Appendix A Sample Drawings

-Software 1

-Software 2

Software 1

GENERAL NOTES FOR REINFORCED CONCRETE STRUCTURE:

1. DESIGN TO COMPLY WITH :
   a. HONG KONG BUILDING (CONSTRUCTION) REGULATION, 1990
   b. STRUCTURAL USE OF CONCRETE, 2013
   c. CODE OF PRACTICE ON WIND EFFECTS, HONG KONG, 2004
   d. CODE OF PRACTICE FOR FIRE SAFETY IN BUILDINGS, 2011
   e. CODE OF PRACTICE FOR DEAD AND IMPOSED LOADS, 2011
2. ALL STRUCTURAL DRAWINGS MUST BE READ IN CONJUNCTION WITH ARCHITECTURAL DRAWINGS AND OTHER RELEVANT DRAWINGS.
3. STEEL REINFORCEMENTS FOR CONCRETE SHALL COMPLY WITH THE CONSTRUCTION STANDARD CS2 : 2012 MINIMUM CHARACTERISTIC STRENGTH OF : 500MPa FOR RIBBED STEEL REINFORCING BARS GRADE 500B/C, 250MPa FOR PLAN REINFORCING BARS GRADE 250.
4. MINIMUM BOND / LAP LENGTH OF REINFORCEMENT FOR ALL STRUCTURAL ELEMENTS SHALL BE AS SPECIFIED IN THE FOLLOWING SCHEDULE:

SCHEDULE OF LAP & ANCHORAGE LENGTH FOR DESIGN TO COP 2013

DIAMETER OF BAR	FOR RIBBED STEEL REINFORCING BARS	
	GRADE C45/20D	
	ANCHORAGE	
	TL 33 x Dia.	CL 26 x Dia.
10	330	260
12	400	320
16	530	420
20	660	520
25	830	650
32	1060	840
40	1320	1040

LEGEND :

1. TL = LAP OR ANCHORAGE LENGTH UNDER TENSION OR LAP LENGTH UNDER COMPRESSION
   CL = ANCHORAGE LENGTH UNDER COMPRESSION
2. NO SPLICING OF REINFORCEMENT OTHER THAN THOSE SHOWN ON THE DRAWING IS ALLOWED UNLESS OTHERWISE APPROVED BY THE ENGINEER AND TL SHALL BE PROVIDED.
3. NOMINAL LAP AND ANCHORAGE FOR DISTRIBUTION BARS TO BE 300 OR WHICHEVER THE GREATER. LAP LENGTH FOR UNEQUAL SIZE BARS SHALL BE BASED UPON THE SMALLER BAR. FOR THE FOLLOWING PROVISIONS a) OR b) APPLY, THE LAP LENGTH SHOULD BE INCREASED BY A FACTOR OF 1.4.
   a) WHERE A LAP OCCURS AT THE TOP OF A SECTION AS CAST AND THE MINIMUM COVER IS LESS THAN TWICE THE SIZE OF THE LAPPED REINFORCEMENT.
   b) WHERE A LAP OCCURS AT THE CORNER OF A SECTION AND THE MINIMUM COVER TO EITHER FACE IS LESS THAN TWICE THE SIZE OF THE LAPPED REINFORCEMENT, OR WHERE THE CLEAR DISTANCE BETWEEN ADJACENT LAPS IS LESS THAN 75mm OR SIX TIMES THE SIZE OF THE LAPPED REINFORCEMENT, WHICHEVER IS THE GREATER.

   IF BOTH PART a) & b) CONDITION APPLY, THE LAP LENGTH SHOULD BE INCREASED BY A FACTOR OF 2.0.

FOR REFERENCE ONLY

5. ALL NOMINAL LAPS OF DISTRIBUTION BAR FOR SLABS AND WALLS SHALL BE 300 MINIMUM UNLESS OTHERWISE SPECIFIED.
6. FOR DETAILS OF STRUCTURAL FALLS, SEE APPROPRIATE STRUCTURAL AND ARCHITECTURAL DRAWINGS.
7. CONCRETE TO BE DESIGNED MIX CONCRETE AS SPECIFIED IN THE FOLLOWING SCHEDULE TO CS1:2010 AND THE GRADE DESIGNATIONS GIVEN ARE THE CHARACTERISTIC CUBE STRENGTH AT 28 DAYS AND THE MAXIMUM AGGREGATE SIZE 20mm. UNLESS OTHERWISE STARTED ON THE DRAWINGS.

MEMBER	GRADE
BEAMS, SLABS AND WALLS	C45/20
COLUMNS	C45/20
WATER TANKS	C45/20

8. THE EQUIVALENT SODIUM OXIDE IN CONCRETE MIX SHALL NOT EXCEED 3.0 kg/m³ OF CONCRETE. CORRESPONDING TEST CERTIFICATES ON ALKALI CONTENT IN CEMENT, ADMIXTURES, AGGREGATE ETC., ISSUED BY A HOKLAS LABORATORY AND CALCULATION OF THE EQUIVALENT SODIUM OXIDE SHOULD BE SUBMITTED TO THE RSE QUARTERLY.
9. CONCRETE CUBES SHALL BE MADE AND TESTED WITH TEST REPORT IN ACCORDANCE WITH THE PROVISIONS OF THE HONG KONG BUILDING (CONSTRUCTION) REGULATIONS, 1990 AND THE CONSTRUCTION STANDARD CS1 : 2010, EXCEPT SECTION 7.1 .
10. UNLESS OTHERWISE STATED, CONCRETE COVER TO ALL REINFORCEMENT SHALL BE AS SPECIFIED IN THE FOLLOWING SCHEDULE OR EQUAL TO THE DIAMETER OF THAT REINFORCEMENT, WHICHEVER IS THE GREATER :

IN CONTACT WITH EARTH	SLAB	STAIR	BEAM	COLUMN	WALL
1) CAST ON BLINDING	50	50	50	50	50
2) CAST AGAINST SOIL	75	75	75	75	75

11. CONCRETE COVER SHALL ALSO FULFIL THE REQUIREMENT FOR APPROPRIATE FIRE RESISTANCE RATING AS SPECIFIED IN THE CODE OF PRACTICE FOR FIRE RESISTING CONSTRUCTION OR NOMINAL COVER FOR DURABILITY WHICHEVER IS GREATER.

	CONCRETE COVER TO MAIN REINFORCEMENT			NOMINAL COVER FOR DURABILITY
	120 MINS. F.R.P.	60 MINS. F.R.P.	240 MINS. F.R.P.	
SLAB, SIMPLY SUPPORTED	35	25	55 *	35
SLAB, CONTINUOUS	25	25	45 *	35
STAIR	35	25	55 *	35
BEAM, SIMPLY SUPPORTED	50 *	30	80 *	40
BEAM, CONTINUOUS	50	30	60 *	40
COLUMN	35	25	35	35
WALL	25	25	25	35
WALL SLAB FOR WATER TANK	40	40	40	40

* REINFORCEMENT CONSISTING OF EXPANDED METAL LATH OR A WIRE FABRIC NOT LIGHTER THAN 0.5 kg/m² WITH 2mm DIAMETER WIRE AT NOT MORE THAN 100mm CENTRES OR A CONTINUOUS ARRANGEMENT OF LINKS AT NOT MORE THAN 200mm CENTRES SHALL BE INCORPORATED IN THE CONCRETE COVER AT A DISTANCE NOT EXCEEDING 20mm FROM THE FACE OF THE STRUCTURAL MEMBERS SURROUNDING THE PLANT/MACHINE ROOMS AND AT OTHER AREAS REQUIRING 120 MINS. F.R.R. AS SPECIFIED IN THE GENERAL BUILDING PLANS.

12. CONSTRUCTION JOINTS TO BE POSITIONED AS FOLLOWS :-
    a. THE JOINT IN A BEAM TO BE VERTICAL AND AT ONE-THIRD OF THE SPAN.
    b. THE JOINT IN A SLAB TO BE VERTICAL, AT ONE-THIRD OF THE PANEL AND PARALLEL TO THE REINFORCEMENT.
    c. THE JOINT IN COLUMNS TO BE AT THE UNDERSIDE OF THE LOWEST BEAM OVER THE COLUMNS OR AT 75mm ABOVE FLOOR LEVEL.
13. CONSTRUCTION JOINTS WHERE NOT SHOWN SHOULD BE LOCATED TO THE APPROVAL OF THE ENGINEER.
14. DURING CONSTRUCTION THE STRU*FOR REFERENCE ONLY*ED IN A STABLE CONDITION AND NO PART SHALL BE OVERSTRESSED.
15. SIZE OF CONCRETE ELEMENTS DOES NOT INCLUDE THICKNESS OF APPLIED FINISHES.
16. NO HOLES OR CHASES OTHER THAN THOSE SHOWN ON THE STRUCTURAL DRAWINGS SHALL BE MADE.
17. PIPES OR CONDUITS SHALL NOT BE PLACED WITHIN THE CONCRETE COVER TO REINFORCEMENT WITHOUT THE APPROVAL OF THE ENGINEER. THE CONCRETE COVER TO EMBEDDED PIPES OR CONDUITS SHALL BE A MINIMUM OF 20mm.
18. WATER BORNE PIPES SHALL NOT BE PLACED WITHIN R.C. CONCRETE WITHOUT THE APPROVAL OF THE BUILDINGS DEPARTMENT, AP AND RSE.
19. SPACER BARS SHALL BE OF DIAMETER = 25mm OR DIAMETER OF MAIN BAR WHICHEVER IS GREATER @1.5m c/c.
20. ALL ROOF SCREEDING TO BE LIGHT WEIGHT CONCRETE OF DENSITY BETWEEN 1600 TO 1700kg/m³ AND MINIMUM CUBE STRENGTH Uw=21N/mm² AT 28 DAYS.
21. ALL BEAM SIZE TO BE READ AS BREADTH x DEPTH
22. ALL LEVELS SHOWN IN FRAMING PLANS TO BE STRUCTURAL FLOOR LEVEL.
    (LEGEND : ⊕ 108.7 SFL STRUCTURAL FLOOR LEVEL AT 108.7 mPD.)
23. ALL DIMENSION ARE IN MILLIMETRE & LEVEL IN mPD EXCEPT OTHERWISE STATED.
24. ALL EARTH BACKFILLING TO BE COMPACTED TO 95% OF MAX. DRY DENSITY TO BS 1377-TEST 12.
25. ALL BENT TO STEEL REINFORCEMENT SHALL COMPLY WITH BS 8666:2000

NOTES FOR ANNOTATION OF BARS :

1. ALL DIMENSIONS SHOWN ARE IN mm.
2. ANY DISCREPANCY FOUND BETWEEN THE DETAILS SHOWN IN THIS DRAWING AND THAT SHOWN IN DETAILED DRAWINGS SHALL BE REPORTED TO THE ENGINEER FOR DIRECTION.
3. BAR REFERENCING :
   EXAMPLE : 16T32-200
   NUMBER OF BARS: 16
   TYPE OF STEEL: T (RIBBED STEEL REINFORCING BARS GRADE 500B/C)
   DIAMETER OF BARS: 32mm
   PITCH OF BARS (IF APPLICABLE): 200 mm

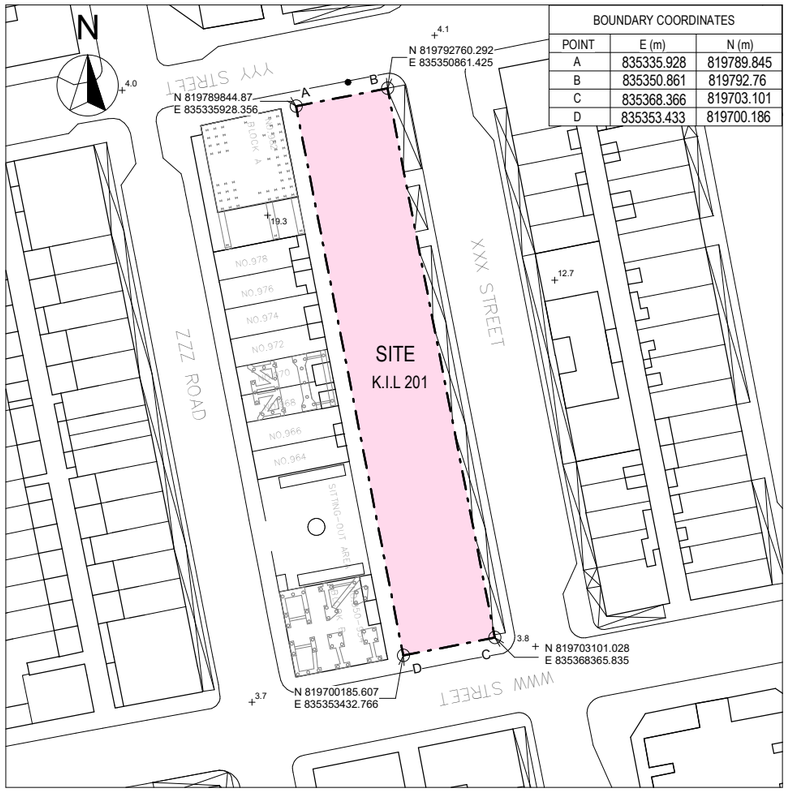
FOR REFERENCE ONLY

NOTES FOR CONSTRUCTION OF CANTILEVERED BEAM & SLAB :

1. ALL CANTILEVERED PROJECTIONS SHOULD BE CAST MONOLITHICALLY WITH AND AT THE SAME TIME AS THE DIRECTLY SUPPORTING MEMBERS. CONSTRUCTION JOINTS MUST NOT BE LOCATED ALONG THE EXTERNAL EDGE OF THE SUPPORTING MEMBERS.
2. ADEQUATE BAR SPACERS SHOULD *FOR REFERENCE ONLY*E THE POSITION AND ALIGNMENT OF THE STEEL REINFORCEMENT.
3. DURING CONCRETING, ADEQUATE COMPACTION SHOULD BE GIVEN TO ENSURE GOOD QUALITY CONCRETE. EVERY ENDEAVOUR SHOULD ALSO BE MADE TO AVOID STEEL REINFORCEMENT FROM BEING DISPLACED OR DEPRESSED.
4. ALL PROPPING TO THE SOFFIT OF THE FORMWORK FOR THE CANTILEVERED PROJECTIONS SHOULD BE MAINTAINED FOR AT LEAST 14 DAYS.

NOTES FOR WATERPROOFING CONSTRUCTION :

1. WATERSTOP :
   a) FOR LOCATIONS AND DETAILS OF WATERSTOP AT EXPANSION JOINTS, CONSTRUCTION JOINTS ETC. REFER TO ALL RELEVANT DRAWINGS. JOINT NOT SPECIFIED SHALL RECEIVE THE PRIOR APPROVAL BY THE ENGINEER.
   b) TYPE OF WATERSTOPS SHALL BE AS SPECIFIED IN THE CONTRACT OR TO THE APPROVAL OF THE ENGINEER.
   c) DETAIL OF FIXING OF WATERSTOPS SHALL BE IN ACCORDANCE WITH THE RECOMMENDATION OF THE MANUFACTURER. *FOR REFERENCE ONLY*
   d) PRIOR TO CONCRETING, THE WATERSTOP SHALL BE NAILED, CLIPPED OR TIED WITH WIRE TO ITS CORRECT POSITION SECURELY AND ADEQUATELY. DETAIL AND SPACING OF SUCH NAILING, CLIPS AND TIES SHALL BE IN ACCORDANCE WITH THE RECOMMENDATION OF THE MANUFACTURER AND TO THE APPROVAL OF THE ENGINEER.
   e) CARE SHALL BE TAKEN TO AVOID ANY AIR VOIDS BEING TRAPPED BETWEEN THE WATERSTOP AND THE SURROUNDING CONCRETE.
   f) SURROUNDING STEEL REINFORCEMENT SHALL NOT BE PLACED IN CONTACT WITH THE WATERSTOP, MINIMUM SPACING TO BE 40mm.
2. ALL CONCRETE USED IN WATER RETAINING STRUCTURE SHALL BE WATERPROOFING CONCRETE AND COMPLY WITH BS8007.



BOUNDARY COORDINATES		
POINT	E (m)	N (m)
A	835335.928	819789.845
B	835350.861	819792.76
C	835368.366	819703.101
D	835353.433	819700.186

BLOCK PLAN
1 : 500

BD REF :

BIM REF :

REV	DATE	AMENDMENT

PROJECT
CIC SAMPLE PROJECT

DRAWING TITLE
GENERAL NOTES FOR SUPERSTRUCTURE

SCALE AS SHOWN@A1

DRAWING NO. S001 REV. NO.

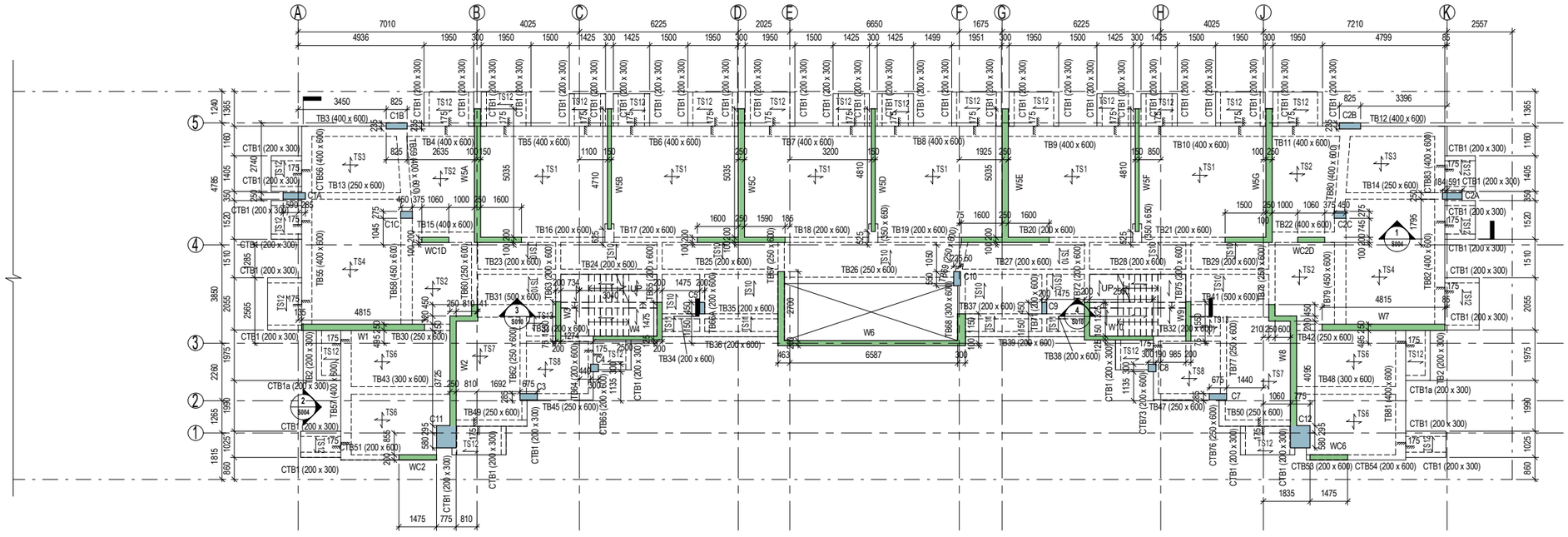
SOURCE ---

90mm (W) x 40mm (H) space
for COMPANY LOGO

90mm (W) x 60mm (H) space
for AP/RSE/RGE's
signature/ and stamp chop

BD's OFFICAL USE

90mm (W) x 150mm (H) space
for BD's approval stamp /
certification of copies of
approved plans
(PNAP ADM-10 APP A)

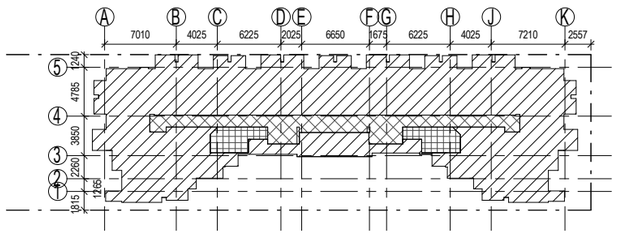


1 TYP FLOOR FRAMING PLAN

1 : 100

NOTES
1. ALL BEAM SIZE TO BE 400(B)x600(D), UNLESS OTHERWISE STATED.
2. ALL SLAB SIZE TO BE 150mm THK, UNLESS OTHERWISE STATED.

COLUMN SCHEDULE	
COLUMN MARK	SIZE (mm)
C1A	250 x 875
C1B	235 x 825
C1C	275 x 450
C2A	250 x 775
C2B	235 x 825
C2C	275 x 450
C3	250 x 675
C4	300 x 300
C5	200 x 450
C7	250 x 675
C8	300 x 300
C9	200 x 450
C10	275 x 550
C11	775 x 875
C12	775 x 875



TYP FLOOR LOADING KEY PLAN

1 : 300

LOADING KEY PLAN

USAGE	LEGEND	L.L. (kPa)	FIN. (kPa)	F.R.R. (MIN)
STAIRCASE		3.0	1.25	60/60/60
LOBBY		3.0	1.25	60/60/60
DOMESTIC		2.0	0.50	60/60/60
PLANT ROOM		7.5	1.25	60/60/60
FLAT ROOF		5.0	5.60	60/60/60

TOWER FLOOR LEVEL	
LEVEL	S.F.L.
5/F	+26.525
6/F	+29.850
7/F	+33.175
8/F	+36.500
9/F	+39.825
10/F	+43.150
11/F	+46.475
12/F	+49.800
15/F	+53.125
16/F	+56.450
17/F	+59.775
18/F	+63.100
19/F	+66.425
20/F	+69.750
21/F	+73.075
22/F	+76.400
23/F	+79.725
25/F	+83.050
26/F	+86.375
27/F	+89.700
28/F	+93.025
29/F	+96.350

LEGEND:

- SITE BOUNDARY
- COLUMN / WALL ABOVE
- COLUMN / WALL BELOW
- WALL ABOVE & BELOW
- COLUMN ABOVE & BELOW
- BEARING (B.W.) / HANGER WALL (H.W.)
- VOID
- +26.50 — PROPOSED STRUCTURE FLOOR LEVEL
- TB1 (300X450) — PROPOSED BEAM MARK AND BEAM SIZE
- TS1 / TS2 — PROPOSED SLAB MARK AND SPAN DIRECTION

BD REF :

BIM REF :

REV	DATE	AMENDMENT

PROJECT
CIC SAMPLE PROJECT

DRAWING TITLE
TYPICAL FLOOR FRAMING PLAN

SCALE AS SHOWN@A1

DRAWING NO. S002

REV. NO.

