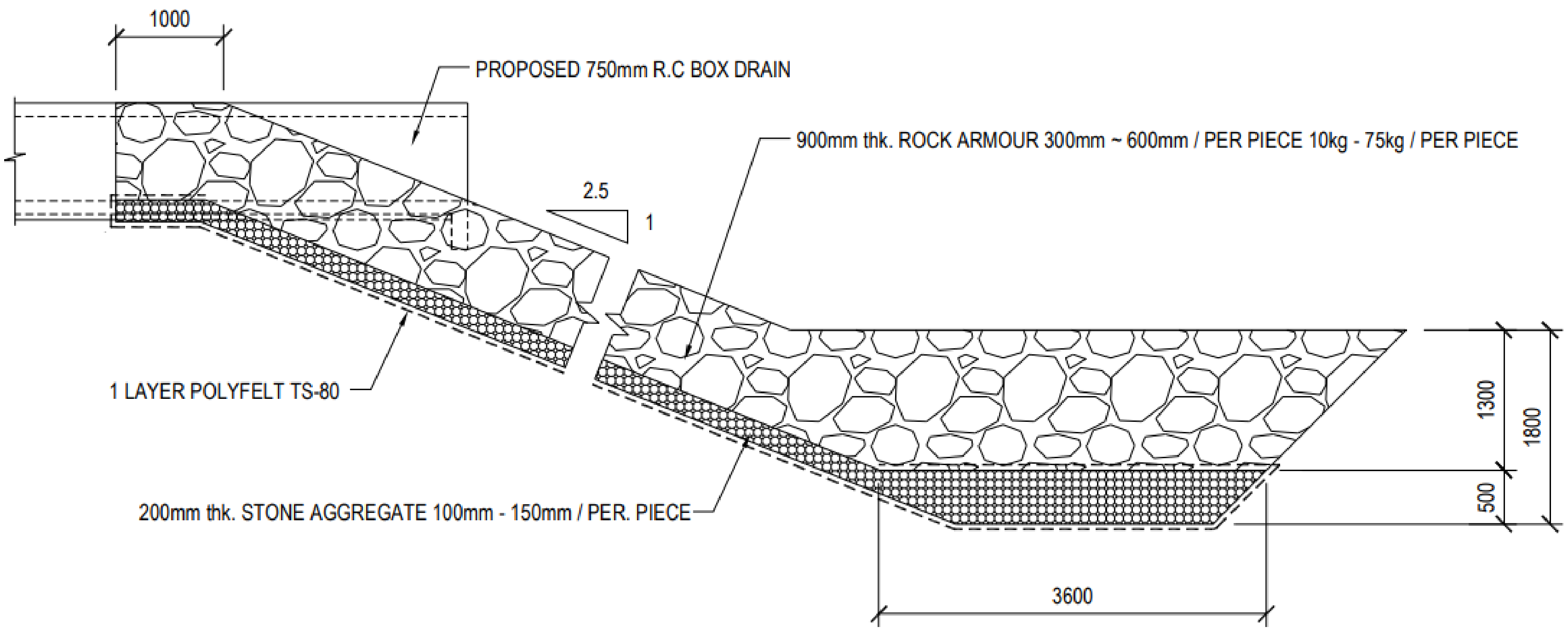


DETAIL OF DRAIN OUTLET



ISOMETRIC VIEW OF M.S. GRATING COVER WITH HINGES (NON-REMOVABLE)

TYPICAL DETAILS OF PROPOSED DRAINAGE AT OUTLET 'D' (OPTION 1)



DETAIL OF ROCK ARMOUR

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B. WATER ABSORPTION. THE VALUE SHALL NOT BE LESS THAN 3%. ONE TEST TO BE CARRIED OUT FOR EVERY 50m INTERVAL.

