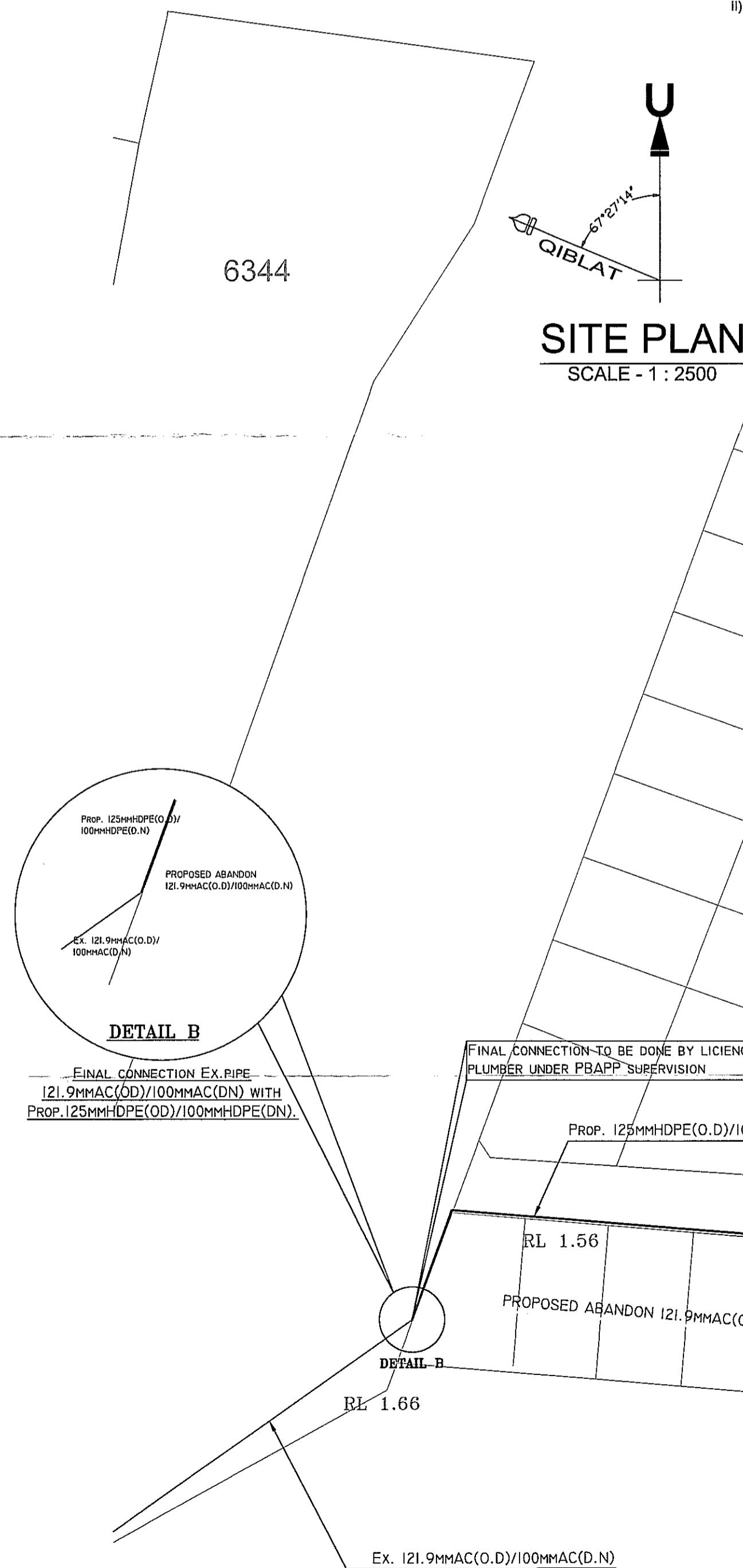


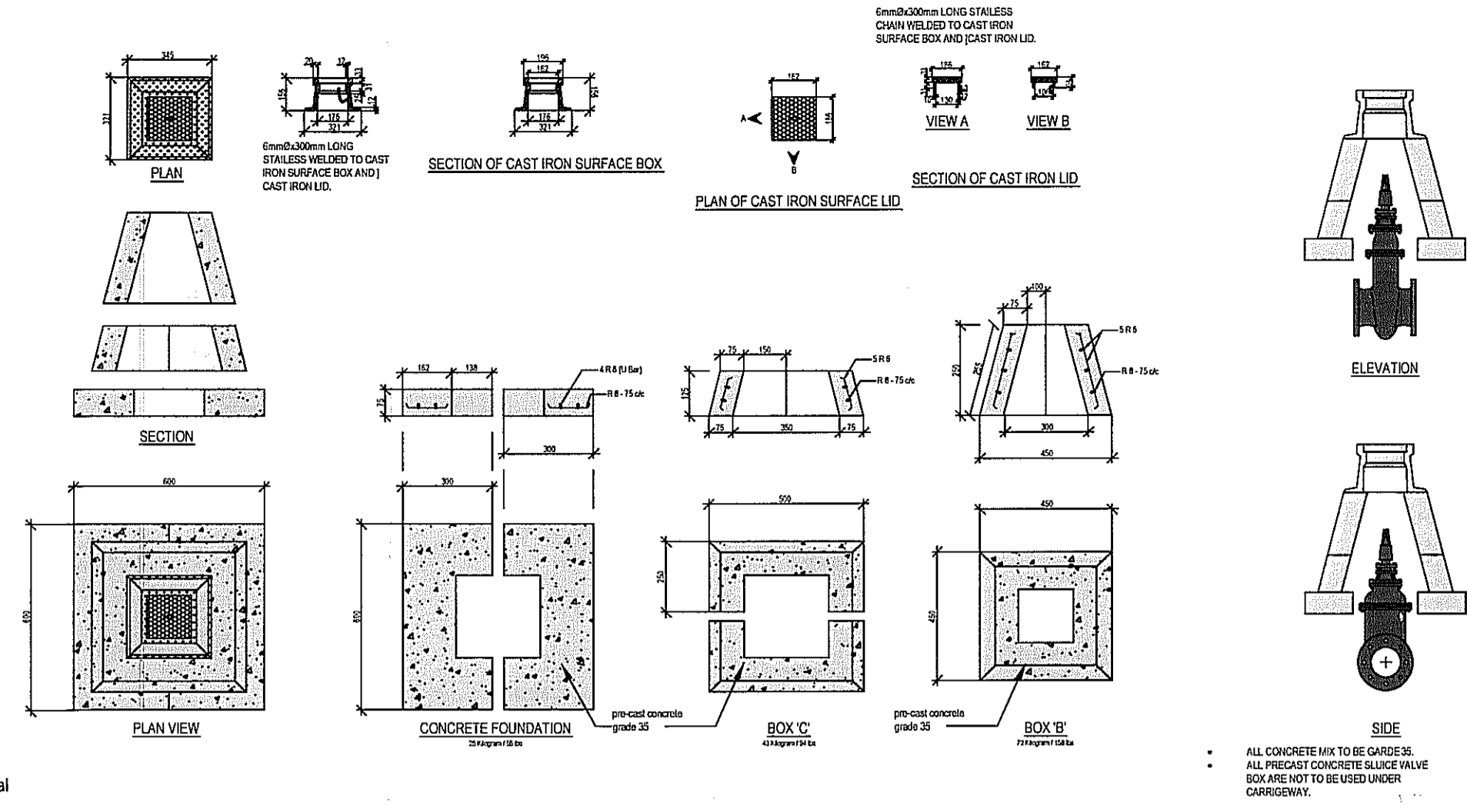
KEY PLAN
SCALE - 1 : 40000



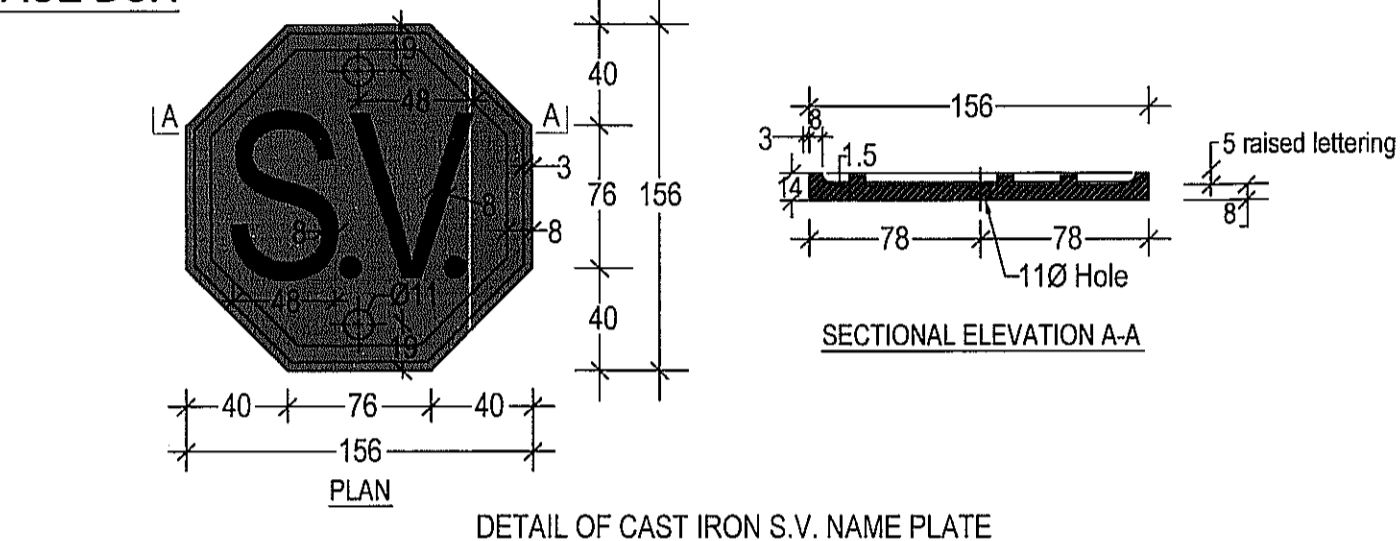
SITE PLAN
SCALE - 1 : 2500

MAIN LAYING REQUIREMENT

- All pipes specials and fittings shall be subjected to the approval of SPAN.
- Water mains of nominal diameter 10mm and above shall have a minimum cover of 1.0 meter.
- For pipes less than 10mm diameter, laid across federal road or state road, shall be laid through a G.I pipe class B or equivalent.
- For pipes less than 75mm, the minimum cover to the pipe shall be 450mm. The stopcock shall be installed on the same side of the PBAPP mains and shall not exceed a depth of 450mm.
- Laying of pipes and specials and installation of fittings should be done according to the regulation and specification of SPAN.
- All sluice valve must be installed in a valve chamber constructed according to standard and requirements of SPAN.