SOURCE ---

90mm (W) x 40mm (H) space for COMPANY LOGO

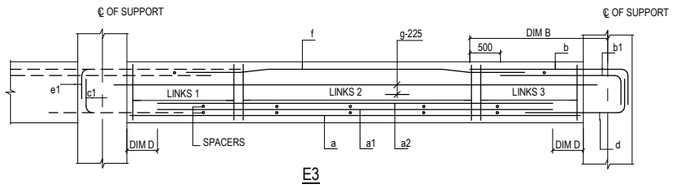
90mm (W) x 60mm (H) space for AP/RSE/RGE's signature/ and stamp chop

BD's OFFICAL USE

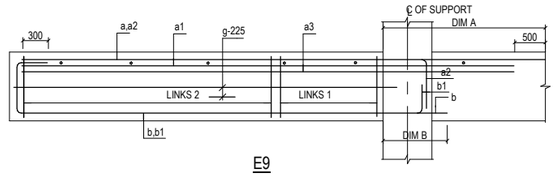
90mm (W) x 150mm (H) space for BD's approval stamp / certification of copies of approved plans (PNAP ADM-10 APP A)

R.C. BEAM SCHEDULE

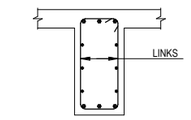
BEAM MARK	BEAM SIZE (BXD)	ELEV. REFER	REINFORCEMENT										REINFORCEMENT			DIMENSION			
			a	a1	a2	b	b1	c	d	e	f	g	LINKS 1	LINKS 2	LINKS 3	A	B	C	D
TB1	200 x 300	E9	2T20	-	-	-	2T16	-	-	-	-	-	<----------	T10-150(2 LEGS)	---------->	2550	-	-	-
TB1a	200 x 300	E9	2T20	-	-	-	2T16	-	-	-	-	-	<----------	T10-150(2 LEGS)	---------->	2550	-	-	-
TB2	200 x 300	E10	2T16	-	-	2T16	-	-	-	-	-	-	<----------	T10-200(2 LEGS)	---------->	-	-	-	-
TB3	400 x 600	E5	4T25	-	-	4T25	-	4T25	4T25	4T25	4T20	-	<----------	T10-200(4 LEGS)	---------->	-	1300	1000	-
TB4	400 x 600	E4	4T25	-	-	4T25	-	-	4T25	-	4T20	-	<----------	T10-200(2 LEGS) TORSIONAL LINKS + T10	---------->	-	1000	1800	-
TB5	400 x 600	E4	4T25	-	-	4T25	-	-	4T25	-	4T20	-	<----------	T10-200(2 LEGS) TORSIONAL LINKS + T10	---------->	-	1800	1800	-
TB6	400 x 600	E4	4T25	-	-	4T25	-	-	4T25	-	4T20	-	<----------	T10-200(2 LEGS) TORSIONAL LINKS + T10	---------->	-	1800	1800	-
TB7	400 x 600	E4	4T25	-	-	4T25	-	-	4T25	-	4T20	-	<----------	T10-200(2 LEGS) TORSIONAL LINKS + T10	---------->	-	1800	1800	-
TB8	400 x 600	E4	4T25	-	-	4T25	-	-	4T25	-	4T20	-	<----------	T10-200(2 LEGS) TORSIONAL LINKS + T10	---------->	-	1800	1800	-
TB9	400 x 600	E4	4T25	-	-	4T25	-	-	4T25	-	4T20	-	<----------	T10-200(2 LEGS) TORSIONAL LINKS + T10	---------->	-	1800	1800	-
TB10	400 x 600	E4	4T25	-	-	4T25	-	-	4T25	-	4T20	-	<----------	T10-200(2 LEGS) TORSIONAL LINKS + T10	---------->	-	1800	1000	-
TB11	400 x 600	E4	4T25	-	-	4T25	-	-	4T25	-	4T20	-	<----------	T10-200(2 LEGS) TORSIONAL LINKS + T10	---------->	-	1000	1300	-
TB12	400 x 600	E3	4T25	-	-	4T25	-	-	4T25	-	4T20	-	<----------	T10-200(4 LEGS)	---------->	-	-	-	-
TB13	250 x 600	E10	2T25	-	-	2T25	-	-	-	-	-	-	<----------	T10-200(2 LEGS)	8T16-200(2 LEGS)	-	-	-	-
TB14	250 x 600	E10	2T25	-	-	2T25	-	-	-	-	-	-	<----------	T10-200(2 LEGS)	8T16-200(2 LEGS)	-	-	-	-
TB51	200 x 600	E9a	2T20	2T20	2T20	2T20	-	-	-	-	-	T10-225 E.F.	<----------	T10-150(2 LEGS)	---------->	1000	-	-	-
TB54	200 x 600	E9a	2T20	2T20	2T20	2T20	-	-	-	-	-	T10-225 E.F.	<----------	T10-150(2 LEGS)	---------->	1000	-	-	-



E3

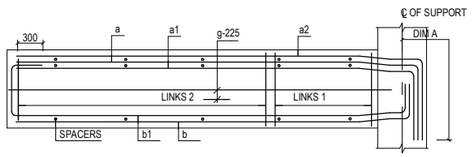


E9

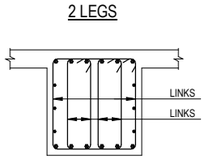


2 LEGS

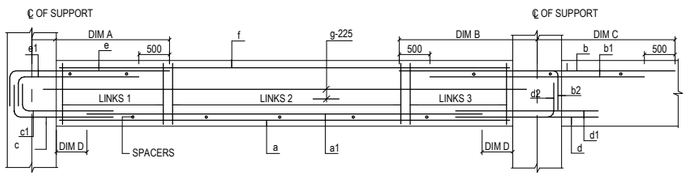
E4



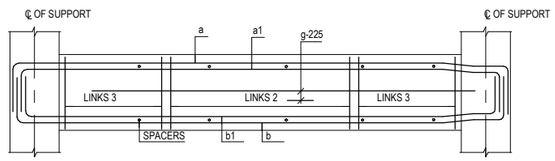
E9a



6 LEGS



E5



E10

BD REF :

BIM REF :

REV	DATE	AMENDMENT

PROJECT
CIC SAMPLE PROJECT

DRAWING TITLE
BEAM R.C. SCHEDULE

SCALE 1 : 100@A1

DRAWING NO. S003

REV. NO.

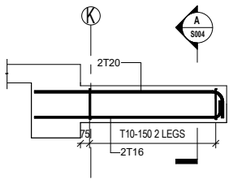
SOURCE ---

90mm (W) x 40mm (H) space
for COMPANY LOGO

90mm (W) x 60mm (H) space
for AP/RSE/RGE's
signature/ and stamp chop

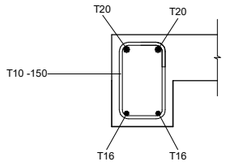
BD's OFFICAL USE

90mm (W) x 150mm (H) space
for BD's approval stamp /
certification of copies of
approved plans
(PNAP ADM-10 APP A)



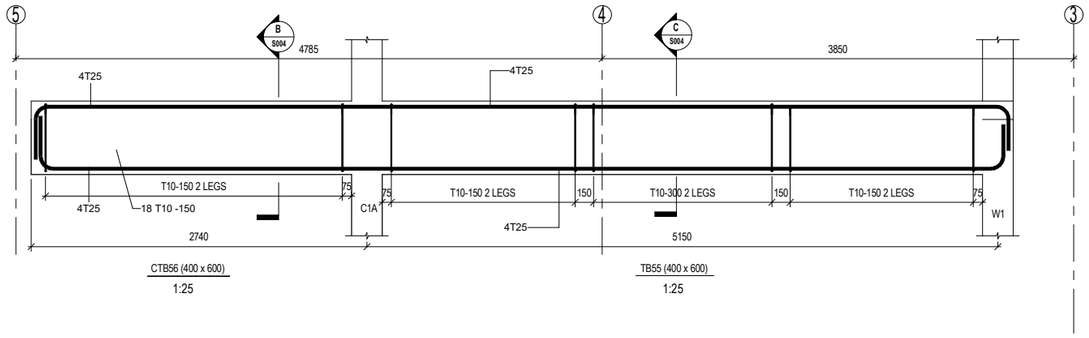
CTB1 (200 x 300)

1:25



A SECTION A

1 : 10

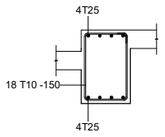


CTB56 (400 x 600)

1:25

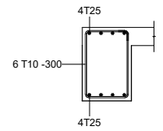
TB55 (400 x 600)

1:25



B SECTION B

1 : 25



C SECTION C

1 : 25

REV	DATE	AMENDMENT

BD REF :

BIM REF :

PROJECT

CIC SAMPLE PROJECT

DRAWING TITLE

BEAM R.C. DETAIL

SCALE AS SHOWN@A1

DRAWING NO. S004

REV. NO.

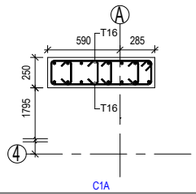
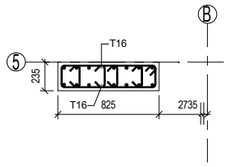
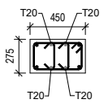
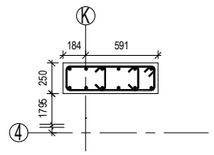
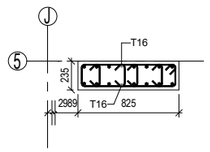
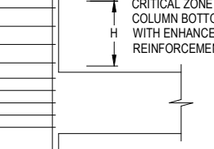
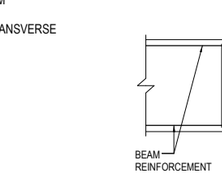
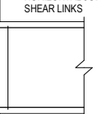
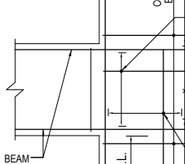
SOURCE ---

90mm (W) x 40mm (H) space
for COMPANY LOGO

90mm (W) x 60mm (H) space
for AP/RSE/RGE's
signature/ and stamp chop

BD's OFFICAL USE

90mm (W) x 150mm (H) space
for BD's approval stamp /
certification of copies of
approved plans
(PNAP ADM-10 APP A)

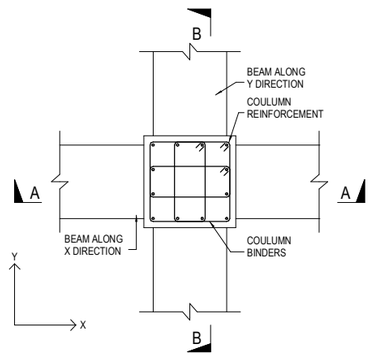
29/F TO 5/F							
COLUMN MARK	C1A	C1B	C1C	C2A	C2B	C2C	
COLUMN SIZE	250x875	235x825	275x450	250x775	235x825	275x450	
VERT. BARS	14T25+2T16 (3.30%)	14T25+2T16 (3.80%)	8T32+4T20 (3.60%)	14T25 (3.50%)	14T25+2T16 (3.80%)	8T25 (3.20%)	
BINDERS IN TYPICAL REGION	T10-175	T10-175	T10-175	T10-175	T10-175	T10-175	
BINDERS IN CRITICAL REGION	T10-125	T10-125	T10-125	T10-125	T10-125	T10-125	
CRITICAL REGION H (mm)	1000	1000	1000	1000	1000	1000	
29/F TO 5/F							
COLUMN MARK	C3	C4	C5	C7	C8	C9	C10
COLUMN SIZE	250x675	300x300	200x450	250x675	300x300	200x450	275x550
VERT. BARS	12T25 (3.50%)	6T25 (3.30%)	6T25 (3.30%)	12T25 (3.50%)	6T25 (3.30%)	6T25 (3.70%)	10T25+2T20 (3.70%)
BINDERS IN TYPICAL REGION	T10-175	T10-175	T10-175	T10-175	T10-175	T10-175	T10-175
BINDERS IN CRITICAL REGION	T10-125	T10-125	T10-125	T10-125	T10-125	T10-125	T10-125
CRITICAL REGION H (mm)	1000	1000	1000	1000	1000	1000	1000

IF H > $\frac{1}{2}$ h_c

COLUMN BINDERS SHOULD BE ACCORDING TO CRITICAL ZONE

h_c = CLEAR HEIGHT OF STOREY

CRITICAL ZONE IN COLUMN



TYPICAL DETAIL FOR COLUMN-BEAM JOINT

(PLAN VIEW)

NOTES:

VERTICAL JOINT SHEAR REINFORCEMENT SHOULD CONSIST OF INTERMEDIATE COLUMN BARS ADEQUATELY ANCHORED IN THE COLUMN AND PLACED BETWEEN THE CORNER BARS AND WITH IN THE EFFECTIVE JOINT AREA AS DEFINED IN CLAUSE 6.8.1.3 OF THE CODE OF PRACTICE FOR STRUCTURAL USE OF CONCRETE 2013.

BD REF :

BIM REF :

REV	DATE	AMENDMENT

PROJECT

CIC SAMPLE PROJECT

DRAWING TITLE

COLUMN R.C. DETAIL

SCALE AS SHOWN@A1

DRAWING NO. S005

REV. NO.

SOURCE ---

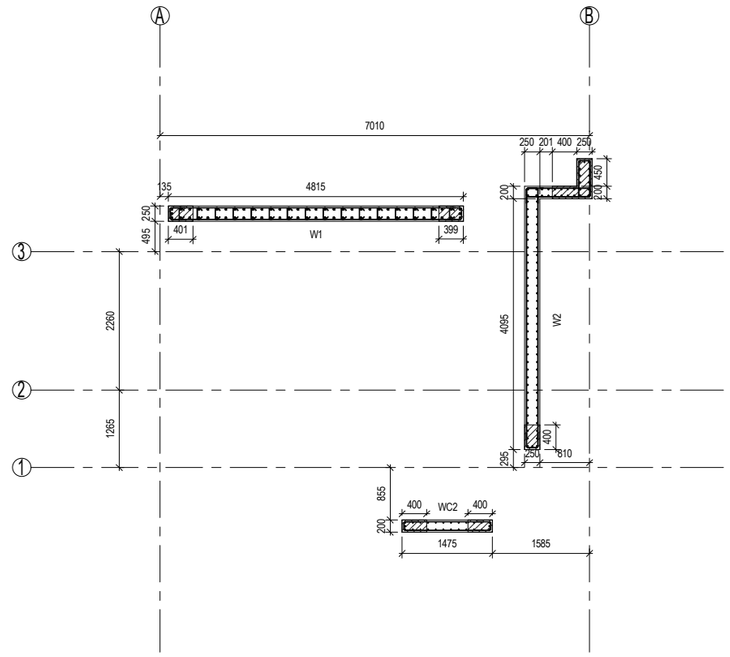
90mm (W) x 40mm (H) space for COMPANY LOGO

90mm (W) x 60mm (H) space for AP/RSE/RGE's signature/ and stamp chop

BD's OFFICAL USE

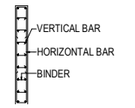
90mm (W) x 150mm (H) space for BD's approval stamp / certification of copies of approved plans (PNAP ADM-10 APP A)

R.C. WALL SCHEDULE								
FLOOR	WALL MARK	CONCRETE GRADE	THICKNESS (mm)	VERTICAL BARS	HORIZONTAL BARS	BINDER		STEEL RATIO (%)
						HORIZONTAL	VERTICAL	
3/F	W1	C60	250	T40-150	T10-150	T12-300	150	3.4
3/F	W2	C60	250	T25-125	T12-125			1.3
3/F	W3	C60	200	T20-125	T10-100			1.3
3/F	W4	C60	150	T20-150	T10-150			1.4
3/F	W4	C60	200	T20-125	T10-100			1.3
3/F	W5A	C60	200	T20-125	T10-100			1.3
3/F	W5A	C60	250	T25-125	T12-125			1.6
3/F	W5B	C60	150	T20-100	T10-150	T12-200	150	2.1
3/F	W5C	C60	200	T20-125	T10-100			1.3
3/F	W5C	C60	250	T25-125	T12-125			1.6
3/F	W5D	C60	150	T20-125	T10-150			1.7
3/F	W5E	C60	200	T20-125	T10-100			1.3
3/F	W5E	C60	250	T25-125	T12-125			1.6
3/F	W5F	C60	150	T20-100	T10-150	T12-200	150	2.1
3/F	W5G	C60	200	T20-125	T10-100			1.3
3/F	W5G	C60	250	T32-175	T12-125			1.8
3/F	W6	C60	200	T25-150	T10-100			1.6
3/F	W6	C60	250	T20-125	T12-125			1.0
3/F	W6	C60	300	T32-100	T10-150			2.7
3/F	W7	C60	250	T25-150	T12-125			1.3
3/F	W8	C60	250	T32-175	T12-125			1.8
3/F	W9	C60	200	T20-125	T10-100			1.3
3/F	W10	C60	150	T20-150	T10-150			1.4
3/F	W10	C60	200	T20-125	T10-100			1.3
3/F	WC1D	C60	200	T20-125	T10-100			1.3
3/F	WC2	C60	200	T20-125	T10-100			1.3
3/F	WC2D	C60	200	T20-125	T10-100			1.3
3/F	WC6	C60	200	T20-125	T10-100			1.3



LEGEND:

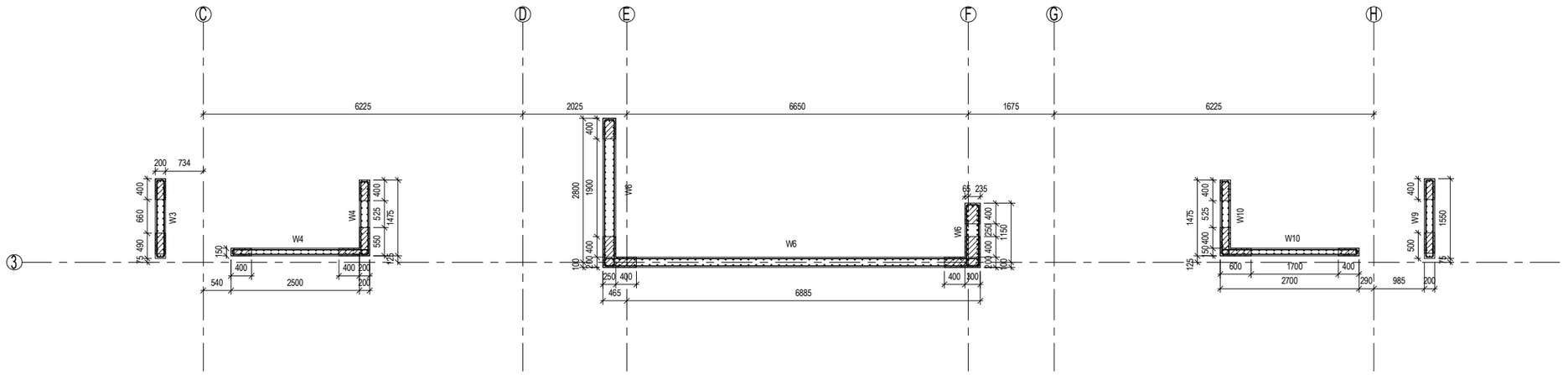
CONFINED AREA



BINDERS:

HORIZONTAL SPACING
T10-200

TYPICAL DETAIL OF WALL
(N.T.S.)



REV	DATE	AMENDMENT

BD REF :

BIM REF :

PROJECT
CIC SAMPLE PROJECT

DRAWING TITLE
WALL R.C. DETAIL (1 OF 2)

SCALE AS SHOWN@A1

DRAWING NO. S006

REV. NO.

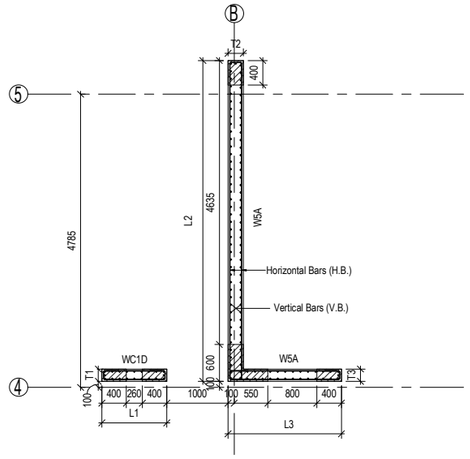
SOURCE ---

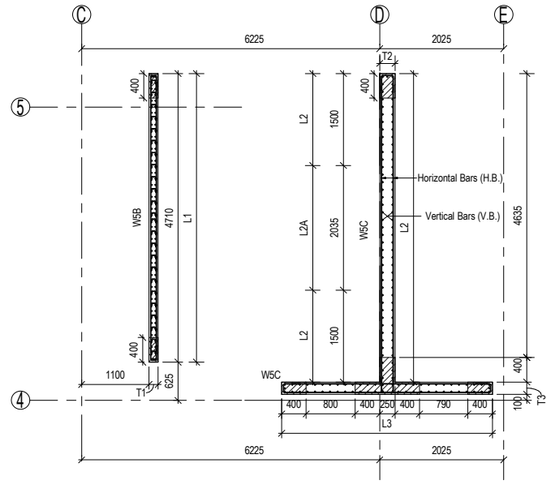
90mm (W) x 40mm (H) space
for COMPANY LOGO

90mm (W) x 60mm (H) space
for AP/RSE/RGE's
signature/ and stamp chop

BD's OFFICAL USE

90mm (W) x 150mm (H) space
for BD's approval stamp /
certification of copies of
approved plans
(PNAP ADM-10 APP A)





FL. MARK	THINKNESS (mm)										FL. MARK	THINKNESS (mm)										
	T1	T2	T3		L1	%	L2	%	L3	%		T1	T2	T3		L1	%	L2	%	L2A	%	L3	%
27/F to 18/F	200	250	200	V.B. (E.F.)	T16-150	0.48	T16-200	0.45	T16-180	0.9	27/F to 18/F	200	250	200	V.B. (E.F.)								
				H.B. (CRI.)											H.B. (CRI.)								
				H.B. (TYP.)											H.B. (TYP.)								
18/F to 11/F	200	250	200	V.B. (E.F.)							18/F to 11/F	200	250	200	V.B. (E.F.)								
				H.B. (CRI.)											H.B. (CRI.)								
				H.B. (TYP.)											H.B. (TYP.)								
11/F to 4/F	200	250	200	V.B. (E.F.)							11/F to 4/F	200	250	200	V.B. (E.F.)								
				H.B. (CRI.)											H.B. (CRI.)								
				H.B. (TYP.)											H.B. (TYP.)								

BD REF :

BIM REF :

REV	DATE	AMENDMENT

PROJECT
CIC SAMPLE PROJECT

DRAWING TITLE
WALL R.C. DETAIL (Schedule)

SCALE AS SHOWN@A1

DRAWING NO. S007

REV. NO.