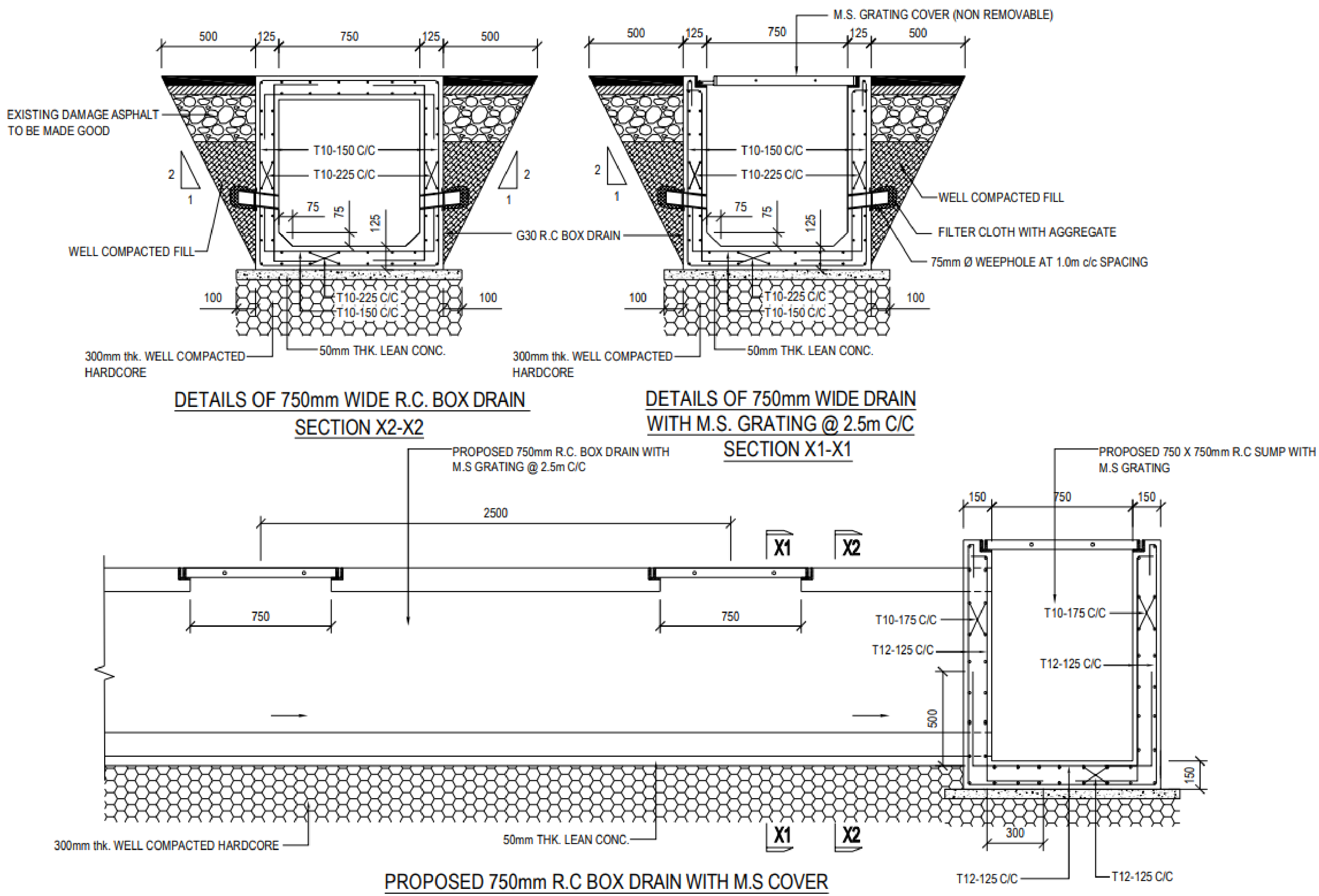
C. TEN PER CENT FINES. THE VALUE SHALL NOT BE LESS THAN 10t. ONE TEST TO BE CARRIED OUT FOR EVERY 50m INTERVAL

D. AGGREGATE ABRASION VALUE. VALUE SHALL BE NOT MORE THAN 40%.ONE TEST TO BE CARRIED OUT FOR EVERY 50m INTERVAL

TYPICAL DETAILS OF PROPOSED DRAINAGE AT OUTLET 'D' (OPTION 1)

1.5.2.2 Option 2

Figure 10: Proposed drain improvement work for Outlet “D” (Option 2)



TYPICAL DETAILS OF PROPOSED DRAINAGE AT OUTLET 'D' (OPTION 2)