- Direction of opening for sluice valve and butterfly valves shall be as follows :-
i) Clockwise opening for Penang Island.
ii) Anti - Clockwise opening for Seberang Perai.
- Thrust block for pipe shall be provided at all bends and tees.
- All pipes running along the drain shall be laid 1.25m away from the edge of drain.
- All PBAPP pipes shall be laid 1.25m away from other any utilities except sewage pipes to be laid opposite side of the road.
- For the fire hydrant which is installed after meter shall be of the type approved by Jabatan Bomba & Penyelamat.
- For public hydrant refer to Appendix S.
- If more than 1 number of fire hydrant is required for the pipe network, the minimum size of mains shall be 150mm.
- The following have to be carried out before the mains are handed over to PBAPP
a) Pressure Test.
b) Leakage Test.
c) Foam Swab.
d) Sterilization of Mains.
- The outside diameters for different pipes materials and sizes shall comply with SPAN specification.
- All proposed stean crossing pipe above ground shall be of ductile iron or steel pipes or minimum nominal diameter of 150mm complete with air valve. For steel pipe, the external surfaces shall not be coated with bitumen and shall be coated with 2 coats of non-rust aluminium paints.
- Scour pipes shall be located at the end of pipeline or at lower ground of the development.
- Air valves shall be installed at the following locations.
a) Where section of pipeline peaks.
b) High points in the pipeline where abrupt changes in slope direction exist.
c) Where a section of pipeline runs parallel to the hydraulic gradient.
d) has a long horizontal runs without summit, with air valves recommended at 450 meters intervals.
e) has a long ascending or descending stretch without summit with air valves at 300 meters intervals.
- All bolts and nuts shall be as follows :-
i) Above ground - Hot dipped galvanized
ii) Below ground - stainless steel.