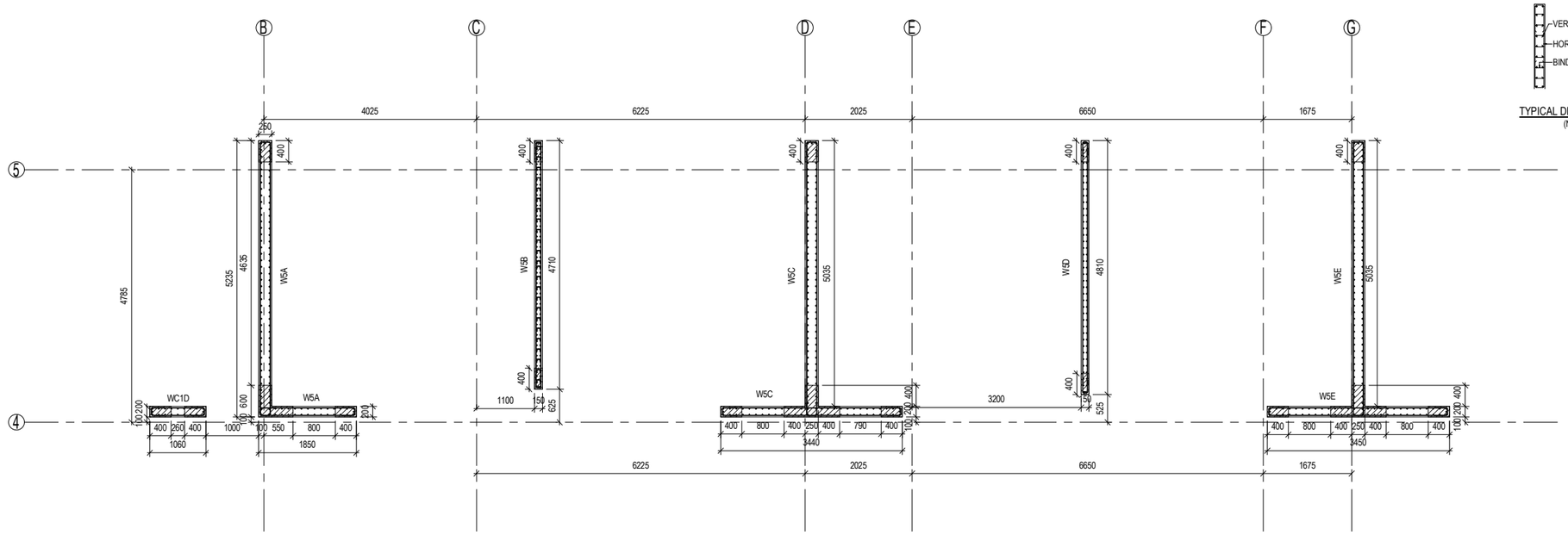
SOURCE ---

90mm (W) x 40mm (H) space
for COMPANY LOGO

90mm (W) x 60mm (H) space
for AP/RSE/RGE's
signature/ and stamp chop

BD's OFFICAL USE

90mm (W) x 150mm (H) space
for BD's approval stamp /
certification of copies of
approved plans
(PNAP ADM-10 APP A)



LEGEND:

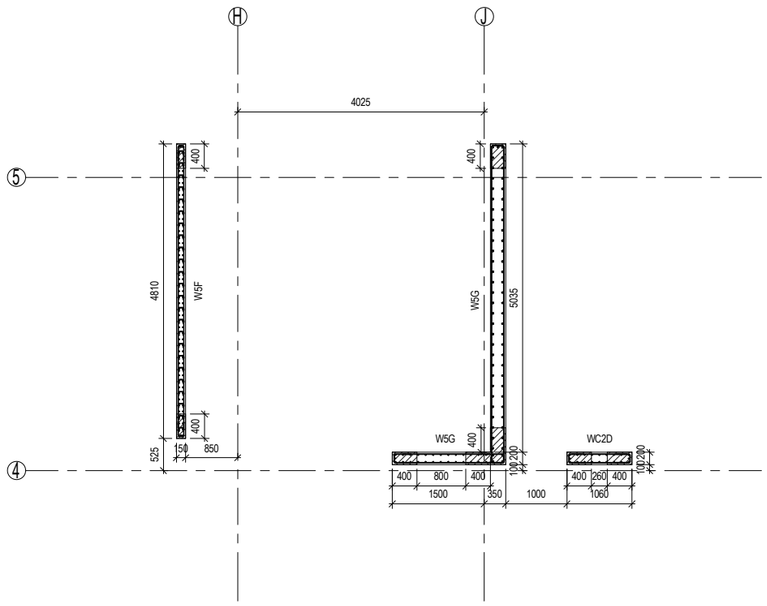
CONFINED AREA

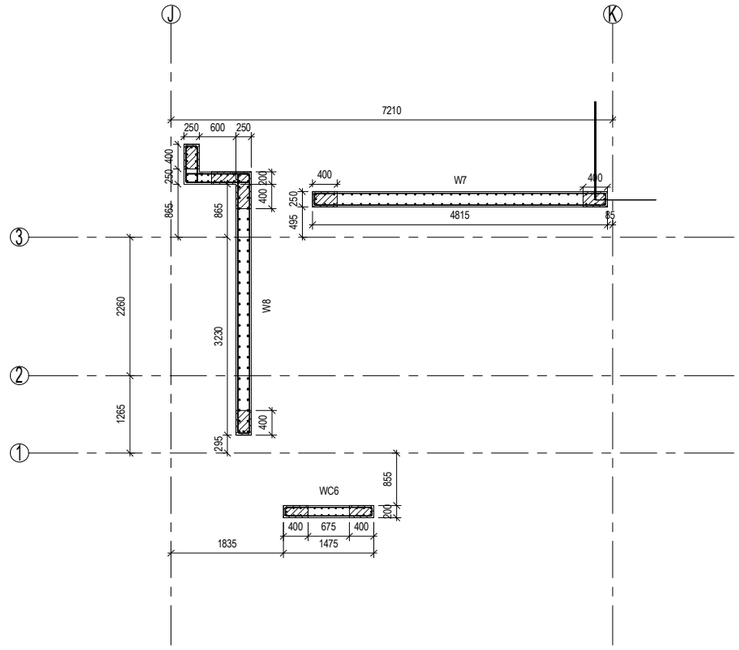
VERTICAL BAR
HORIZONTAL BAR
BINDER

BINDERS:

HORIZONTAL SPACING
T10-200

TYPICAL DETAIL OF WALL
(N.T.S.)





REV	DATE	AMENDMENT

BD REF :

BIM REF :

PROJECT
CIC SAMPLE PROJECT

DRAWING TITLE
WALL R.C. DETAIL (2 OF 2)

SCALE AS SHOWN@A1

DRAWING NO. S008

REV. NO.

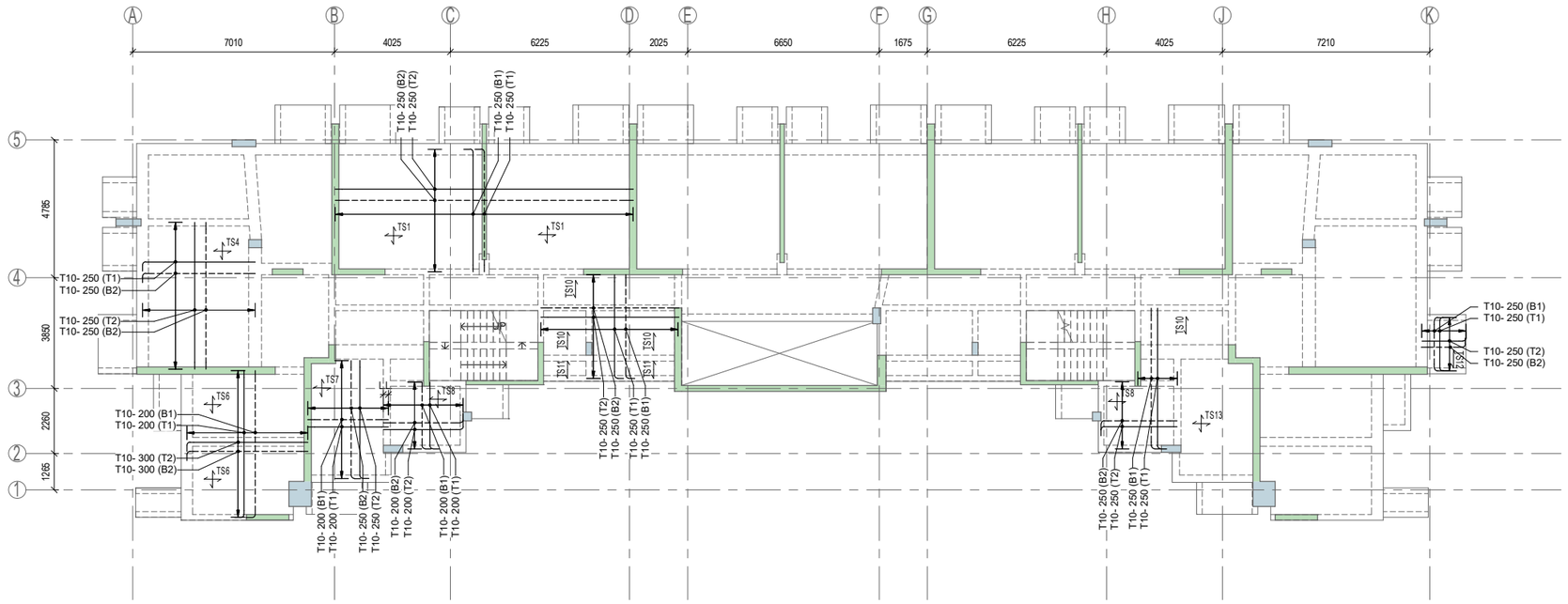
SOURCE ---

90mm (W) x 40mm (H) space
for COMPANY LOGO

90mm (W) x 60mm (H) space
for AP/RSE/RGE's
signature/ and stamp chop

BD's OFFICAL USE

90mm (W) x 150mm (H) space
for BD's approval stamp /
certification of copies of
approved plans
(PNAP ADM-10 APP A)



1 TYP FLOOR SLAB R.C. DETAILS

1 : 100

BD REF :

BIM REF :

REV	DATE	AMENDMENT

PROJECT

CIC SAMPLE PROJECT

DRAWING TITLE

SLAB R.C. DETAIL

SCALE 1 : 100@A1

DRAWING NO. S009

REV. NO.

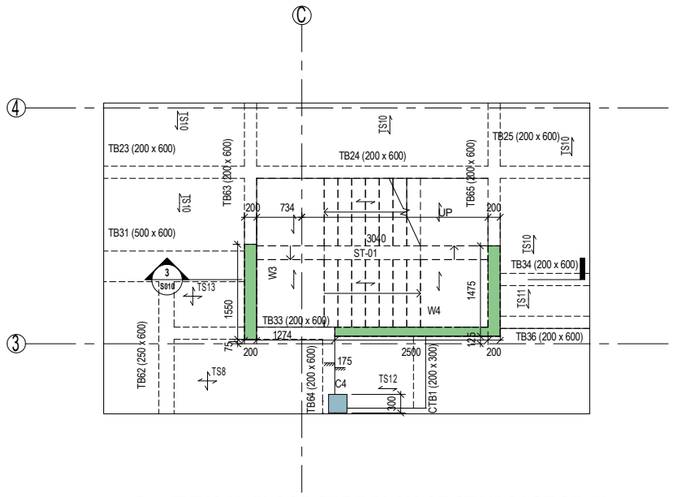
SOURCE ---

90mm (W) x 40mm (H) space
for COMPANY LOGO

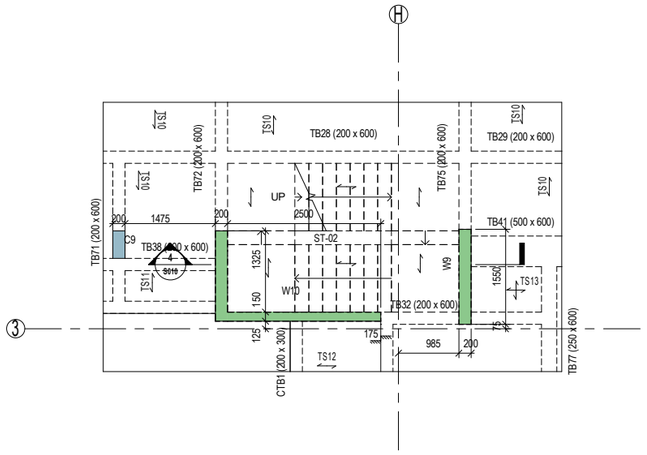
90mm (W) x 60mm (H) space
for AP/RSE/RGE's
signature/ and stamp chop

BD's OFFICAL USE

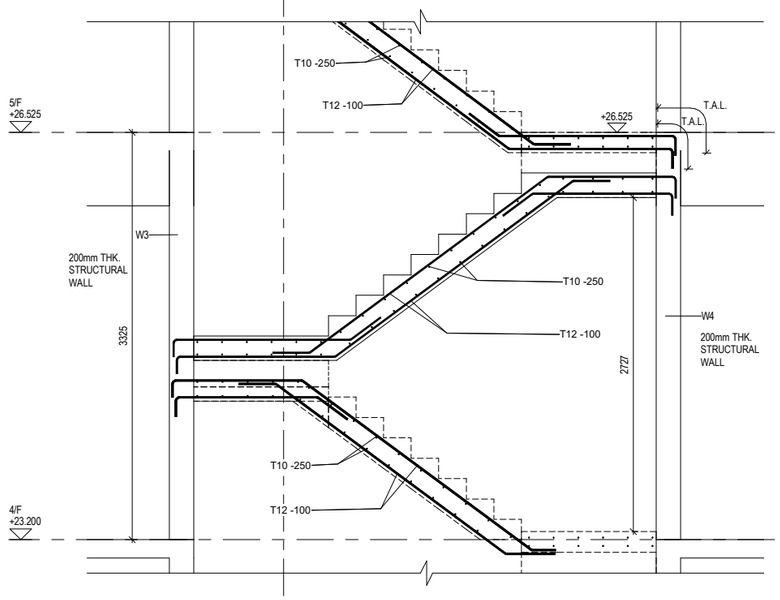
90mm (W) x 150mm (H) space
for BD's approval stamp /
certification of copies of
approved plans
(PNAP ADM-10 APP A)



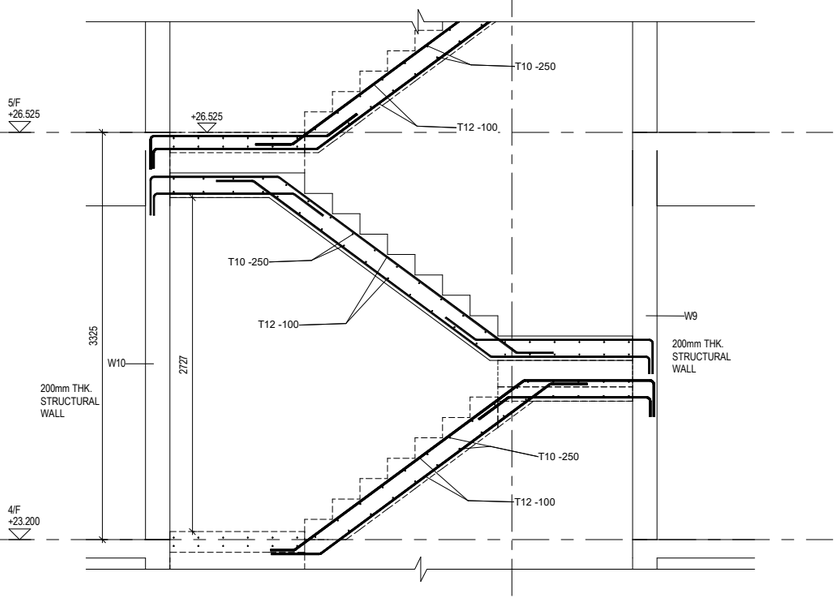
1 **TYPICAL FLOOR PART PLAN OF STAIRCASE ST-01**
1 : 50



2 **TYPICAL FLOOR PART PLAN OF STAIRCASE ST-02**
1 : 50



3 **ST-01 (250)**
1 : 25



4 **ST-02 (250)**
1 : 25

REV	DATE	AMENDMENT

BD REF :

BIM REF :

PROJECT
CIC SAMPLE PROJECT

DRAWING TITLE
STAIRCASE R.C. DETAIL

SCALE AS SHOWN@A1

DRAWING NO. S010

REV. NO.

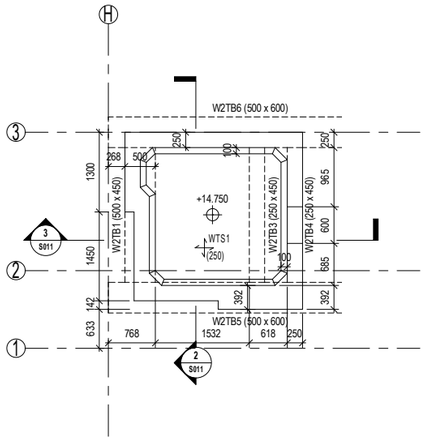
SOURCE ---

90mm (W) x 40mm (H) space
for COMPANY LOGO

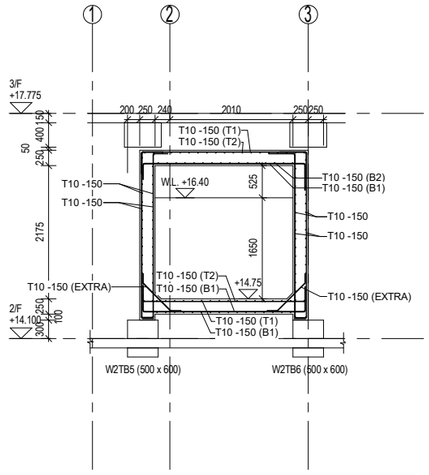
90mm (W) x 60mm (H) space
for AP/RSE/RGE's
signature/ and stamp chop

BD's OFFICAL USE

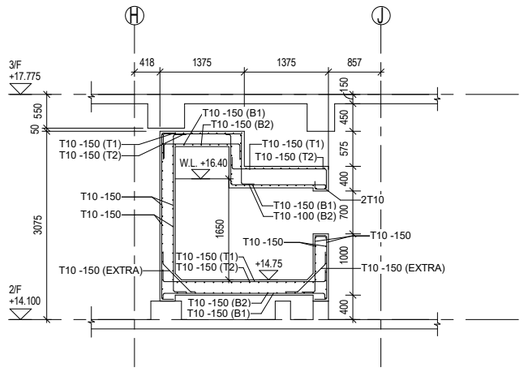
90mm (W) x 150mm (H) space
for BD's approval stamp /
certification of copies of
approved plans
(PNAP ADM-10 APP A)



1 6.6m³ FLUSHING WATER TANK AT 2/F
1 : 50



2 WATER TANK SECTION 1
1 : 50



3 WATER TANK SECTION 2
1 : 50

REV	DATE	AMENDMENT

BD REF :

BIM REF :

PROJECT
CIC SAMPLE PROJECT

DRAWING TITLE
WATER TANK R.C. DETAIL

SCALE 1 : 50@A1

DRAWING NO. S011

REV. NO.

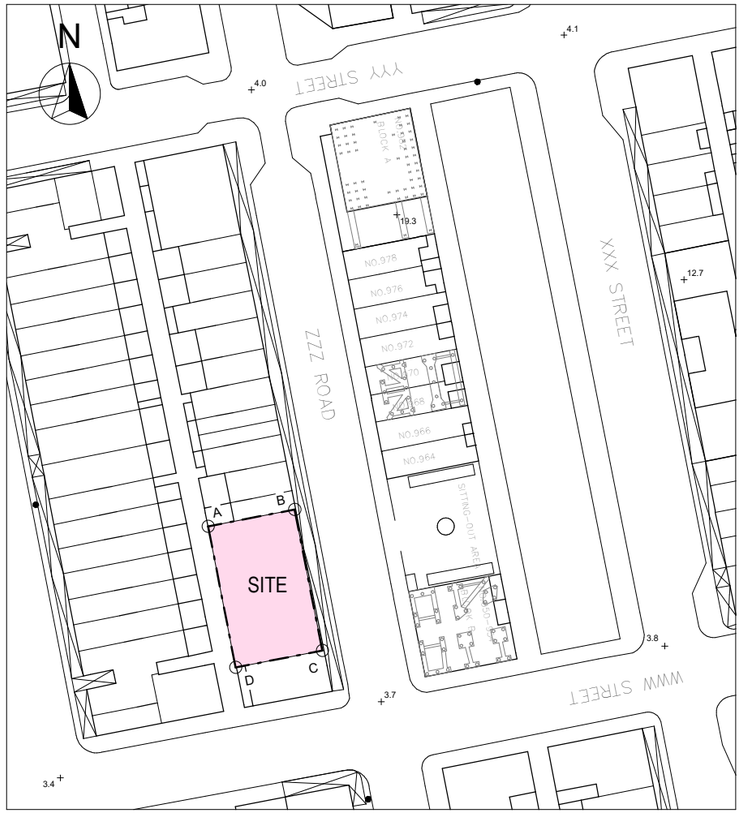
SOURCE ---

90mm (W) x 40mm (H) space
for COMPANY LOGO

90mm (W) x 60mm (H) space
for AP/RSE/RGE's
signature/ and stamp chop

BD's OFFICAL USE

90mm (W) x 150mm (H) space
for BD's approval stamp /
certification of copies of
approved plans
(PNAP ADM-10 APP A)



BLOCK PLAN
1 : 500

GENERAL NOTES FOR STRUCTURAL STEEL WORKS:

1. UNLESS NOTED OTHERWISE, ALL STRUCTURAL STEEL WORKS SHALL BE GRADE S355 J0 COMPLYING WITH BS EN 10025:2004 (Py = 355 MPa) EXCEPT HOLLOW SECTION TO BS EN 20210 AND CLASS 1 COMPLYING WITH CODE OF PRACTICE FOR THE STRUCTURAL USE OF STEEL 2011.

2. ALL STEELWORK SHALL BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH CODE OF PRACTICE FOR THE STRUCTURAL USE OF STEEL 2011. STRUCTURAL USE OF STEEL MATERIALS PROPERTIES SHALL COMPLY WITH BS EN 10025:2004, FOR PERMANENT STRUCTURES. MINIMUM DESIGN STRENGTH ARE AS FOLLOWS:

GRADE	THICKNESS LESS THAN OR EQUAL TO (mm)	DESIGN STRENGTH N/mm²
S355	16	355

* THE STRUCTURAL STEEL ARE CLASSIFIED AS CLASS 1 IN ACCORDANCE WITH CODE OF PRACTICE FOR THE STRUCTURAL USE OF STEEL 2011.