1.6 Outlet E

1.6.1 Site Layout and Photos

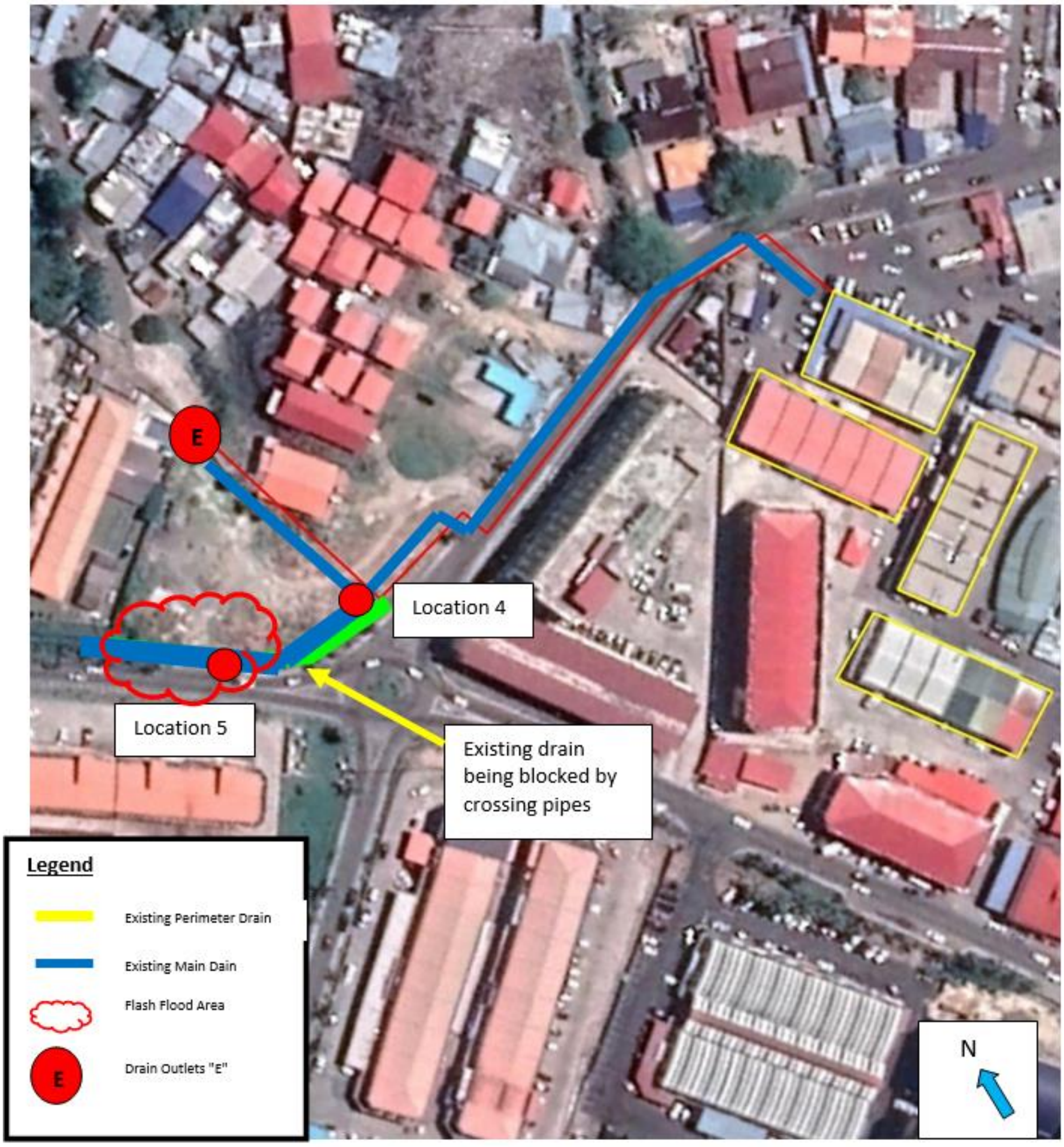


Figure 11: Location of Outlet “E” at Pekan Lama (Zone 1), Semporna Town

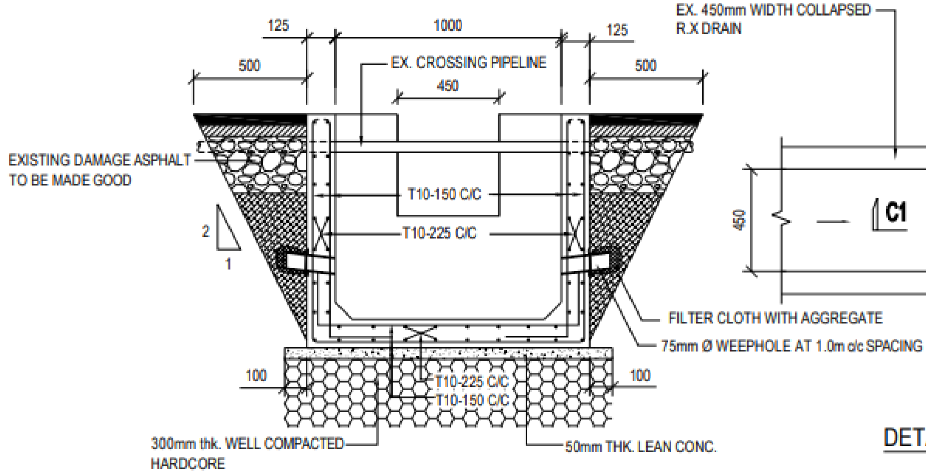

Pic E1: Location 5 to 4 – Bottle neck drain occupied by crossing conduits

Pic E2: Location 4 – A few conduits crossing the existing collapsed 450mm width RC drain, causing a local flow bottle neck