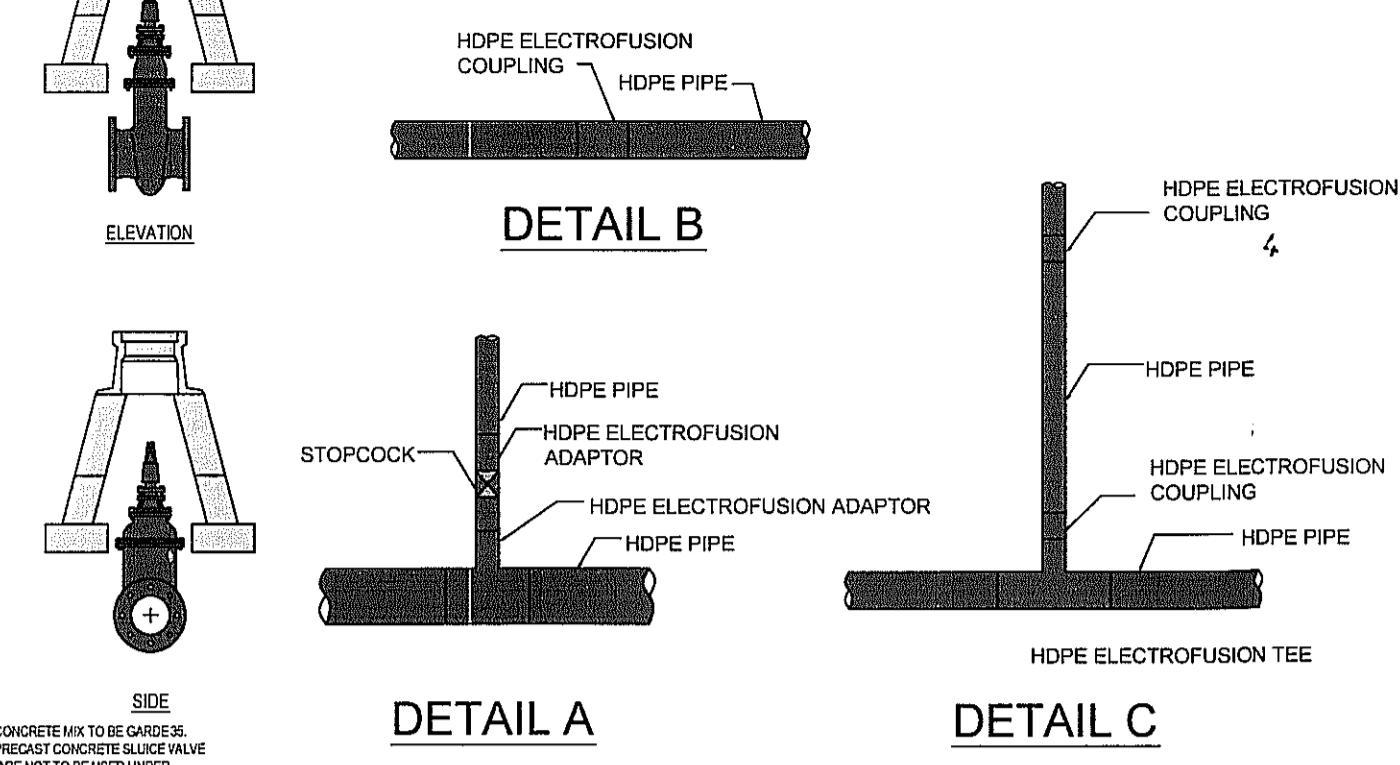
DETAIL OF PRECAST CONCRETE SLUICE VALVE BOX AND CAST IRON SURFACE BOX
(NOT TO SCALE)



DETAIL OF CAST IRON S.V. NAME PLATE

NO PLUMBING WORKS SHALL COMMENCE PRIOR TO PLUMBING PLANS APPROVAL.

NOTE : All plumbing works to be carry out by PBAPP approved licience plumber under PBAPP's supervision.