3. THE STEELWORK CONTRACTOR IS RESPONSIBLE FOR ENSURING THE STEEL HAS ADEQUATE THROUGH THICKNESS PROPERTIES TO SATISFY THE REQUIREMENTS OF HIS WELDING PROCEDURES AND WELDING SEQUENCE AND THAT THE MATERIAL AT OR ADJACENT TO WELDED LOCATIONS IS FREE OF LAMINATIONS, CENTRELINE SEGREGATION, OR OTHER CRACK LIKE INDICATIONS ON COMPLETION OF WELDING. THE STEELWORK CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE QUALITY CLASS OF STEEL WITH ENHANCED THROUGH THICKNESS PROPERTIES WHICH MAY BE REQUIRED TO BE COMPATIBLE WITH HIS CHOSEN METHOD OF WORKING.

4. ANY DAMAGED SURFACES OF GALVANISED STEEL SHALL BE COATED WITH ANTI-CORROSIVE COLD GALVANISED PRIMER PRIOR TO PAINTING.

5. PRIOR TO ERECTION ALL STEELWORK SHALL BE SPRAY WASHED WITH WATER AND DETERGENT THEN SPRAY RINSED WITH CLEAN WATER. THEY SHOULD BE FREE FROM RUST, GREASE AND LOOSING SCALES BEFORE APPLICATION OF SURFACE PROTECTION.

6. THE CONTRACTOR SHOULD EMPLOY QUALIFIED WELDERS WITH VALID WELDING CERTIFICATE.

7. ALL WELDING WORK SHALL BE CARRIED OUT BY CERTIFIED WELDERS TESTED BY A HOKLAS APPROVED LABORATORY TO BS EN 15614-8:2002 ALL WELDING WORK TO COMPLY WITH BS EN 1011 SITE WELDING SHALL ONLY BE CARRIED OUT WITH PRIOR WRITTEN CONSENT OF THE ARCHITECT.

8. ALL WELD AND BLOT CONNECTIONS SHALL BE INSPECTED BY THE ENGINEER BEFORE BEING COVERED UP AND REPRESENTATIVELY TESTED TO THE SATISFACTORY OF THE ENGINEER.

9. THE WELDING STANDARDS SHALL BE IN ACCORDANCE WITH BS EN 1011 PART 1:2009 AND PART 2:2001.

10. THE WELDING PROCEDURES SHALL BE IN ACCORDANCE WITH BS EN ISO 15614 PART 1: 2004 AND PART 8:2002.

11. THE WELDERS SHALL BE APPROVED IN ACCORDANCE WITH BS EN 287 PART 1:2004.

12. THE WELDING TESTS SHALL BE IN ACCORDANCE WITH BS EN 1714:1998 AND BS EN ISO 9934 PART 1:2001.

13. UNLESS NOTED OTHERWISE, ALL WELDING SHALL BE 6mm CONTINUOUS FILLET WELD ALL ROUND.

14. ABBREVIATIONS FOR WELDING :-
    FW -FILLET WELD
    FPBW -FULL PENETRATION BUTT FILLET WELD
    PPBW -PARTIAL PENETRATION BUTT FILLET WELD

FOR REFERENCE ONLY

15. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROVISION OF ALL SHIMMING/PACKING REQUIRED TO ACHIEVE ADEQUATE TOLERANCE AT THE CONNECTIONS.

16. THE CONTRACTOR SHOULD VERIFY THE SETTING OUT DIMENSIONS ON STRUCTURAL AND BUILDING PLANS ON SITE. ANY DISCREPANCIES SHALL BE REPORTED TO THE ARCHITECT/ENGINEER BEFORE CONSTRUCTION WORK IS PROCEEDED.

17. THE CONTRACTOR SHOULD SUBMIT THE FABRICATION AND SHOP DRAWING TO THE ENGINEER FOR CHECKING.

18. ALL STEEL WORKS SHALL BE GALVANIZED TO BS EN ISO 1461:2009 WITH MIN. ZINC COATING THICKNESS OF 85 MICRONS AND WITH 2 COATS OF ZINC PRIMER.

19. THE CONTRACTOR SHALL PROVIDE TEMPORARY BRACING TO STABILIZE THE STEEL WORKS DURING ERECTION.

20. ALL EXISTING FINISHES SHALL BE REMOVED PRIOR TO FIXING END PLATES AND ANCHOR BARS.

21. ALL ORDINARY BOLTS SHALL BE ISO GRADE 8.8 BLACK BOLT TO BS 3692:1967, UNLESS NOTED OTHERWISE.

22. ALL EXISTING REINFORCEMENT IN THE EXISTING CONCRETE STRUCTURES SHALL BE LOCATED WITH COVERMETER PRIOR TO DRILLING FOR ANCHOR BAR INSTALLATION. NO STEEL BAR SHALL BE CUT FOR DRILLING.

BD REF :

BIM REF :

REV	DATE	AMENDMENT

PROJECT
CIC SAMPLE PROJECT

DRAWING TITLE
STEEL STRUCTURE BLOCK PLAN AND GENERAL NOTES

SCALE

DRAWING NO. R001 REV. NO.

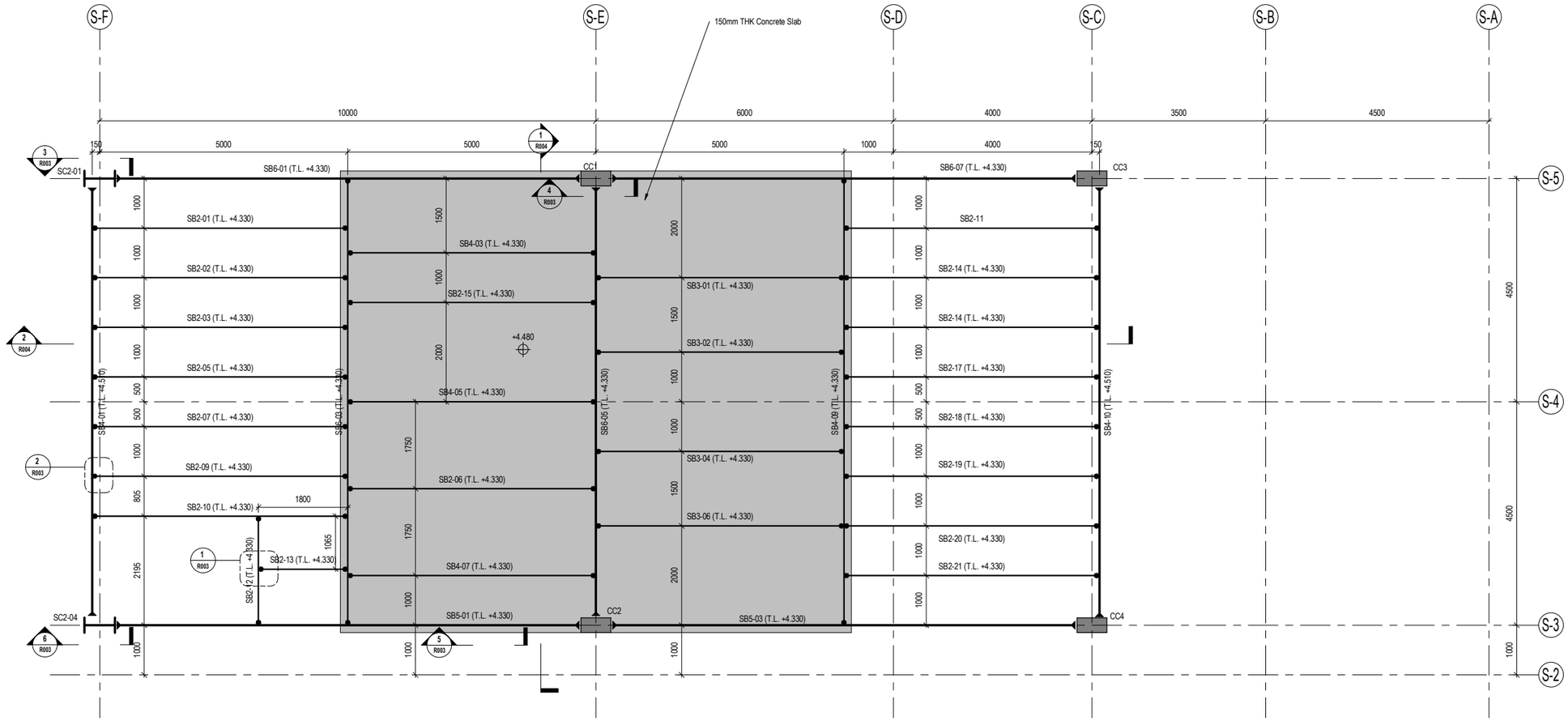
SOURCE ---

90mm (W) x 40mm (H) space
for COMPANY LOGO

90mm (W) x 60mm (H) space
for AP/RSE/RGE's
signature/ and stamp chop

BD's OFFICAL USE

90mm (W) x 150mm (H) space
for BD's approval stamp /
certification of copies of
approved plans
(PNAP ADM-10 APP A)



1 Level 2 Framing Plan
1 : 50

STEEL BEAM SCHEDULE		
TYPE MARK	SIZE	STEEL GRADE
SB2	UB152x89x16	S355
SB3	UB203x102x23	S355
SB4	UB356x171x57	S355
SB5	UB457x191x74	S355
SB6	UB533x210x101	S355

SCHEDULE OF STEEL COLUMN		
MARK	SIZE	STEEL GRADE
SC2	UB610x305x179	S355

SCHEDULE OF CONCRETE COLUMN	
Mark	SIZE
CC1	300 x 600
CC2	300 x 600
CC3	300 x 600
CC4	300 x 600

LEGEND

PINNED JOINT

MOMENT JOINT

CONCRETE GRADE OF ALL CONCRETE COLUMNS TO BE C40

BD REF :

BIM REF :

REV	DATE	AMENDMENT

PROJECT
CIC SAMPLE PROJECT

DRAWING TITLE
STEEL STRUCTURE FLOOR PLAN

SCALE As indicated@A1

DRAWING NO. R002

REV. NO.

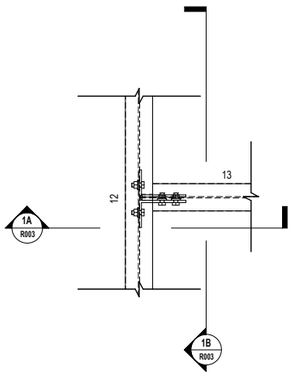
SOURCE ---

90mm (W) x 40mm (H) space
for COMPANY LOGO

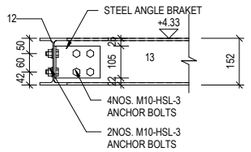
90mm (W) x 60mm (H) space
for AP/RSE/RGE's
signature/ and stamp chop

BD's OFFICAL USE

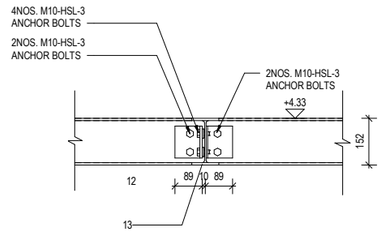
90mm (W) x 150mm (H) space
for BD's approval stamp /
certification of copies of
approved plans
(PNAP ADM-10 APP A)



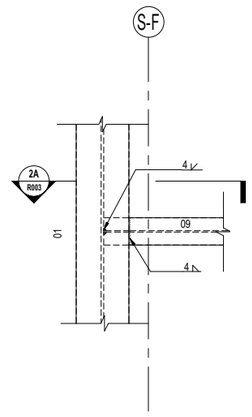
1 CONNECTION DETAIL FOR STEEL BEAM
1 : 10



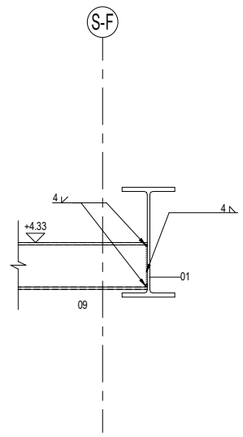
1A Section 1A
1 : 10



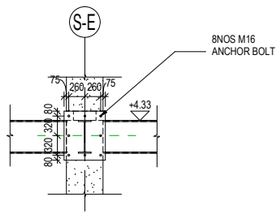
1B Section 1B
1 : 10



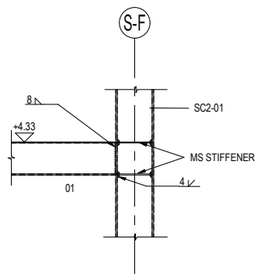
2 CONNECTION DETAIL FOR STEEL BEAM (WELDING)
1 : 10



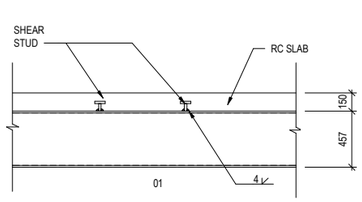
2A Section 2A
1 : 10



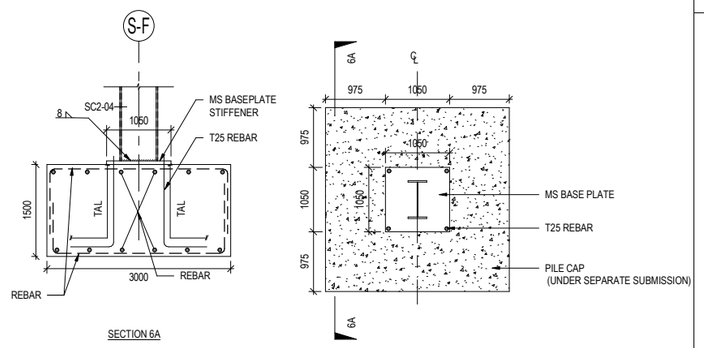
4 CONNECTION DETAIL FOR CONCRETE COLUMNS AND STEEL BEAM
1 : 50



3 CONNECTION DETAIL FOR STEEL COLUMN AND STEEL BEAM
1 : 50



5 CONNECTION DETAIL FOR CONCRETE SLAB AND STEEL BEAM
1 : 25



6 CONNECTION DETAIL FOR STEEL COLUMN AND PILE CAP
1 : 50

BD REF :

BIM REF :

REV	DATE	AMENDMENT

PROJECT
CIC SAMPLE PROJECT

DRAWING TITLE
STEEL STRUCTURE DETAIL

SCALE As indicated@A1

DRAWING NO. R003

REV. NO.

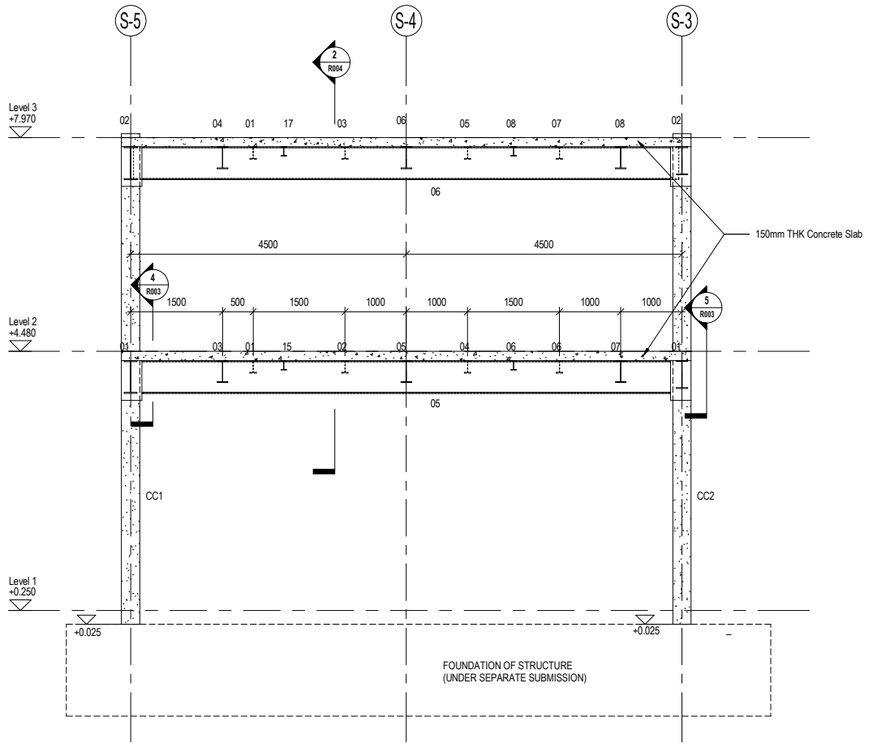
SOURCE ---

90mm (W) x 40mm (H) space
for COMPANY LOGO

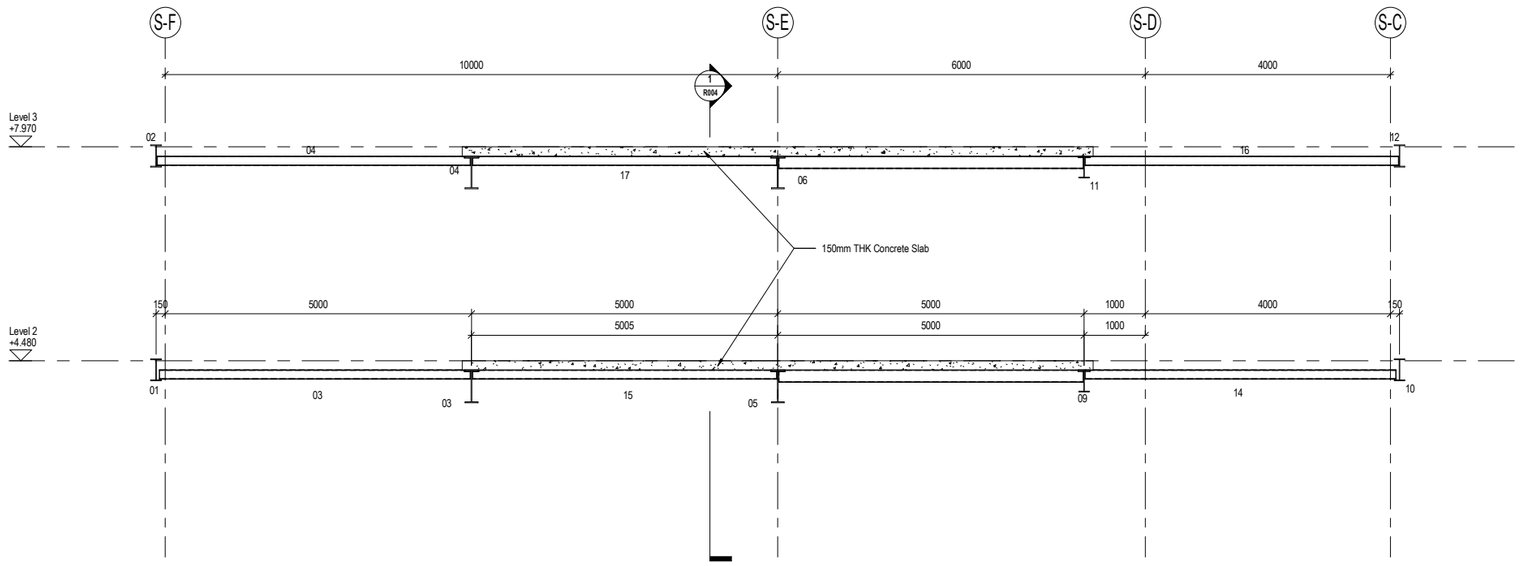
90mm (W) x 60mm (H) space
for AP/RSE/RGE's
signature/ and stamp chop

BD's OFFICAL USE

90mm (W) x 150mm (H) space
for BD's approval stamp /
certification of copies of
approved plans
(PNAP ADM-10 APP A)



1 Section 1
1 : 50



2 Section 2
1 : 50

BD REF :

BIM REF :

REV	DATE	AMENDMENT

PROJECT
CIC SAMPLE PROJECT

DRAWING TITLE
STEEL STRUCTURAL SECTIONS

SCALE AS SHOWN@A1

DRAWING NO. R004

REV. NO.

SOURCE ---

90mm (W) x 40mm (H) space
for COMPANY LOGO

90mm (W) x 60mm (H) space
for AP/RSE/RGE's
signature/ and stamp chop

BD's OFFICAL USE

90mm (W) x 150mm (H) space
for BD's approval stamp /
certification of copies of
approved plans
(PNAP ADM-10 APP A)

1. DESIGN REFERENCE

a. CODE OF PRACTICE FOR STRUCTURAL USE OF STEEL, 2011, B.D. H.K.
b. CODE OF PRACTICE FOR STRUCTURAL USE OF GLASS, 2018, B.D. H.K.
c. CODE OF PRACTICE ON WIND EFFECTS IN HONG KONG 2019, B.D. H.K.
d. CODE OF PRACTICE FOR STRUCTURAL USE OF CONCRETE 2013, B.D. H.K.
f. BRITISH STANDARD - STRUCTURAL USE OF ALUMINIUM BS8118:1991
g. BUILDING (CONSTRUCTION) REGULATIONS
h. STRUCTURAL DESIGN OF STAINLESS STEEL (SCI PUBLICATION 291)

2. GLASS:

a. TP10+12A+TP10mm SILVER GREY GLASS PANEL GLASS W/LOW-E COATING ON SURFACE (GL-01)

b. DEFLECTION LIMIT : SPAN/60
PERMISSIBLE STRESS OF TEMPERED GLASS = 50 N/mm^2
YOUNG'S MODULUS, E = 73 kN/mm^2
DENSITY OF GLASS = 2600 kg/m^3

c. GASKETS: DENSE : NEOPRENE - 60 : 5 DURO - FOR SOLD PROFILES
- 75 : 5 DURO - FOR HOLLOW PROFILES

d. SETTING BLOCKS : NEOPRENE (DURO)
150mm LONG AT QUARTER POINT OF GLASS

e. 100% HEAT SOAK TESTING FOR ALL TEMPERED GLASS
THE QUALITY CONTROL ON THE FABRICATION OF INSULATED GLASS UNIT SHOULD STRICTLY FOLLOW TAE RECOMMENDATION OF ASTM E773.

f. ALL GLASS PANEL COMPLY TO B.S. 952

3. DESIGN CRITERIA

a. -WIND LOAD
THE BASIC DESIGN PRESSURE : 2.37 kPa
TOPOGRAPPY FACTOR, Sa = 1.3
2.37 x 1.0 x 1.3 = 3.08 kPa (COMPRESSION)
2.37 x 1.4 x 1.3 = 4.31 kPa (SUCTION)
- IMPACT LOAD
- 3kN/m AT 1.1m ABOVE FFL.
- UDL LOAD = 1.5 kN/m^2
- POINT LOAD = 1.5kN
b. CONCRETE
MINIMUM COMPRESSIVE fc' = 60 MPa AT 28 DAYS STRENGTH

FOR REFERENCE ONLY

4. STRUCTURAL STEEL

a. B.S. EN. 10210 FOR STEEL HOLLOW GRADE S275 J0 CLASS 1.

b. B.S. EN. 10025 FOR OTHER STRUCTURAL STEEL GRADE S275 J0 CLASS 1.

c. ALL MILD STEEL BRACKETS TO BE SECURED BY WELDING TO B.S. EN. 1011
ALL FILLET WELD TO BE 4mm THK, UNLESS OTHERWISE STATED.

d. MAKE GOOD DAMAGE TO ZINC COATINGS AND GALVANISING, TREAT CUT ENDS OF GALVANISED SECTIONS WITH TWO COATS OF METALLIC ZINC-RICH PRIMING

e. ALL STRUCTURAL MILD STEEL WORKS AND BRACKETS, ETC, FOR FIXING SHALL BE HOT-DIP GALVANIZING OF ZNC PAINT TO B.S. 4652,1995
COMPLYING WITH B.S. E.N. ISO 1461 WITH 85 MICRONS THICKNESS.