Pic E3: Location 5 – Drain water stagnant, drain wall collapsed

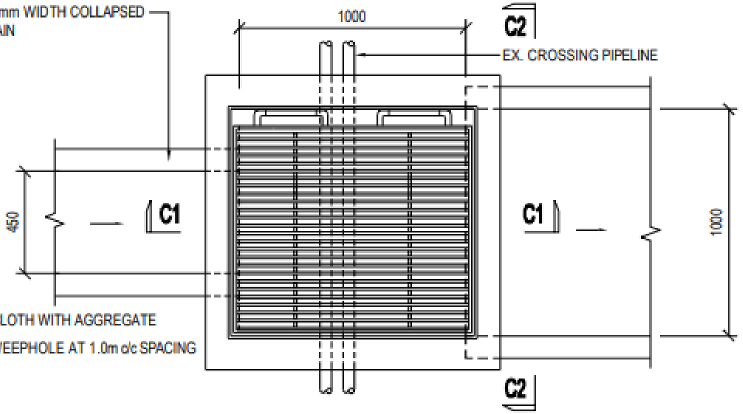
1.6.2 Proposed Drainage Improvement Work

Figure 12: Proposed drain improvement work for Outlet "E"



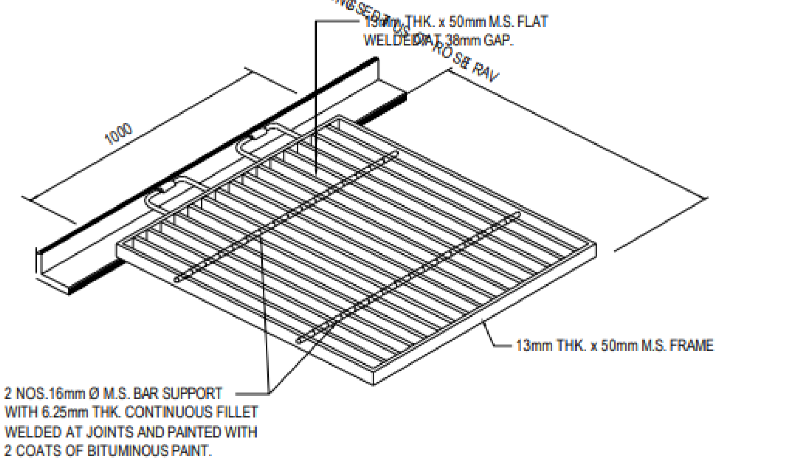
DETAILS OF 1000mm WIDE R.C. DRAIN

SECTION C2-C2

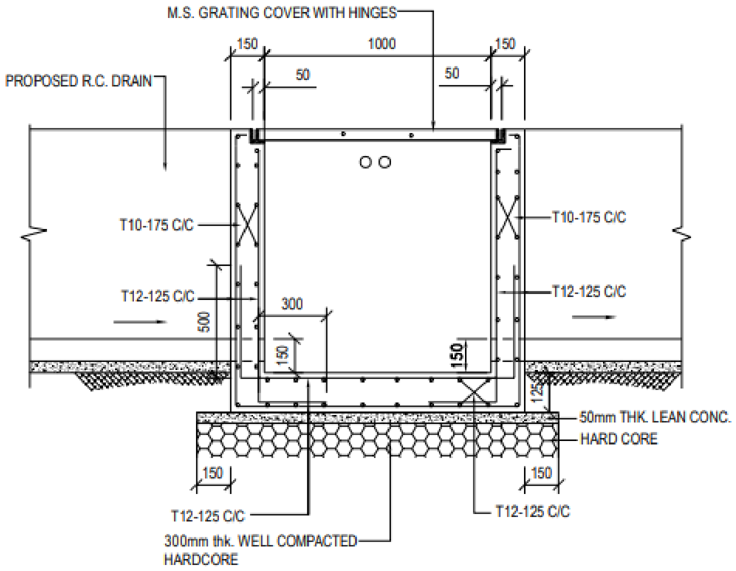


DETAIL OF 1000mm X 1000mm DRAINAGE

R.C SUMP COVER WITH HINGES



ISOMETRIC VIEW OF M.S. GRATING COVER WITH HINGES (NON-REMOVABLE)



SECTION C1-C1

TYPICAL DETAILS OF PROPOSED DRAINAGE AT OUTLET 'E'