DETAIL A

DETAIL B

DETAIL C

DILULUSKAN
Sahaja untuk satu tahun sahaja
Tertakluk kepada pindaan PBAPP selepas tamat tempoh sahaja
[Signature]
Enjin Perlesenan
Perbadanan Bekalan Air
Pulau Pinang Sdn. Bhd. (47391-X)
Tarikh: 11 JULI 2014
No. Pendaftaran: (62) 25402-00042

NO.	PINDAAN	TARIKH

NO. KULULUSAN PELAN MERANCANG :
TARIKH KELULUSAN :
NO. KULULUSAN PELAN BANGUNAN :
TARIKH KELULUSAN :
TAJUK LUKISAN :

CADANGAN RETIKULASI AIR LUARAN:
CADANGAN MENGUBAH PAIP SEDIA ADA BERSAIZ 100mmAC(D.N)/121.9mmAC(O.D) KEPADA 100mmHDPE(D.N)/125mmHDPE(O.D) DI ATAS SEBAHAGIAN LOT 4975, MK. 11, SEBERANG PERAI UTARA BAGI PEMBINAAN PECAHAN TANAH LOT.

UNTUK TUJUAN:
MOHAMAD BIN MAHAMED NORDIN.

NO. PROJEK: ENG/JLY/11-009-2B

LUKISAN:
PELAN TATASUSUN, LOKASI & KUNCI

DIREKA : TAN	DISEMAK : Ir Ong Cheoi Hui
DILUKIS : NQAE	DISEMAK :
SKALA : 1:2500	TARIKH : JULY 2014
FAIL ACAD :	NO. REV.:

NO. LUKISAN : JLYCHO/ENG/11-009-2B/W/1-2(AB)

TANDATANGAN PEMILIK TANAH:

[Signatures]
CHE TAH BT HU SHAFIE
KP: 440650 07 5310
NO. 5, LORONG BAHAGIAN SATU, 12000 KEPALA BATAS, PULAU PINANG.
CHE HANISAN BT AHMAD
KP: 460550 07 5096
NO. 512, PERMATANG PAUH, 12000 KEPALA BATAS, PULAU PINANG.
ROHAMA BT ISHAH
KP: 3472748
NO. 1723, JALAN PERAK, 12000 KEPALA BATAS, PULAU PINANG.

KONTRAKTOR PEMASANGAN PAIP

NG TECK SOON
YOON HOON PLUMBING
30, LORONG MESRA, TAMAN KEENWAYE,
1400 BUKIT MERTAJAM,
T1: 012487 2001 (02-477 8941)
PERMIT IPA, JENIS A2
SPANENGGUPP380-242070004

TANDATANGAN JURUTERA
ALL PLUMBING WORKS TO BE CARRIED OUT UNDER MY SUPERVISION & I CERTIFY THE CAPACITY OF STORAGE TANK FOR 1 DAY DEMAND & THE SPACE TO FIX THE STORAGE TANK ARE SUFFICIENT

PERLINDUNG:
PROFESSIONAL ENGINEER'S SIGNATURE
(REGISTRATION SPAN NO. 30P 0230)

[Signature]
IR. C. H. ONG
MALAYSIA

- I hereby certify that the capacity of storage tank for 1 day demand & the space to fix the storage tank are sufficient for one day storage supply. Island Grades, 11700 Penang.
- All plumbing works to be carried out under one supervision same inside.
 - water main and sewer main are not to be laid on.
 - There is sufficient space to install the tank.
 - No Obstruction in front of proposed meter position for future meter reading and maintenance work.

OUTSIDE DIAMETER FOR DIFFERENT PIPE MATERIALS TABLE (EXTERNAL MAINS)

Nominal Sizes	Outside Diameter (mm)		
	Ductile Iron	Mid Steel	HDPE
25mm (1")			32
50mm (2")			63
75mm (3")			90
100mm (4")			125
150mm (6")	170	177.3	180
200mm (8")	222	232.2	
300mm (12")	360	345.4	
450mm (18")	480	507.0	
600mm (24")	635	635.0	
900mm (36")		945.0	
1200mm (48")		1255.0	
1350mm (54")		1455.0	
1800mm (72")		1875.0	

TABLE A-01 (SEE EXTERNAL DIMENSIONS)
The diameter in the middle diameter of the pipe shall be checked by the manufacturer of the pipe intended for the project.
The minimum cover depth of the pipe shall be as per the table below.

PETUNJUK

Existing mains	---
New Pipe	---
Abandoned Pipe	---
Kawasan Terbit	---
SLUICE VALVE	(S)
BUTTERFLY VALVE	(B)
LOOKABLE VALVE	---