5. ANCHOR BOLT

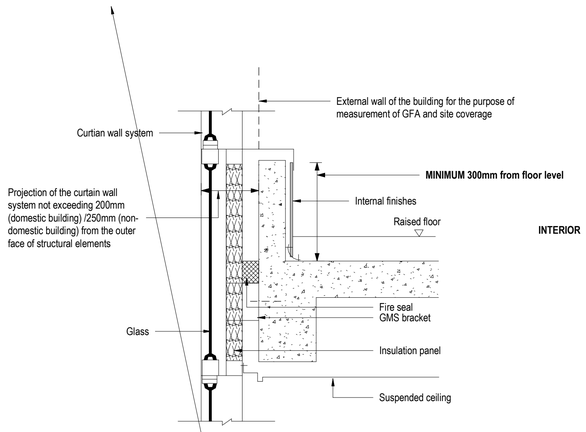
1) THE INSTALLATION OF ANCHOR BOLTS SHALL STRICTLY IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS

2) THE MINIMUM EMBEDMENT, SPACING & EDGE DISTANCE FOR THE VARIOUS TYPES OF ANCHOR BOLTS USED ARE AS FOLLOWS:

BD REFERENCE NO.	'HILT' 'HST30R'	MIN. SPACING	MIN. EDGE DISTANCE	EFFECTIVE EMBEDMENT LENGTH	BASE MATERIAL THICKNESS	TENSILE (kN)	SHEAR (kN)	TEST LOAD (kN) TENSILEx1.5

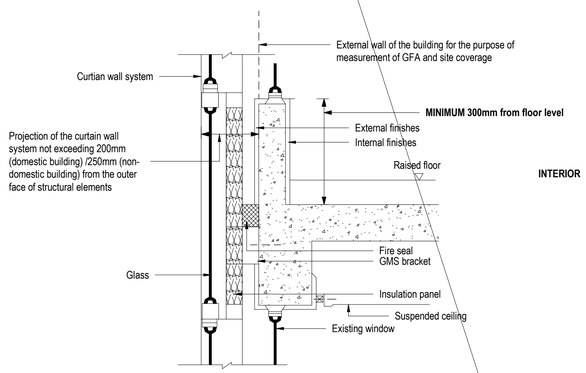
6. ALLOWABLE TOLERANCE:

ALLOWABLE TOLERANCE OF THE POSITIONING OF WINDOW SUPPORTS AND ARRANGEMENTS IS ±25mm

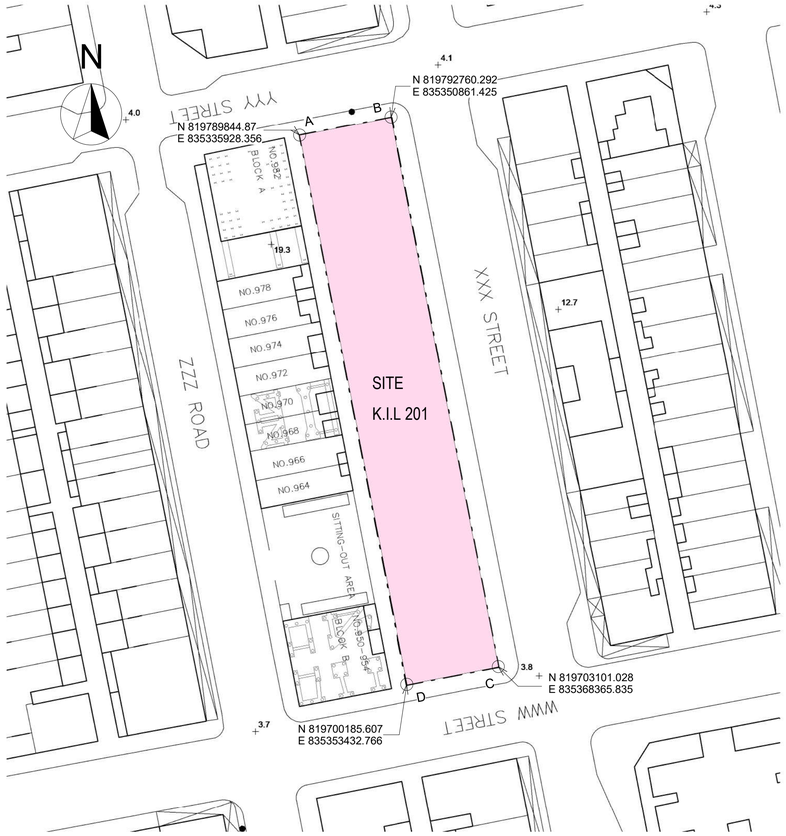


Section of Curtain Wall System installed at New Building

FOR REFERENCE ONLY



Section of Curtain Wall System installed at Existing Building



BLOCK PLAN
1 : 500

This is an example of demonstrating the presentation of drawings generated from BIM according to the Standard and User Guides ONLY. It does NOT represent the completeness of Submission Drawings under BD's approval requirement of Statutory Plans. The BD approval requirements should refer to other relevant references and remain unchanged no matter whether BIM is used or not used for the preparation of Statutory Plans.

BD REF :

BIM REF :

REV	DATE	AMENDMENT

PROJECT
CIC SAMPLE PROJECT

DRAWING TITLE
CURTAIN WALL GENERAL NOTES

SCALE

DRAWING NO. C001

REV. NO.

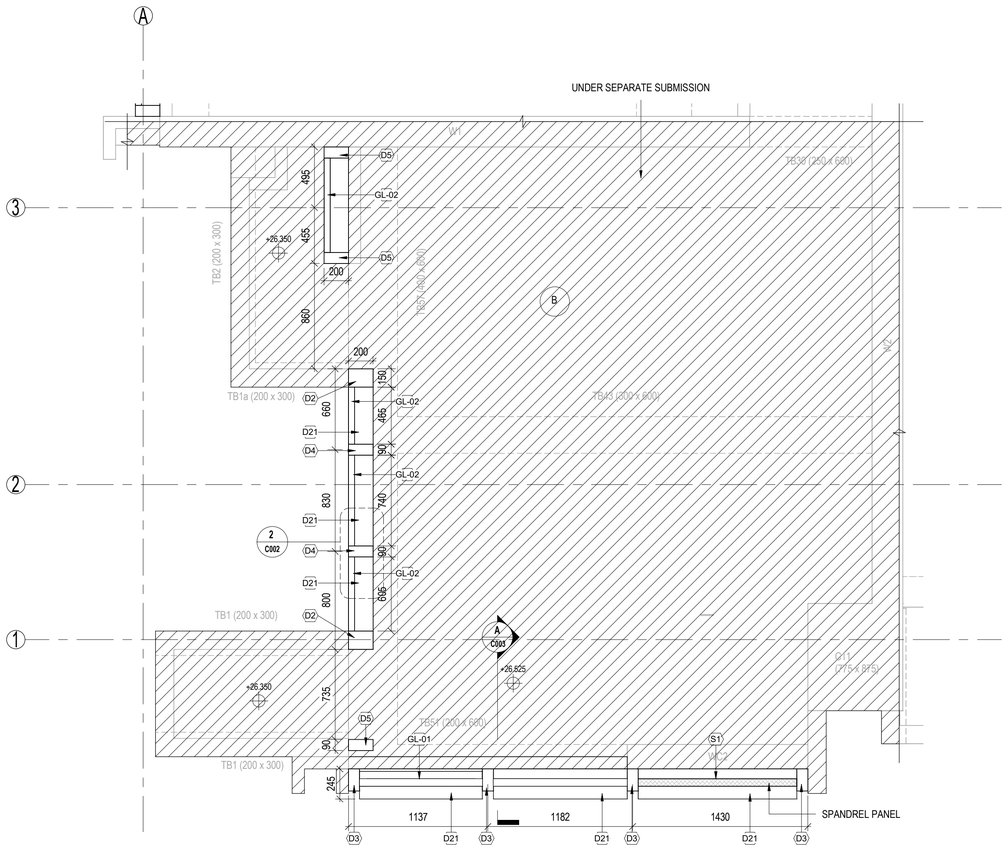
SOURCE ---

90mm (W) x 40mm (H) space for COMPANY LOGO

90mm (W) x 60mm (H) space for AP/RSE/RGE's signature/ and stamp chop

BD's OFFICAL USE

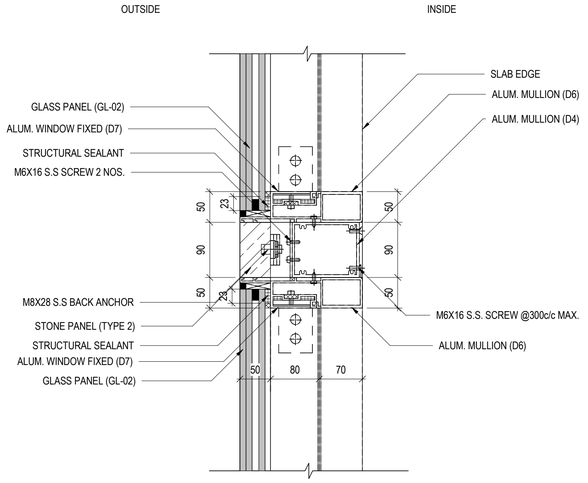
90mm (W) x 150mm (H) space for BD's approval stamp / certification of copies of approved plans (PNAP ADM-10 APP A)



1 5/F CURTAIN WALL LAYOUT PART PLAN (FLAT B)

1 : 25

NOTES:
1. ALL CONCRETE ELEMENTS ARE UNDER SEPARATED SUBMISSION



2 TYPICAL MULLION FIXING DETAIL

1 : 5

This is an example of demonstrating the presentation of drawings generated from BIM according to the Standard and User Guides ONLY. It does NOT represent the completeness of Submission Drawings under BD's approval requirement of Statutory Plans. The BD approval requirements should refer to other relevant references and remain unchanged no matter whether BIM is used or not used for the preparation of Statutory Plans.

BD REF :

BIM REF :

REV	DATE	AMENDMENT

PROJECT
CIC SAMPLE PROJECT

DRAWING TITLE
CURTAIN WALL LAYOUT PART PLAN

SCALE

DRAWING NO. C002

REV. NO.

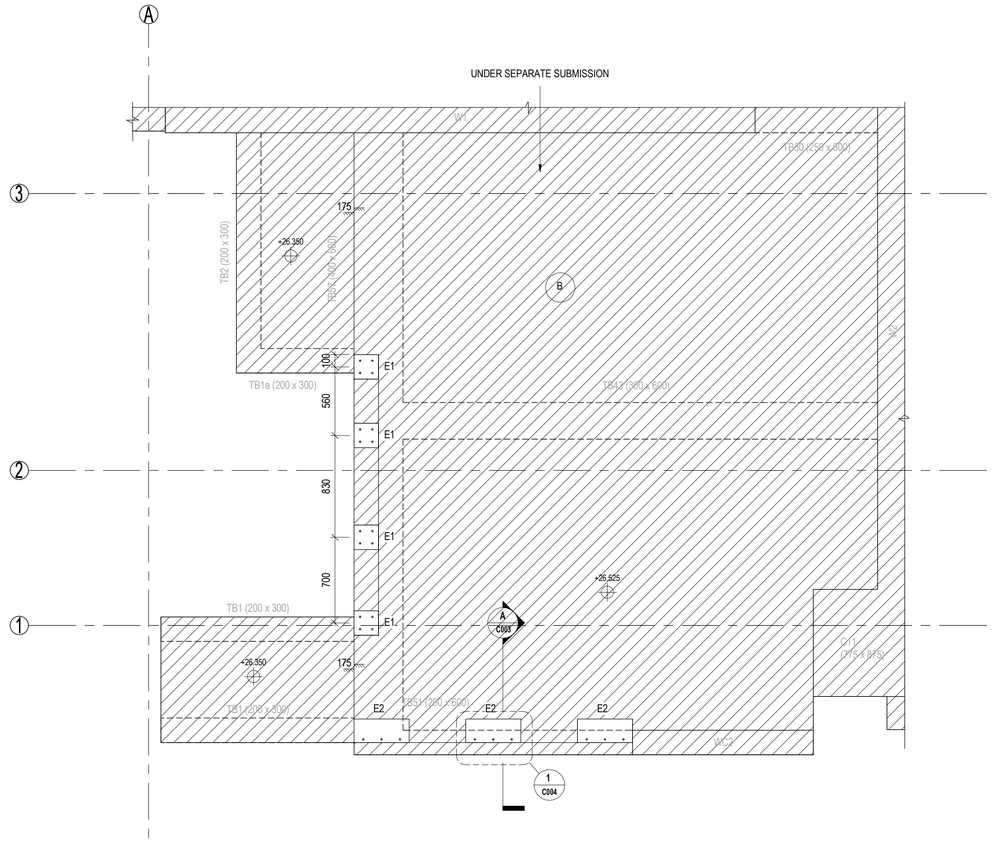
SOURCE ---

90mm (W) x 40mm (H) space
for COMPANY LOGO

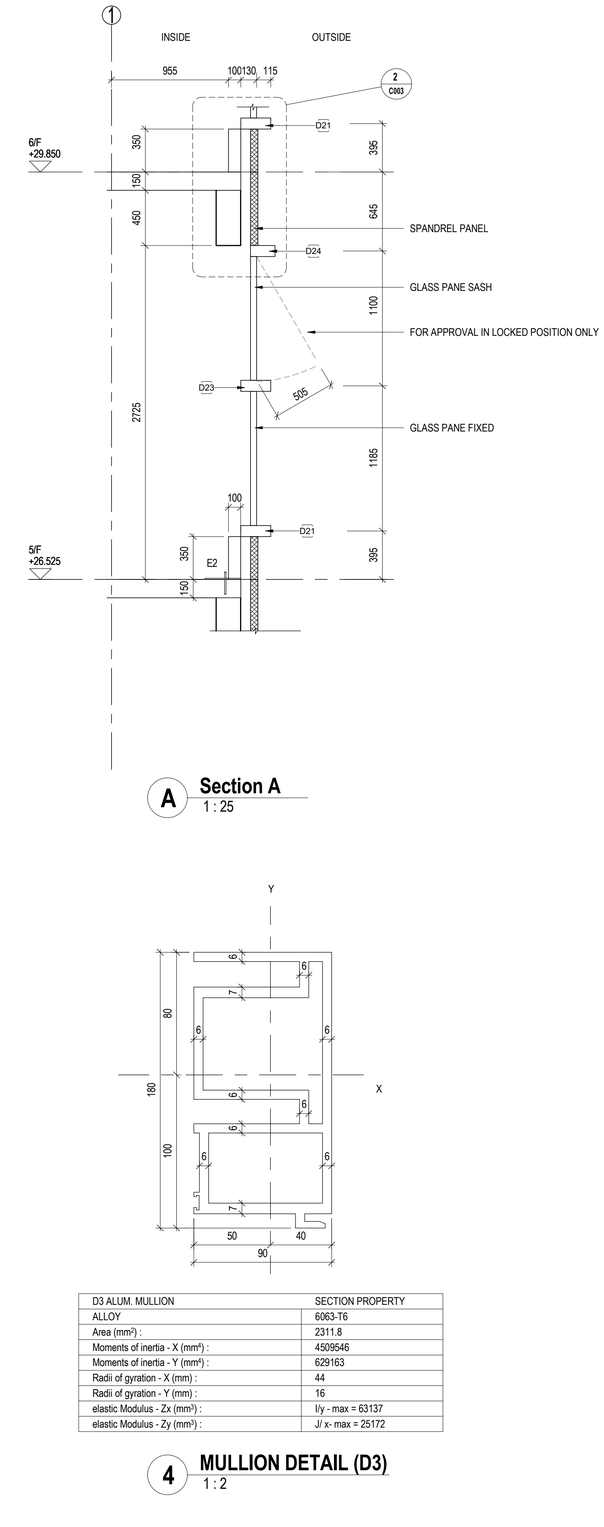
90mm (W) x 60mm (H) space
for AP/RSE/RGE's
signature/ and stamp chop

BD's OFFICAL USE

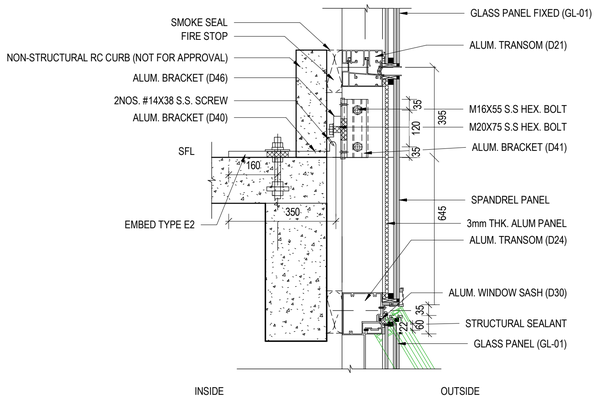
90mm (W) x 150mm (H) space
for BD's approval stamp /
certification of copies of
approved plans
(PNAP ADM-10 APP A)



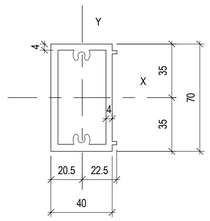
1 5/F CAST-IN LAYOUT PART PLAN (FLAT B)
1 : 25



A Section A
1 : 25



2 TYPICAL GLASS AND TRANSOM FIXING DETAIL
1 : 10



D1 ALUM. TRANSOM	SECTION PROPERTY
ALLOY	6063-T6
Area (mm^2) :	922.5
Moments of inertia - X (mm^4) :	592951
Moments of inertia - Y (mm^4) :	211886
Radii of gyration - X (mm) :	25
Radii of gyration - Y (mm) :	15
elastic Modulus - Zx (mm^3) :	I/y - max = 16941
elastic Modulus - Zy (mm^3) :	J/ x- max = 9326

3 TRANSOM DETAIL (D1)
1 : 2

D3 ALUM. MULLION	SECTION PROPERTY
ALLOY	6063-T6
Area (mm^2) :	2311.8
Moments of inertia - X (mm^4) :	4509546
Moments of inertia - Y (mm^4) :	629163
Radii of gyration - X (mm) :	44
Radii of gyration - Y (mm) :	16
elastic Modulus - Zx (mm^3) :	I/y - max = 63137
elastic Modulus - Zy (mm^3) :	J/ x- max = 25172

4 MULLION DETAIL (D3)
1 : 2

This is an example of demonstrating the presentation of drawings generated from BIM according to the Standard and User Guides ONLY. It does NOT represent the completeness of Submission Drawings under BD's approval requirement of Statutory Plans. The BD approval requirements should refer to other relevant references and remain unchanged no matter whether BIM is used or not used for the preparation of Statutory Plans.

BD REF :

BIM REF :

REV	DATE	AMENDMENT

PROJECT
CIC SAMPLE PROJECT

DRAWING TITLE
CURTAIN WALL CAST-IN LAYOUT PART PLAN

SCALE

DRAWING NO. C003

REV. NO.

SOURCE ---

90mm (W) x 40mm (H) space for COMPANY LOGO

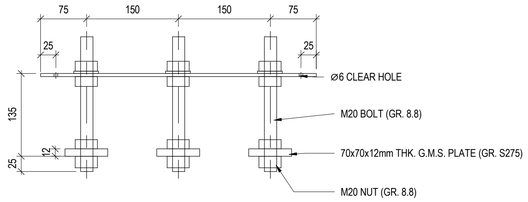
90mm (W) x 60mm (H) space for AP/RSE/RGE's signature/ and stamp chop

BD's OFFICAL USE

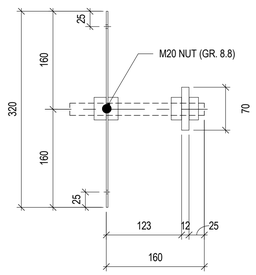
90mm (W) x 150mm (H) space for BD's approval stamp / certification of copies of approved plans (PNAP ADM-10 APP A)

UNFACTORED FORCES FOR CAST-IN EMBED TYPE E2		
	D.L.	W.L.
Fx (kN)	0	0
Fy (kN)	0	39.5
Fz (kN)	-14	0
Mx (kNm)	0.9	2
My (kNm)	0	0
Mz (kNm)	0	0

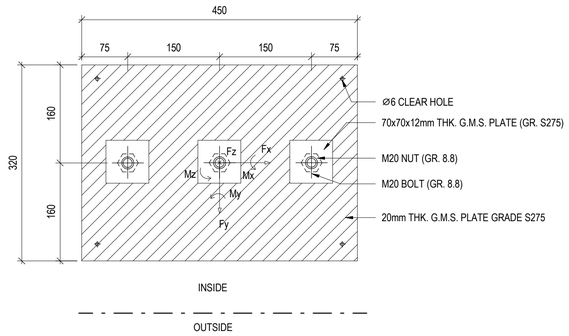
*(W.L.) WIND LOAD ARE REVERSIBLE



ELEVATION VIEW
CAST-IN EMBED TYPE E2



SIDE VIEW
CAST-IN EMBED TYPE E2



PLAN VIEW
CAST-IN EMBED TYPE E2

1 EMBED E2 DETAIL
1 : 5

This is an example of demonstrating the presentation of drawings generated from BIM according to the Standard and User Guides ONLY. It does NOT represent the completeness of Submission Drawings under BD's approval requirement of Statutory Plans. The BD approval requirements should refer to other relevant references and remain unchanged no matter whether BIM is used or not used for the preparation of Statutory Plans.

BD REF :

BIM REF :

REV	DATE	AMENDMENT

PROJECT
CIC SAMPLE PROJECT

DRAWING TITLE
EMBED DETAIL

SCALE

DRAWING NO. C004

REV. NO.

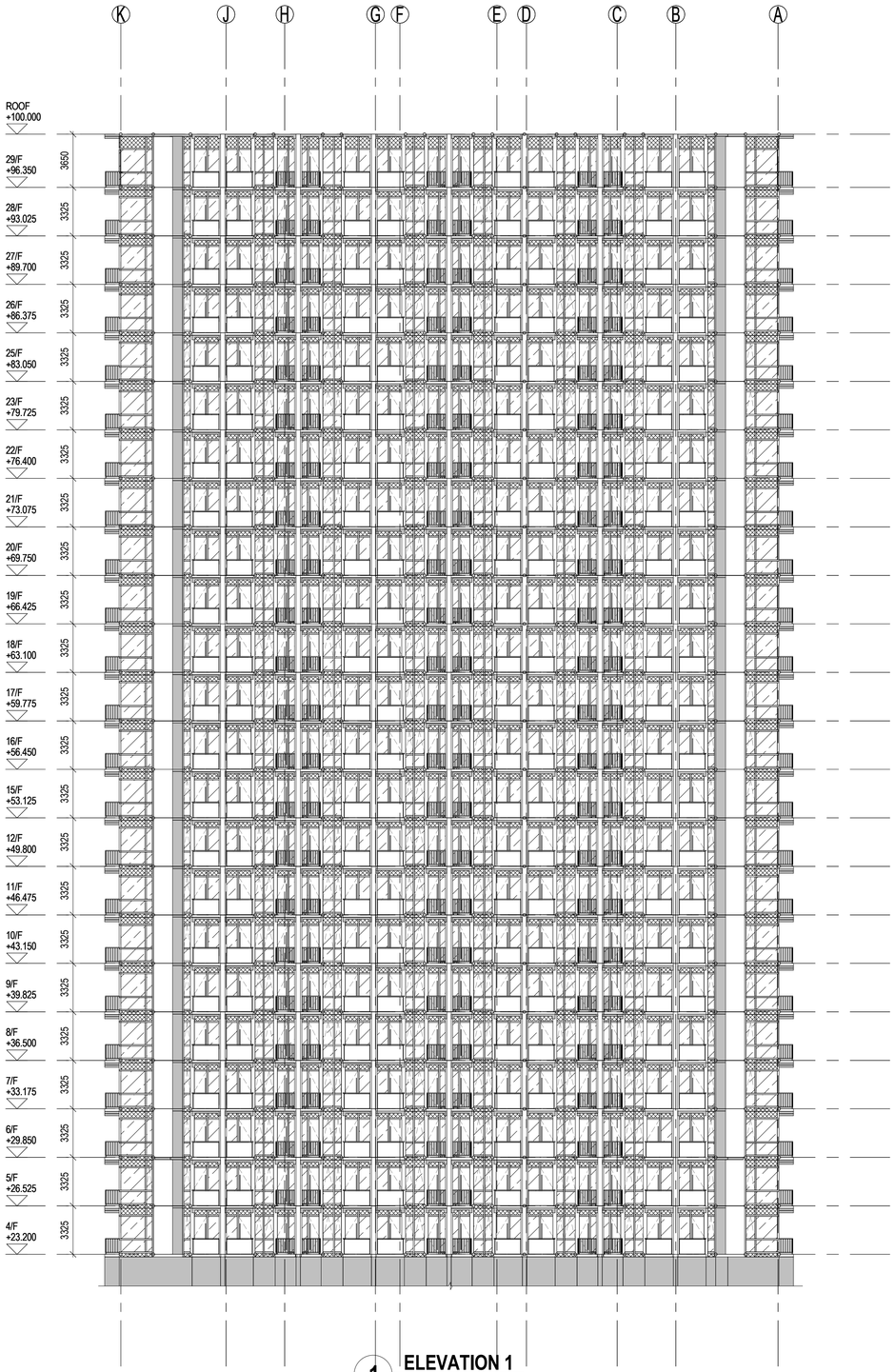
SOURCE ---

90mm (W) x 40mm (H) space
for COMPANY LOGO

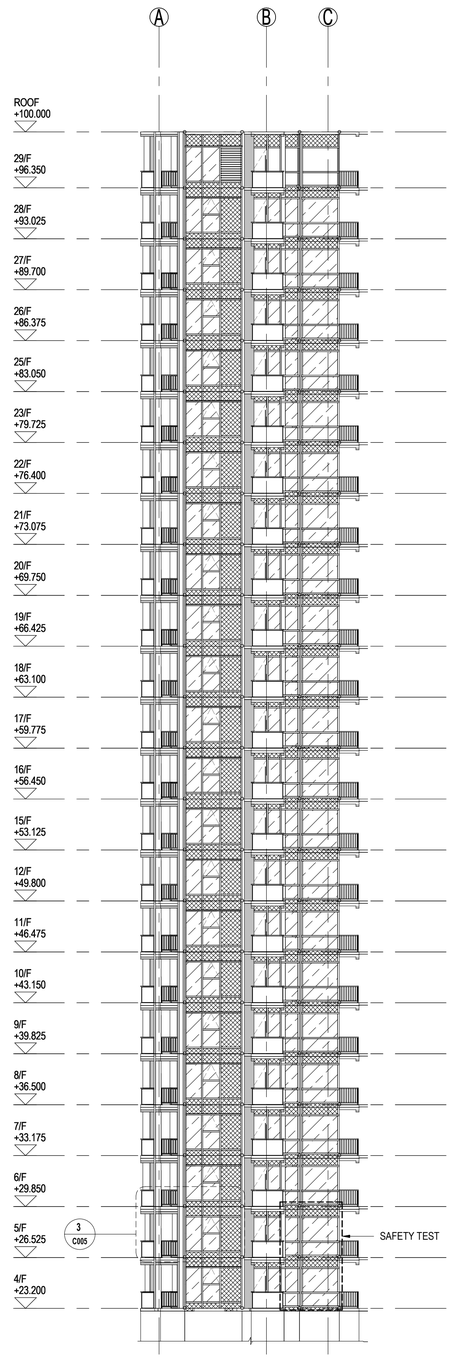
90mm (W) x 60mm (H) space
for AP/RSE/RGE's
signature/ and stamp chop

BD's OFFICAL USE

90mm (W) x 150mm (H) space
for BD's approval stamp /
certification of copies of
approved plans
(PNAP ADM-10 APP A)



1 **ELEVATION 1**
1 : 200



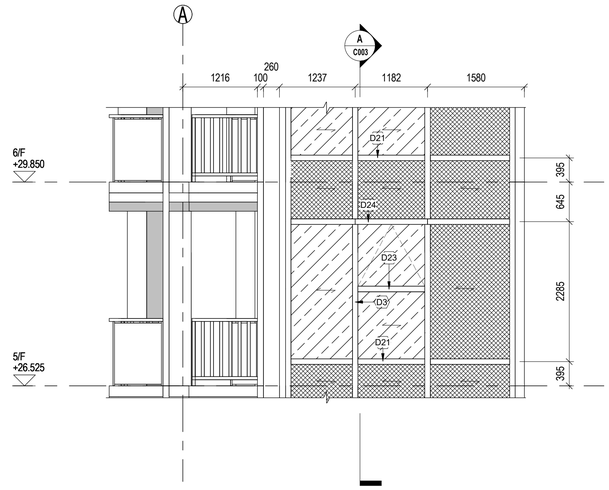
2 **ELEVATION 2**
1 : 200

LEGEND:

TP10+12A+TP10mm SILVER GREY GLASS PANEL
GLASS W/LOW-E COATING ON SURFACE (GL-01)

SPANDREL PANEL

OPENABLE WINDOW



3 **PARTIAL ELEVATION**
1 : 50

This is an example of demonstrating the presentation of drawings generated from BIM according to the Standard and User Guides ONLY. It does NOT represent the completeness of Submission Drawings under BD's approval requirement of Statutory Plans. The BD approval requirements should refer to other relevant references and remain unchanged no matter whether BIM is used or not used for the preparation of Statutory Plans.

BD REF :

BIM REF :

REV	DATE	AMENDMENT

PROJECT
CIC SAMPLE PROJECT

DRAWING TITLE
CURTAIN WALL ELEVATIONS AND SECTIONS

SCALE AS SHOWN@A1

DRAWING NO. C005

REV. NO.

SOURCE ---

90mm (W) x 40mm (H) space
for COMPANY LOGO

90mm (W) x 60mm (H) space
for AP/RSE/RGE's
signature/ and stamp chop

BD's OFFICAL USE

90mm (W) x 150mm (H) space
for BD's approval stamp /
certification of copies of
approved plans
(PNAP ADM-10 APP A)

GENERAL NOTES

1. ALL DIMENSIONS ARE IN MILLIMETERS (mm) UNLESS OTHERWISE STATED.
2. ALL LEVELS ARE IN METERS ABOVE PRINCIPAL DATUM(mPD) UNLESS OTHERWISE STATED.
3. ALL PROPOSED CAP TOP LEVEL SHOULD BE -3.98mPD. THICKNESS OF CAP TO BE 2500mm. CONCRETE GRADE OF PILE CAP IS C45/20 (UNDER SEPARATE SUBMISSION)
4. ALL PILE CAP SHOULD BE UNDER SEPARATE SUBMISSION.
5. ALL FOUNDING LEVELS OF BORED PILES AS SHOWN ARE TENTATIVE ONLY.
6. HEIGHT OF BUILDING TO BE 113m.
7. THE DESIGN OF BORED PILING WORKS SHALL BE IN ACCORDANCE WITH HONG KONG BUILDING (CONSTRUCTION) REGULATIONS 1990, THE STRUCTURAL USE OF CONCRETE 2013, CODE OF PRACTICE ON WIND EFFECTS IN HONG KONG 2019, CODE OF PRACTICE FOR FOUNDATION 2017 AND PRACTICE NOTES FROM THE BUILDINGS DEPARTMENT.
8. HIGHEST POSSIBLE GROUND WATER LEVEL TO BE +6.42mPD. EXISTING GROUND LEVEL IS +6.42mPD.
9. FLEXIBLE CAP THEORY IS ADAPTED IN PILE DESIGN.
10. ALL LATERAL LOADS ARE RESISTED BY BORED PILES & SOCKETED H-SHEET PILES.
11. WIND LOAD SHALL BE REVERSIBLE.
12. CONSIDERATION OF N.S.F. IS NOT REQUIRED.
13. THE PILE HEAD FOR BORED PILES IS ASSUMED AS FIXED.

FOR REFERENCE ONLY

GENERAL NOTES FOR BORED PILE

ALL STRUCTURAL DRAWINGS SHALL BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTURAL AND BUILDING SERVICES DRAWINGS. SETTING OUT TO BE IN ACCORDANCE WITH RELEVANT ARCHITECTURAL DRAWINGS.

1. CONCRETE USED IN BORED PILE SHALL HAVE PFA CONTENTS COMPLYING WITH PNAP APP-33 AND NOT EXCEED 25% OF THE CEMENT CONTENT AND COMPLY WITH PNAP APP-74. THE REACTIVE ALKALI OF CONCRETE EXPRESSED AS THE EQUIVALENT SODIUM OXIDE PER CUBIC METER OF CONCRETE SHOULD NOT EXCEED 3.0kg.
2. ALL DESIGNS IN ACCORDANCE WITH "HONG KONG (CONSTRUCTION) REGULATION 1990" WITH LOAD COMBINATION IN ACCORDANCE WITH TABLE 2.1 OF "THE CODE OF PRACTICE FOR STRUCTURAL USE OF CONCRETE 2013" FOR REINFORCED CONCRETE DESIGN. THE LOAD COMBINATIONS INCLUDE 1.4D+1.6L, 1.4D+1.4W, 1.2D+1.2L+1.2W, 1.0D - 1.4W
3. THE CONTRACTOR SHALL ESTABLISH THE BASE SETTING OUT POINTS AND LINES FOR THE ENGINEERS.
4. THE CONTRACTOR IS ADVISED TO INSPECT THE CONDITIONS ON SITE AND TO RECORD THE EXISTING LANDSCAPING FEATURES AND UTILITIES WITHIN AND CLOSE TO THE EXCAVATION AREA. THE CONTRACTOR SHALL CARRY OUT PRE-CONSTRUCTION DIVERSION OF THE EXISTING UNDERGROUND UTILITIES WITHIN THE WORK AREA.
5. ALL REINFORCEMENTS ARE HIGH TENSILE DEFORMED STEEL BAR (Y) AND MILD STEEL ROUND BAR (R) COMPLYING WITH CS2 :2012 WITH MINIMUM YIELD STRESS AS FOLLOWS :
   - HIGH TENSILE DEFORMED STEEL BAR = 500 N/mm^2
   - MILD STEEL ROUND BARS = 250 N/mm^2
6. CONCRETE MIX FOR ALL BORED PILES TO BE GRADE C45 COMPLYING WITH HONG KONG BUILDING (CONSTRUCTION) REGULATION CONCRETING METHOD TO BE BY TREMIE. A REDUCTION FACTOR OF 0.8 SHALL BE APPLIED FOR CONCRETE STRENGTH.
7. ALL LAP LENGTHS OF REINFORCEMENT SHALL BE 46D WHERE D IS THE DIAMETER OF REINFORCEMENT.
8. CUT-OFF LEVEL AND TENTATIVE FOUNDING LEVEL FOR ALL PILES ARE SHOWN IN THE BORED PILE SCHEDULES.
9. COVER TO MAIN REINFORCEMENT FOR BORED PILES TO BE 75mm.
10. ALL DIMENSIONS ARE IN mm.
11. ALL LEVELS ARE IN mPD.
12. ESTIMATED PILE LENGTHS GIVEN IN THE PILING SCHEDULE ARE MEASURED FROM THE CUT-OFF LEVEL OF INDIVIDUAL PILES.
13. ESTIMATED PILE LENGTHS GIVEN ARE TENTATIVE. ACTUAL PILE LENGTH FOR INDIVIDUAL PILES SHALL BE VERIFIED ON SITE.
14. THE TENTATIVE FOUNDING LEVELS OF BORED-PILES ARE APPROXIMATE AS DETERMINED FROM THE BOREHOLE INFORMATION.
15. CONCRETE SHALL BE COMPILED WITH CS1 : 2010, EXCEPT CLAUSE 7.1.
16. BORED PILE IS DESIGNED AS FIXED HEAD AND PILE CAP TO BE DESIGNED AS FLEXIBLE CAP. PILE CAP SHALL BE PROVIDED AT B2/F (UNDER SEPARATE SUBMISSION)
17. NO NEGATIVE SKIN FRICTION TO BE CONSIDERED FOR PILE DESIGN DUE TO COMPLETION OF CONSOLIDATION AND REDUCTION OF OVERBURDEN PRESSURE FROM THE BASEMENT CONSTRUCTION.
18. CORRESPONDING GBP SUBMISSION AND SUBSEQUENT AMENDMENT SHALL BE SUBMITTED TO TALLY WITH THE AS-BUILT SETTING OUT OF BORED PILES.

FOR REFERENCE ONLY

NOTES ON FOUNDING CRITERIA AND PREDRILLING

ALL BORED PILES SHOULD BE FOUNDED AT THE PRESCRIBED LEVELS WHICH ARE DETERMINED BY THE FOLLOWING CRITERIA:

1. THE FOUNDING STRATUM SHALL BE SLIGHTLY TO MODERATELY DECOMPOSED MODERATELY STRONG ROCK OR MATERIAL WEATHERING CAT (1C) ROCK OF BETTER, WITH A TOTAL CORE RECOVERY OF MORE THAN 85% OF THE GRADE AND MINIMUM UNIAXIAL COMPRESSION STRENGTH (UCS) NOT LESS THAN 25MPa OR EQUIVALENTLY POINT LOAD INDEX STRENGTH (PLI50) NOT LESS THAN 1MPa. THE ALLOWABLE BEARING CAPACITY SHOULD BE 5000 kPa
2. PRE-DRILLING SHALL BE CARRIED OUT FOR EACH PILE TO ASCERTAIN THAT THE FOUNDING TO A DEPTH 5m OR THE DESIGNED LENGTH OF THE ROCK SOCKET OF THE (1C) ROCK OR BETTER WITH TCR > 85% WHICHEVER IS DEEPER.
3. PRIOR TO THE COMMENCEMENT OF BORED PILE WORKS, PRE-DRILLING RECORDS SHALL BE SUBMITTED TO THE SATISFACTION OF THE ENGINEER. IN CASE CHANGE IN FOUNDING LEVEL IS REQUIRED, CORRESPONDING AMENDMENT SHALL BE SUBMITTED TO BD FOR APPROVAL.
4. THE ALLOWABLE BOND BETWEEN ROCK AND CONCRETE SHOULD BE 700 kPA UNDER COMPRESSION OR TRANSIENT TENSION, AND 350kPA UNDER PERMANENT TENSION.

FOR REFERENCE ONLY

METHOD STATEMENT OF BORED PILE CONSTRUCTION

1. BEFORE THE COMMENCEMENT OF THE BORED PILE CONSTRUCTION, PREDRILLHOLES TO BE CARRIED OUT AT PILE POSITION TO VERIFY THE FOUNDING LEVEL.
2. SET OUT THE BORED PILE LOCATION CORRECTLY ON SITE.
3. THE HYDRAULIC OSCILLATOR OR ROTATOR SHALL BE SET UP IN CONJUNCTION WITH A CRANE AND THE TEMPORARY STEEL CASING OF THE REQUIRED DIAMETER SHALL BE INSTALLED INTO THE GROUND.
4. EXCAVATION OF SOIL WITHIN THE TEMPORARY CASING SHALL BE CARRIED OUT BY A HAMMER GRAB. EXCAVATION IN ROCK/BOULDER SHALL BE CARRIED OUT BY RCD.
5. A CONSTANT HEAD EQUAL TO GROUND LEVEL OF DRILLING FLUID SHALL BE MAINTAINED SO AS TO CREATE A"BALANCED HEAD CONDITION" TO PREVENT ANY INGRESS OF MATERIALS AT THE BOTTOM OF CASING.
6. THE TEMPORARY STEEL CASING SHALL BE EXTENDED BY BOLTING OR WELDING ON ADDITIONAL CASING AND BE OSCILLATED AND JACKED DOWN BY A OSCILLATOR OR BE ROTATED DOWN BY A ROTATOR. THE TEMPORARY CASING SHALL MAINTAIN A MINIMUM OF 1.5m EMBEDMENT LENGTH FROM EXCAVATION LEVEL.
7. VERTICALITY OF THE CASING SHALL BE MONITORED BY MEANS OF SPIRIT LEVEL FROM TIME TO TIME.
8. TOLERANCE FOR BORE PILES : THE MAX. DEVIATION OF THE CENTRE OF THE HEAD OF EACH PILE FROM THE DESIGNED CENTRE POINT SHALL NOT BE MORE THAN 75mm IN ANY DIRECTION. THE MAX. DEVIATION FROM THE VERTICAL AXIS OF THE PILE THROUGH THE CENTROID OF THE FINISHED PILE SHALL NOT BE MORE THAN 1 IN 100.
9. CONTINUE PROCEDURES 4 TO 7 UNTIL THE FOUNDING LEVELS OF PILES HAVE BEEN REACHED.
10. FOR PILE ENLARGEMENT / BELLOUT, IT SHALL BE FORMED BY EMPLOYING A BELLING OUT TOOL.
11. THE CONTRACTOR SHALL CARRY OUT KODEN PILE MONITORING TESTS ON ALL (100%) BORED PILES OR SIMILAR ELECTRONIC CALIBRATION TEST METHOD APPROVED BY THE ENGINEER TO CHECK THE DIMENSION, ALIGNMENT AND INTEGRITY OF THE PILE ROCK SOCKET AND SHALL SUBMIT THE PROPOSED METHOD FOR APPROVAL PRIOR TO COMMENCEMENT OF THE WORKS. A COPY OF THE TEST RESULTS SHALL BE PROVIDED TO THE ENGINEER IMMEDIATELY AFTER TESTING AND SUBMITTED TO BD TOGETHER WITH FORM BA14.
12. STEEL REINFORCEMENT SHALL BE PRE-FABRICATED INTO CAGES AND LOWERED INTO THE TEMPORARY STEEL CASING.
13. FINAL CLEANING SHALL BE ACHIEVED BY MEANS OF HAMMER GRAB/RCD AND AIR LIFTING METHOD USING HIGH PRESSURE AIR COMPRESSORS.
14. THE MUDDY WATER WITHIN THE STEEL CASING SHALL BE CLEANED AND DELIVERED INTO A DESILTING TANK BEFORE DISCHARGED INTO DRAINS.
15. THE PILE SHAFT SHALL THEN BE CONCRETED USING HIGH SLUMP TREMIE CONCRETE THROUGH TREMIE PIPE DISPLACING FLUID UPWARDS.
16. DURING CONCRETING OPERATION, THE TEMPORARY STEEL CASING SHALL BE EXTRACTED SIMULTANEOUSLY BY THE OSCILLATOR OR ROTATOR. A HEAD OF APPROX. 2m IS MAINTAINED BETWEEN THE TOP OF THE CONCRETE AND THE BASE OF THE TEMPORARY STEEL CASING.
17. THE BASE OF THE TREMIE PIPE SHALL BE KEPT AT A MINIMUM DEPTH OF APPROX. 2m BELOW THE SURFACE OF THE CONCRETE.
18. CONCRETING SHALL BE CARRIED OUT IN ONE CONTINUOUS OPERATION UNTIL 1.0m.ABOVE THE CUT-OFF LEVEL 2 . THE TREMIE PIPE WILL BE EXTRACTED.
19. CORING TEST OF PILES SHALL BE CONDUCTED IN ACCORDANCE WITH PNAP APP-18 AFTER THE CONCRETE IS MATURED.
20. THE CONTRACTOR SHALL CARRY OUT SONIC LOGGING TEST FOR 100% AT THE TOTAL NUMBER OF LARGE DIAMETER BORED PILE BY AN INDEPENDENT APPROVED LABORATORY
21. NO PILE EXCAVATION SHALL CARRIED OUT WITHIN DISTANCE NO LESS THAN 10m FORM AN ADJACENT PILING BEING UNDER EXCAVATION OR AN ADJACENT PILE HAS BEEN CONCRETING LESS THAN 24 HRS PREVIOUSLY.

FOR REFERENCE ONLY

NOTES ON CONTINGENCY PLAN FOR BORED PILE CONSTRUCTION

1. IF COLLAPSE OF PILE SHAFT EXCAVATION AT AND BELOW THE TIP OF TEMPORARY STEEL CASING OCCURS, WORKS ON BORED PILES SHOULD BE CEASED IMMEDIATELY AND REFORMED.
2. CONCRETE SHALL THEN BE POURED INTO THE PILE SHAFT AND COMPACTED WITH DROP MASS TO FORM A CONCRETE PLUG IN ORDER TO PREVENT FURTHER COLLAPSE OF PILE SHAFT.

FOR REFERENCE ONLY

NOTES ON PROOF TEST BY CORE-DRILLING

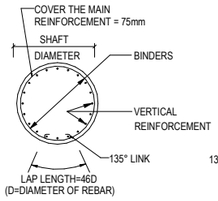
1. CORE-DRILLING SHOULD BE TAKEN THROUGH THE FULL DEPTH OF THE PILE AND CARRIED DOWN TO A DISTANCE OF AT LEAST HALF A DIAMETER OF THE BASE, OR 00mm, WHICHEVER IS LARGER, INTO THE GROUND UPON WHICH THE PILE IS FOUNDED.
2. THE COMPLETED CORE TAKEN SHOULD BE PROPERLY MARKED AND ARRANGED IN ORDER FOR INSPECTION.
3. THE CONCRETE CORES SHOULD NOT SHOW EVIDENCE OF HONEY COMBING OR SEGREGATION OF INDIVIDUAL MATERIALS AND THE ASSESSMENT OF EXCESS VOIDAGE IS (FIGURE NO. *(16(b))" IN ACCORDANCE WITH THE CLASSIFICATION DEFINED IN TABLE 4 OF CS1:2010.
4. ANY ROCK CORE OBTAINED SHALL BE VISUALLY EXAMINED TO CONFORM TO THE REQUIRED ROCK MATERIAL SPECIFIED IN THE DESIGN.
5. THE CORES SHALL ALSO BE EXAMINED TO CONFIRM THE ADEQUACY OF THE INTERFACE BETWEEN THE CONCRETE AND ROCK.

FOR REFERENCE ONLY BE MORE THAN

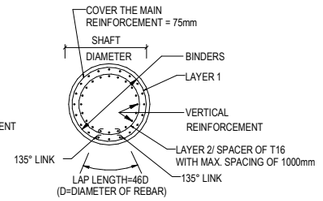
NOTES ON MINOR IMPERFECTION OF PILE / ROCK INTERFACE

1. SHOULD ANY SEDIMENT AND/OR SEGREGATION MORE THAN 50mm THICK BE FOUND AT THE CONCRETE / ROCK INTERFACE DURING THE INTERFACE PROOF DRILLING. REMEDIAL WORKS BY MEANS OF PRESSURE GROUTING SHALL BE CARRIED OUT UNDER THE SUPERVISION OF RSE.
2. THE PILE BASE SHOULD BE CLEANED BY HIGH WATER JETTING WITH MINIMUM JET PRESSURE OF 200 BARS PRIOR TO PRESSURE GROUT.
3. THE GROUT SHOULD BE CEMENT GROUT AND THE GROUT STRENGTH SHOULD NOT BE LESS THAN THE CONCRETE STRENGTH OF BORED PILES.
4. THE GROUT PRESSURE SHALL NOT BE LESS THAN 25 BAR AND SHALL BE MAINTAINED FOR AT LEAST 5 MINUTES UNTIL NO SIGNIFICANT GROUT INTAKE IS NOTED.
5. DETAILED METHOD STATEMENT FOR THE GROUTING WORKS SHALL BE SUBMITTED BY CONTRACTOR TO THE RSE FOR HIS ACCEPTANCE PRIOR TO CARRYING OUT THE GROUTING WORKS. THE GROUTING WORKS SHALL BE SUPERVISED BY THE RSE AND ALL RELEVANT RECORDS SHALL BE KEPT ON SITE FOR INSPECTION AT ALL TIMES.
6. FULL DETAILS OF THE REMEDIAL GROUTING WORKS INCLUDING IDENTIFICATION OF THE PILES FOR GROUTING, NATURE AND THICKNESS OF THE SEDIMENT/SEGREGATION DISCOVERED, EFFECTIVENESS OF FLUSHING AND GROUTING WORKS, GROUTING RECORDS AND GROUT CUBE TEST REPORTS SHALL BE INCORPORATED IN THE PILING REPORTS TO BE SUBMITTED TO THE BUILDING AUTHORITY UPON COMPLETION OF THE PILING WORKS.

FOR REFERENCE ONLY

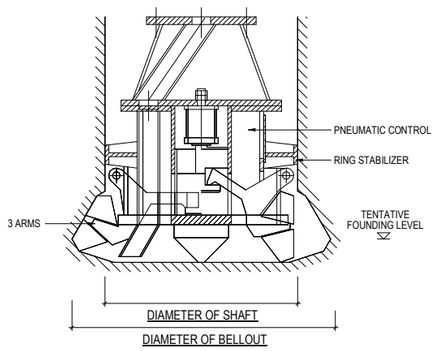


BORED PILE WITH SINGLE LAYER REINFT TYPE1

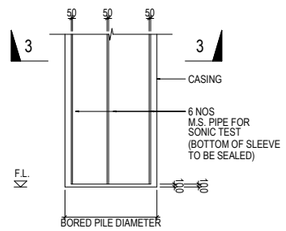


BORED PILE WITH DOUBLE LAYER REINFT TYPE2

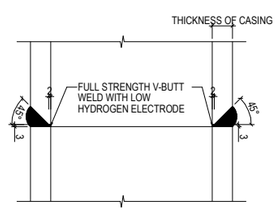
SECTION 1-1
N. T. S.



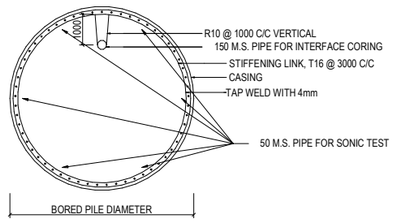
RCD BELLOUT TOOL (FOR INFORMATION ONLY)
(N.T.S.)



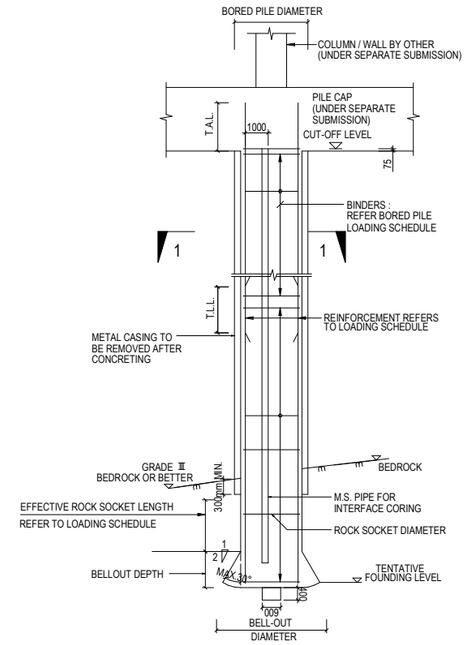
TYPICAL TUBE INSTALLATION (FOR BORED PILE)
1 : 100



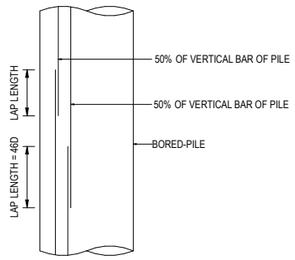
TYPICAL DETAIL FOR SPLICES OF TEMPORARY STEEL CASING
N. T. S.



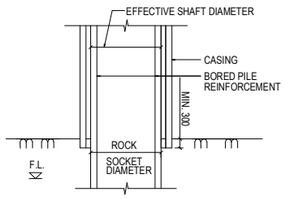
SECTION 3-3
1 : 50



TYPICAL BORED PILE DETAILS (WITH BELL-OUT)
N.T.S.



LAPPING DETAILS (STAGGERED LAP) FOR TENSION BORED PILE
N. T. S.



DETAIL OF BORED PILE DIAMETER
N. T. S.

BD REF :

BIM REF :

REV	DATE	AMENDMENT

PROJECT
CIC SAMPLE PROJECT

DRAWING TITLE
GENERAL NOTES FOR FOUNDATION

SCALE 1 : 100@A1

DRAWING NO. P001 REV. NO.

SOURCE ---

90mm (W) x 40mm (H) space for COMPANY LOGO

90mm (W) x 60mm (H) space for AP/RSE/RGE's signature/ and stamp chop

BD's OFFICAL USE

90mm (W) x 150mm (H) space for BD's approval stamp / certification of copies of approved plans (PNAP ADM-10 APP A)

LEGEND AND NOTES:

BOUNDARY LINE

BP1 — BORED PILE

-6.35 — CAP TOP LEVEL (mPD)

3040 / 1540 1375 / F2HP01 / 705 1629 706 / F2 — PILE CAP (UNDER SEPARATE SUBMISSION); SOCKET H-PILE MARK; SOCKET H-PILE; PILE CAP MARK

3040 / 1375 / F6HP02 / F6 — PILE CAP (UNDER SEPARATE SUBMISSION); SOCKET H-PILE MARK; SOCKET H-PILE; PILE CAP MARK

TB1 (1000x800) — TIE BEAM (UNDER SEPARATE SUBMISSION)

(600) / (600) — BASEMENT SLAB (UNDER SEPARATE SUBMISSION)

C1 — COLUMN / WALL ABOVE (UNDER SEPARATE SUBMISSION)

BASEMENT SCREEN WALL (UNDER SEPARATE SUBMISSION)

CP1 — PILE CAP (2000mm THICK) (UNDER SEPARATE SUBMISSION)
CP1 - PILE CAP MARK

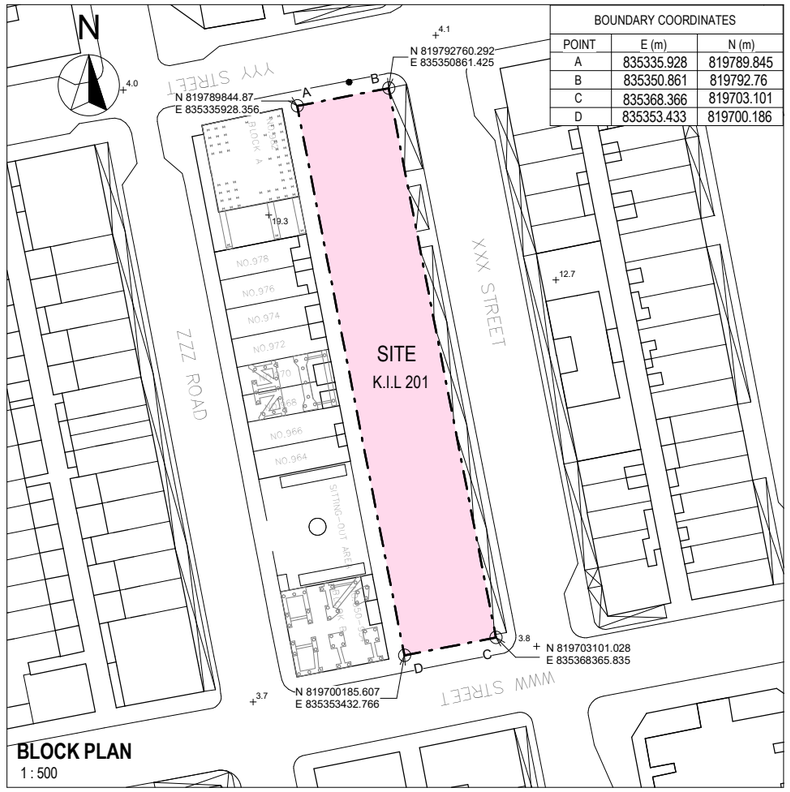
-50 — INFERRED ROCK HEAD LEVEL

BH1(P) — BORED HOLE (WITH PIEZOMETER)
(BH1 (P), BH2 (P) AND BH5 (P)
BH6 (P), BH9 (P) AND BH10 (P) 6NOS.)

BH2 — BORED HOLE
(BH3, BH4, BH7 AND BH8 4 NOS.)

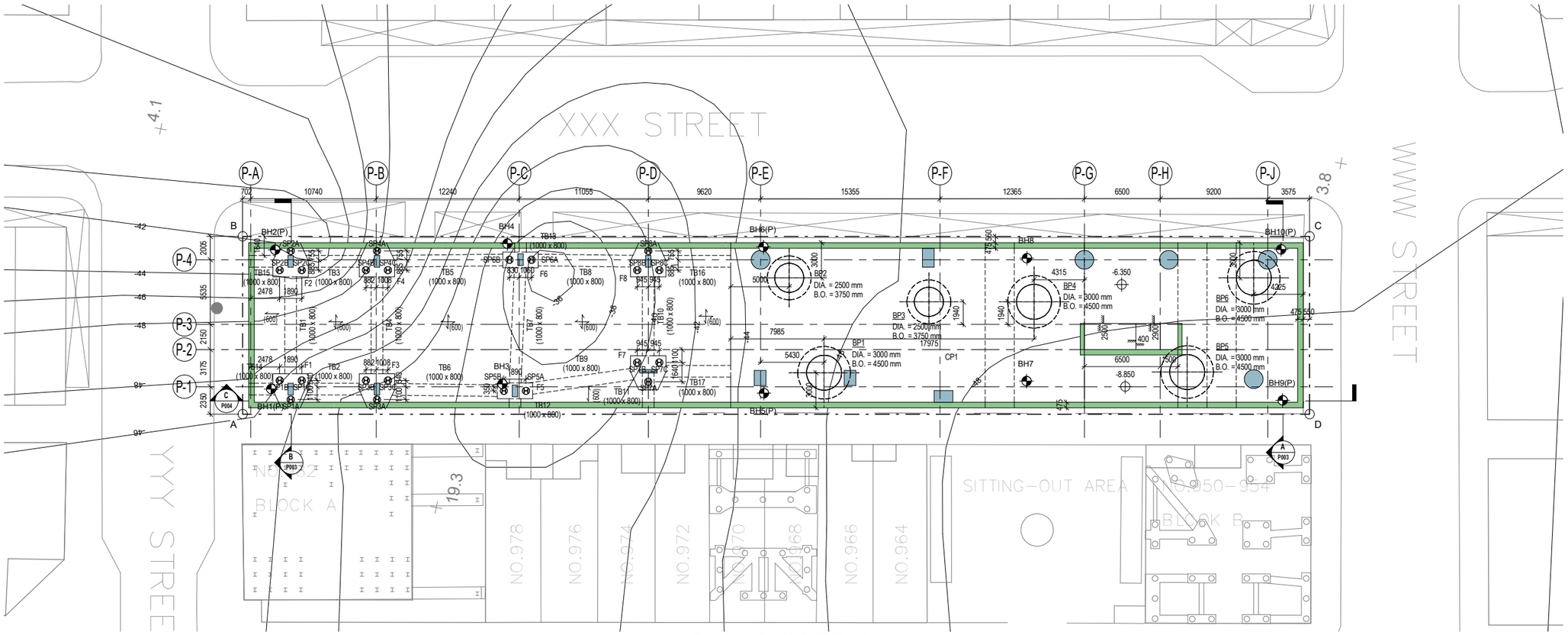
4.15 — EXISTING GROUND LEVEL

-8.85 — STRUCTURAL FLOOR LEVEL



BOUNDARY COORDINATES		
POINT	E (m)	N (m)
A	835335.928	819789.845
B	835350.861	819792.76
C	835368.366	819703.101
D	835353.433	819700.186

BLOCK PLAN
1 : 500



1 PILING LAYOUT PLAN
1 : 200

BD REF :

BIM REF :

REV	DATE	AMENDMENT
1	Date 1	Revision 1

PROJECT
CIC SAMPLE PROJECT

DRAWING TITLE
PILING LAYOUT PLAN

SCALE AS SHOWN@A1

DRAWING NO. P002

REV. NO. 1

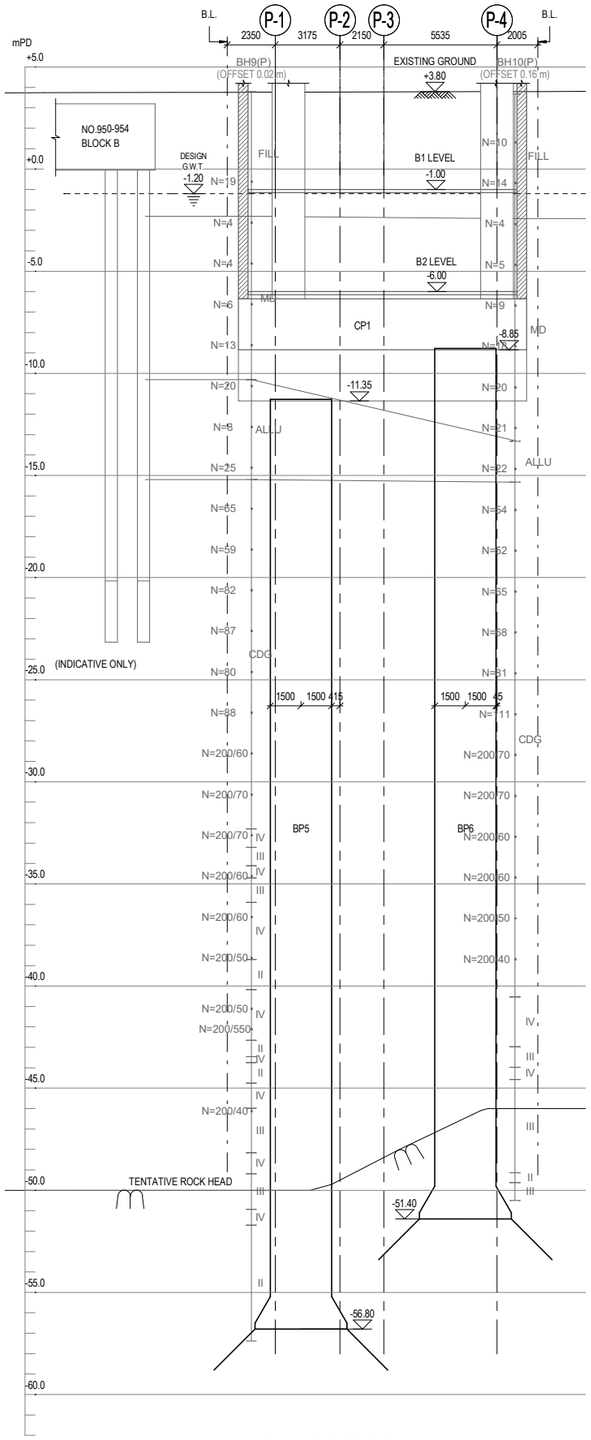
SOURCE ---

90mm (W) x 40mm (H) space
for COMPANY LOGO

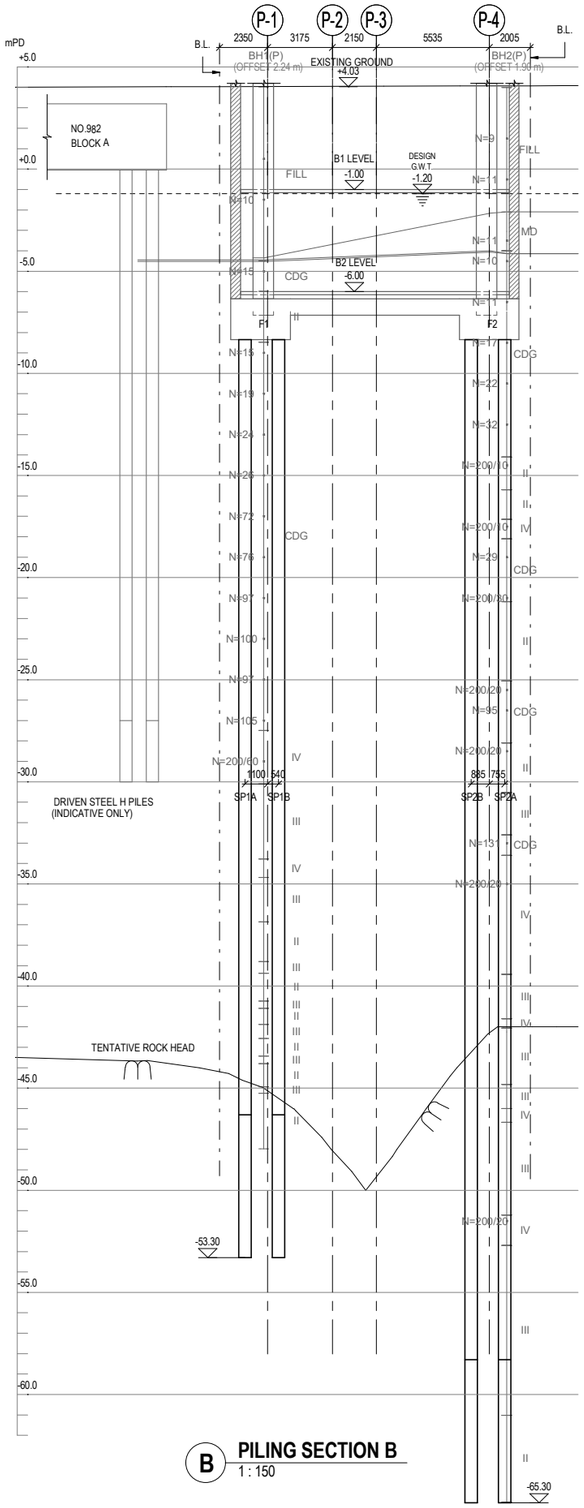
90mm (W) x 60mm (H) space
for AP/RSE/RGE's
signature/ and stamp chop

BD's OFFICAL USE

90mm (W) x 150mm (H) space
for BD's approval stamp /
certification of copies of
approved plans
(PNAP ADM-10 APP A)



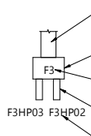
A **PILING SECTION A**
1 : 150

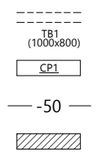


B **PILING SECTION B**
1 : 150

LEGENDS:

- BOUNDARY LINE
- COLUMN/ WALL (UNDER SEPARATE SUBMISSION)
- PILE CAP (UNDER SEPARATE SUBMISSION)
- PILE CAP MARK
- SOCKET H-PILE
- SOCKET H-PILE MARK
- TIE BEAM (UNDER SEPARATE SUBMISSION)
- PILE CAP (2000mm THICK) CP1 - PILE CAP MARK (UNDER SEPARATE SUBMISSION)
- INFERRED ROCK HEAD LEVEL
- BASEMENT SCREEN WALL (UNDER SEPARATE SUBMISSION)





BD REF :

BIM REF :

REV	DATE	AMENDMENT

PROJECT
CIC SAMPLE PROJECT

DRAWING TITLE
PILING SECTION A & SECTION B

SCALE AS SHOWN@A1

DRAWING NO. P003

REV. NO.

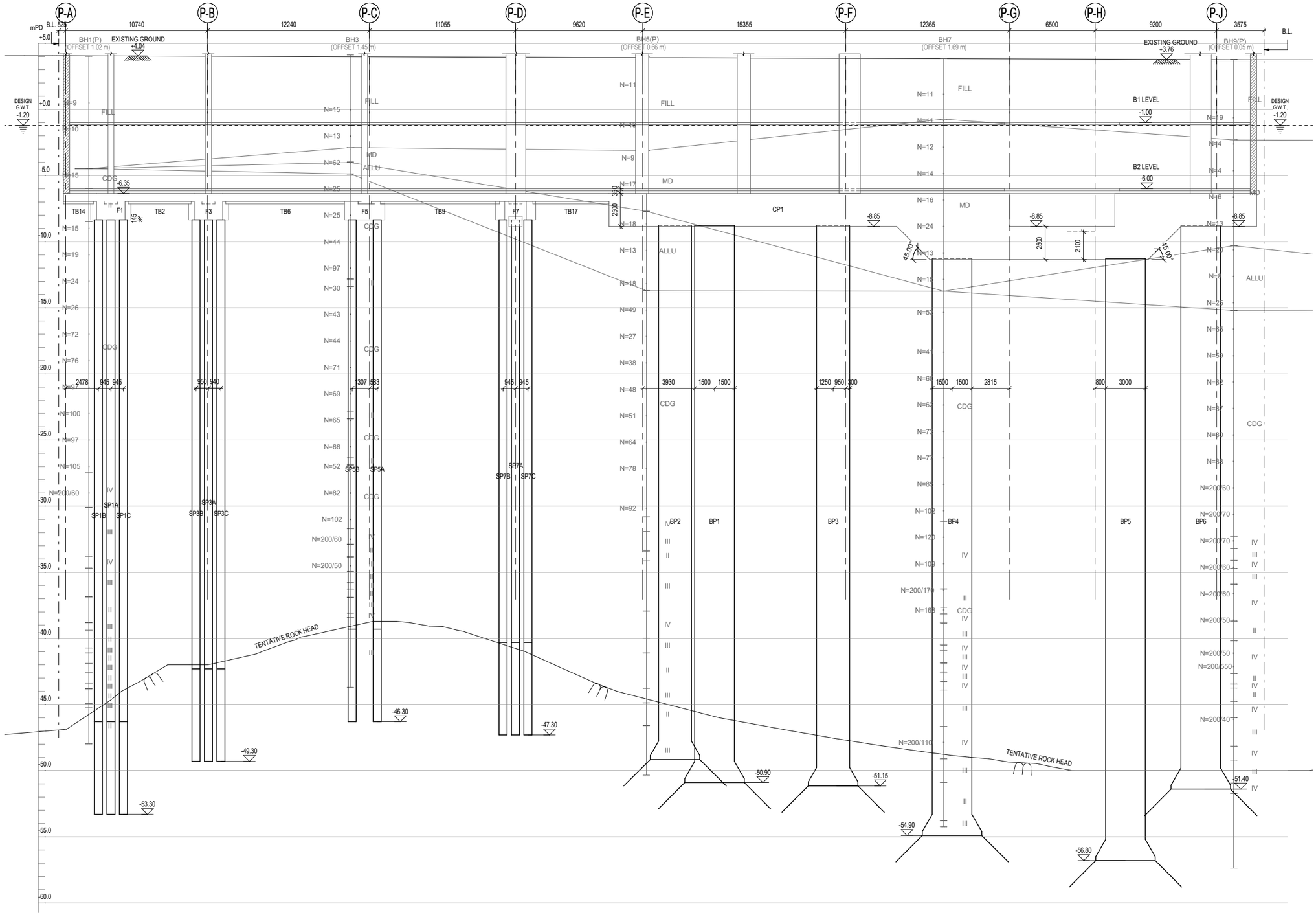
SOURCE ---

90mm (W) x 40mm (H) space
for COMPANY LOGO

90mm (W) x 60mm (H) space
for AP/RSE/RGE's
signature/ and stamp chop

BD's OFFICAL USE

90mm (W) x 150mm (H) space
for BD's approval stamp /
certification of copies of
approved plans
(PNAP ADM-10 APP A)



C PILING SECTION C
1 : 150

BD REF :

BIM REF :

REV	DATE	AMENDMENT

PROJECT
CIC SAMPLE PROJECT

DRAWING TITLE
PILING SECTION C

SCALE 1 : 150@A1

DRAWING NO. P004

REV. NO.

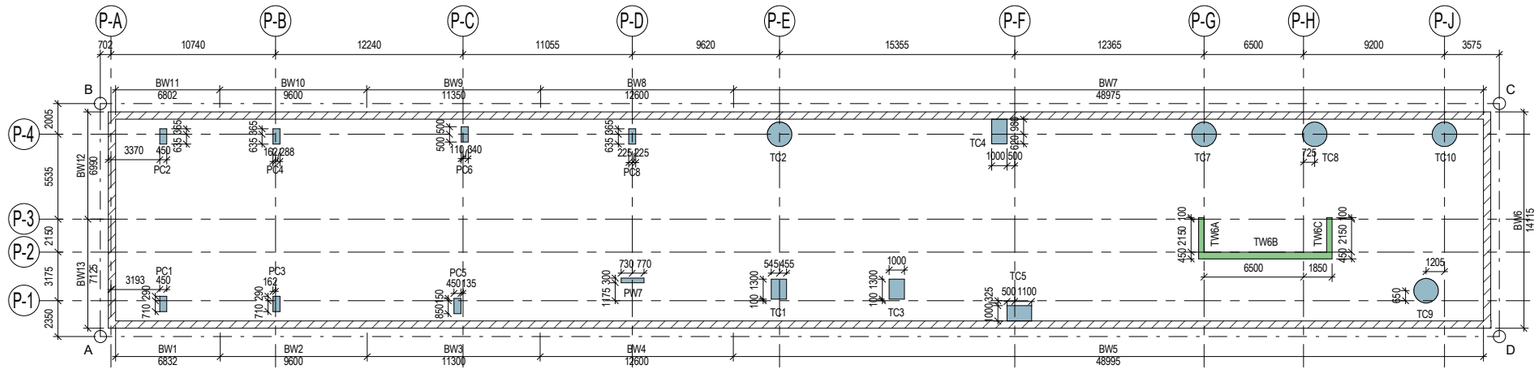
SOURCE ---

90mm (W) x 40mm (H) space
for COMPANY LOGO

90mm (W) x 60mm (H) space
for AP/RSE/RGE's
signature/ and stamp chop

BD's OFFICAL USE

90mm (W) x 150mm (H) space
for BD's approval stamp /
certification of copies of
approved plans
(PNAP ADM-10 APP A)



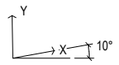
1 COLUMN & WALL LAYOUT PLAN

1 : 200

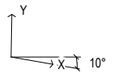
LOCAL AXIS

LOCAL AXIS SHOWN ABOVE APPLIES TO COLUMNS & WALLS WITH ANGLE 0°.

LOCAL AXIS SHOWN ABOVE APPLIES TO WALL WITH ANGLE 90°.

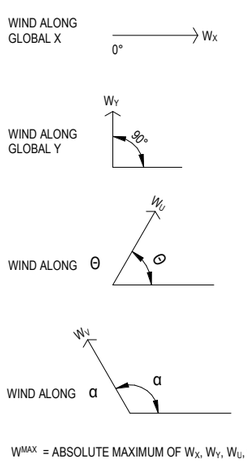


LOCAL AXIS SHOWN ABOVE APPLIES TO WALL WITH ANGLE 10°.

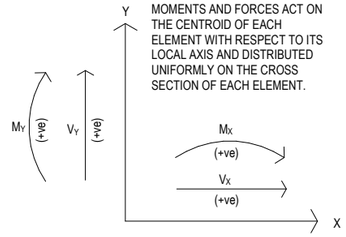


LOCAL AXIS SHOWN ABOVE APPLIES TO WALL WITH ANGLE -10°.

DIRECTION OF WIND LOAD CASE



W^{MAX} = ABSOLUTE MAXIMUM OF W_X, W_Y, W_U, W_V



UNLESS OTHERWISE STATED ALL MOMENTS AND FORCES ACT ON THE CENTROID OF EACH ELEMENT WITH RESPECT TO ITS LOCAL AXIS AND DISTRIBUTED UNIFORMLY ON THE CROSS SECTION OF EACH ELEMENT.

SIGN CONVENTION

AXIAL LOAD : +VE = COMPRESSION (DOWNWARD)
(P) -VE = TENSION (UPWARD)

V_X = SHEAR FORCE ALONG LOCAL X-AXIS
V_Y = SHEAR FORCE ALONG LOCAL Y-AXIS
M_X = MOMENT ALONG LOCAL X-AXIS
M_Y = MOMENT ALONG LOCAL Y-AXIS

BD REF :

BIM REF :

REV	DATE	AMENDMENT

PROJECT
CIC SAMPLE PROJECT

DRAWING TITLE
COLUMN / WALL LOADING PLAN

SCALE AS SHOWN@A1

DRAWING NO. P005

REV. NO.

SOURCE ---

90mm (W) x 40mm (H) space for COMPANY LOGO

90mm (W) x 60mm (H) space for AP/RSE/RGE's signature/ and stamp chop

BD's OFFICAL USE

90mm (W) x 150mm (H) space for BD's approval stamp / certification of copies of approved plans (PNAP ADM-10 APP A)

COLUMN LOADING SCHEDULE ABOVE PILE CAP (1 OF 2)

COLUMN MARK	ANGLE	SDL						DEAD LOAD (DL) = Dmin + SDL						LIVE LOAD (LL)						DL + LL					
		P (kN)	Mx (kNm)	My (kNm)	Vx (kN)	Vy (kN)	Mz (kNm)	P (kN)	Mx (kNm)	My (kNm)	Vx (kN)	Vy (kN)	Mz (kNm)	P (kN)	Mx (kNm)	My (kNm)	Vx (kN)	Vy (kN)	Mz (kNm)	P (kN)	Mx (kNm)	My (kNm)	Vx (kN)	Vy (kN)	Mz (kNm)
PC1	0	1600	0	0	0	0	0	800	0	0	0	0	0	2400	0	0	0	0	0	700	0	0	0	0	0	3100	0	0	0	0	0
PC2	0	2100	0	0	0	0	0	1400	0	0	0	0	0	3500	0	0	0	0	0	900	0	0	0	0	0	4400	0	0	0	0	0
PC3	0	2400	0	0	0	0	0	1700	0	0	0	0	0	4100	0	0	0	0	0	1000	0	0	0	0	0	5100	0	0	0	0	0
PC4	0	2300	0	0	0	0	0	2000	0	0	0	0	0	4300	0	0	0	0	0	1000	0	0	0	0	0	5300	0	0	0	0	0
PC5	0	2300	0	0	0	0	0	1400	0	0	0	0	0	3700	0	0	0	0	0	900	0	0	0	0	0	4600	0	0	0	0	0
PC6	0	2500	0	0	0	0	0	1400	0	0	0	0	0	3900	0	0	0	0	0	1000	0	0	0	0	0	4900	0	0	0	0	0
PC8	0	3200	0	0	0	0	0	1100	0	0	0	0	0	4300	0	0	0	0	0	1300	0	0	0	0	0	5600	0	0	0	0	0
PW7	0	4200	0	200	0	0	0	1600	0	300	0	0	0	5800	0	500	0	0	0	1800	0	100	0	0	0	7600	0	600	0	0	0
TC1	0	12700	0	0	0	0	0	5600	0	0	0	0	0	18300	0	0	0	0	0	4500	0	0	0	0	0	22800	0	0	0	0	0
TC2	0	19400	0	0	0	0	0	9300	0	0	0	0	0	28700	0	0	0	0	0	6400	0	0	0	0	0	35100	0	0	0	0	0
TC3	0	17200	0	0	0	0	0	7200	0	0	0	0	0	24400	0	0	0	0	0	7100	0	0	0	0	0	31500	0	0	0	0	0
TC4	0	18000	0	0	0	0	0	7400	0	0	0	0	0	25400	0	0	0	0	0	8100	0	0	0	0	0	33500	0	0	0	0	0
TC5	0	24200	0	0	0	0	0	10900	0	0	0	0	0	35100	0	0	0	0	0	9300	0	0	0	0	0	44400	0	0	0	0	0
TC7	0	16200	0	0	0	0	0	7300	0	0	0	0	0	23500	0	0	0	0	0	6100	0	0	0	0	0	29600	0	0	0	0	0
TC8	0	13400	0	0	0	0	0	6700	0	0	0	0	0	20100	0	0	0	0	0	4200	0	0	0	0	0	24300	0	0	0	0	0
TC9	0	13200	0	0	0	0	0	7200	0	0	0	0	0	20400	0	0	0	0	0	4700	0	0	0	0	0	25100	0	0	0	0	0
TC10	0	13000	0	0	0	0	0	7500	0	0	0	0	0	20500	0	0	0	0	0	4300	0	0	0	0	0	24800	0	0	0	0	0
Grand total: 17		167900	0	200	0	0	0	80500	0	300	0	0	0	248400	0	500	0	0	0	63300	0	100	0	0	0	311700	0	600	0	0	0

COLUMN LOADING SCHEDULE ABOVE PILE CAP (2 OF 2)

COLUMN MARK	ANGLE	WX						WY						WU						WV						WMAX					
		P (kN)	Vx (kN)	Vy (kN)	Mx (kNm)	My (kNm)	Mz (kNm)	P (kN)	Vx (kN)	Vy (kN)	Mx (kNm)	My (kNm)	Mz (kNm)	P (kN)	Vx (kN)	Vy (kN)	Mx (kNm)	My (kNm)	Mz (kNm)	P (kN)	Vx (kN)	Vy (kN)	Mx (kNm)	My (kNm)	Mz (kNm)	P (kN)	Vx (kN)	Vy (kN)	Mx (kNm)	My (kNm)	Mz (kNm)
PC1	0	-200	10	30	0	0	0	-1000	10	300	0	0	0	-400	10	80	0	0	0	-700	-10	230	0	0	0	1000	10	300	0	0	0
PC2	0	100	10	30	0	0	0	1000	-10	290	0	0	0	200	10	80	0	0	0	800	-10	230	0	0	0	1000	10	290	0	0	0
PC3	0	-200	10	30	0	0	0	-1600	-10	390	0	0	0	-500	10	90	0	0	0	-1200	-10	300	0	0	0	1600	10	390	0	0	0
PC4	0	200	10	30	0	0	0	1600	10	370	0	0	0	400	10	90	0	0	0	1300	-10	290	0	0	0	1600	10	370	0	0	0
PC5	0	-200	10	30	0	0	0	-1800	10	380	0	0	0	-500	10	90	0	0	0	-1400	-10	300	0	0	0	1800	10	380	0	0	0
PC6	0	100	10	20	0	0	0	1500	10	350	0	0	0	300	10	80	0	0	0	1200	-10	280	0	0	0	1500	10	350	0	0	0
PC8	0	-200	10	10	0	0	0	1300	-10	200	0	0	0	-200	10	40	0	0	0	1300	-10	170	0	0	0	1300	10	200	0	0	0
PW7	0	-400	270	10	0	1200	0	-1100	-80	10	0	-400	0	-700	450	10	0	2000	0	-600	-330	10	0	-1400	0	1100	450	10	0	2000	0
TC1	0	-1300	10	20	0	0	0	-11400	-30	510	0	0	0	-3800	-10	90	0	0	0	-8300	-20	420	0	0	0	11400	30	510	0	0	0
TC2	0	-500	50	20	0	0	0	15200	-20	540	0	0	0	1400	80	90	0	0	0	13100	-60	450	0	0	0	15200	80	540	0	0	0
TC3	0	-500	-10	-10	0	0	0	-13100	-10	340	0	0	0	-2700	-10	40	0	0	0	-10400	10	290	0	0	0	13100	10	340	0	0	0
TC4	0	-1400	-10	-20	0	0	0	-13000	-50	350	0	0	0	-4100	-20	20	0	0	0	-9500	-40	310	0	0	0	13000	50	350	0	0	0
TC5	0	-600	50	10	0	0	0	20600	-20	400	0	0	0	2100	80	60	0	0	0	17600	-60	330	0	0	0	20600	80	400	0	0	0
TC7	0	-1500	50	-10	0	0	0	19000	20	-490	0	0	0	300	90	-70	0	0	0	17100	-30	-400	0	0	0	19000	90	490	0	0	0
TC8	0	600	60	20	0	0	0	17000	30	-470	0	0	0	3400	90	-50	0	0	0	13500	-40	-410	0	0	0	17000	90	470	0	0	0
TC9	0	3100	-40	10	0	0	0	-17300	230	330	0	0	0	2700	-30	50	0	0	0	-17100	220	280	0	0	0	17300	230	330	0	0	0
TC10	0	2100	40	-10	0	0	0	13300	60	360	0	0	0	5400	70	40	0	0	0	9100	10	310	0	0	0	13300	70	360	0	0	0
Grand total: 17	0	-800	540	220	0	1200	0	30200	140	4160	0	-400	0	3300	860	830	0	2000	0	25800	-410	3390	0	-1400	0	150800	1250	6080	0	2000	0

WALL LOADING SCHEDULE ABOVE PILE CAP (1 OF 2)

WALL MARK	ANGLE	MIN DEAD LOAD (Dmin)						SDL						DEAD LOAD (DL) = Dmin + SDL						LIVE LOAD (LL)						DL + LL					
		P (kN)	Mx (kNm)	My (kNm)	Vx (kN)	Vy (kN)	Mz (kNm)	P (kN)	Mx (kNm)	My (kNm)	Vx (kN)	Vy (kN)	Mz (kNm)	P (kN)	Mx (kNm)	My (kNm)	Vx (kN)	Vy (kN)	Mz (kNm)	P (kN)	Mx (kNm)	My (kNm)	Vx (kN)	Vy (kN)	Mz (kNm)	P (kN)	Mx (kNm)	My (kNm)	Vx (kN)	Vy (kN)	Mz (kNm)
BW1	0	2300	0	-900	0	0	0	700	0	-500	0	0	0	3000	0	-1400	0	0	0	400	0	-200	0	0	0	3400	0	-1600	0	0	0
BW2	0	3200	0	-600	0	0	0	1100	0	-300	0	0	0	4300	0	-900	0	0	0	700	0	-100	0	0	0	5000	0	-1000	0	0	0
BW3	0	3200	0	-600	0	0	0	900	0	-300	0	0	0	4100	0	-900	0	0	0	600	0	-100	0	0	0	4700	0	-1000	0	0	0
BW4	0	2600	0	-300	0	0	0	400	0	-100	0	0	0	3000	0	-400	0	0	0	400	0	-100	0	0	0	3400	0	-500	0	0	0
BW5	0	11300	0	-2500	0	0	0	2200	0	2600	0	0	0	13500	0	100	0	0	0	4000	0	-3300	0	0	0	17500	0	-3200	0	0	0
BW6	90	4000	0	-2200	0	0	0	1000	0	-800	0	0	0	5000	0	-3000	0	0	0	1100	0	-600	0	0	0	6100	0	-3600	0	0	0
BW7	0	19600	0	-11400	0	0	0	5800	0	1800	0	0	0	25400	0	-9600	0	0	0	6000	0	-14700	0	0	0	31400	0	-24300	0	0	0
BW8	0	3400	0	500	0	0	0	800	0	300	0	0	0	4200	0	800	0	0	0	600	0	100	0	0	0	4800	0	900	0	0	0
BW9	0	2000	0	-200	0	0	0	200	0	-100	0	0	0	2200	0	-300	0	0	0	200	0	-200	0	0	0	2400	0	-500	0	0	0
BW10	0	2000	0	-100	0	0	0	400	0	-100	0	0	0	2400	0	-200	0	0	0	100	0	-200	0	0	0	2500	0	-400	0	0	0
BW11	0	1700	0	-100	0	0	0	400	0	100	0	0	0	2100	0	0	0	0	0	200	0	-100	0	0	0	2300	0	-100	0	0	0
BW12	90	1600	0	-400	0	0	0	300	0	-200	0	0	0	1900	0	-600	0	0	0	200	0	-100	0	0	0	2100	0	-700	0	0	0
BW13	90	1500	0	-400	0	0	0	400	0	-200	0	0	0	1900	0	-600	0	0	0	200	0	-100	0	0	0	2100	0	-700	0	0	0
TW6A	90	4700	0	200	0	0	0	2000	0	200	0	0	0	6700	0	400	0	0	0	2100	0	-100	0	0	0	8800	0	300	0	0	0
TW6B	0	24200	0	1200	0	0	0	10400	0	200	0	0	0	34600	0	1400	0	0	0	9600	0	1000	0	0	0	44200	0	2400	0	0	0
TW6C	90	4600	0	300	0	0	0	2100	0	100	0	0	0	6700	0	400	0	0	0	1900	0	-100	0	0	0	8600	0	300	0	0	0
Grand total: 16		91900	0	-17500	0	0	0	29100	0	2700	0	0	0	121000	0	-14800	0	0	0	28300	0	-18900	0	0	0	149300	0	-33700	0	0	0

WALL LOADING SCHEDULE ABOVE PILE CAP (2 OF 2)

WALL MARK	ANGLE	WX			WY			WX			WU						WV						WMAX						
		P (kN)	Vx (kN)	Vy (kN)	Mx (kNm)	My (kNm)	Mz (kNm)	P (kN)	Vx (kN)	Vy (kN)	Mx (kNm)	My (kNm)	Mz (kNm)	P (kN)	Vx (kN)	Vy (kN)	Mx (kNm)	My (kNm)	Mz (kNm)	P (kN)	Vx (kN)	Vy (kN)	Mx (kNm)	My (kNm)	Mz (kNm)	P (kN)	Vx (kN)	Vy (kN)	Mx (kNm)	My (kNm)	Mz (kNm)
TW6A	90	-2600	-280	-10	0	-1100	0	8300	4880	-10	0	25500	0	-3300	200	-10	0	1800	0	9400	4330	-10	0	2220	0	9400	4880	10	0	25500	0
TW6B	0	900	3170	10	0	27700	0	-47600	-160	-10	0	600	0	-5300	5340	-10	0	46800	0	-40200	-3190	-10	0	-26100	0	47600	5340	10	0	46800	0
TW6C	90	2400	120	-10	0	300	0	9100	5150	10	0	26700	0	5300	910	10	0	4100	0	5300	4160	10	0	21900	0	9100	5150	10	0	26700	0
Grand total: 3		700	3010	-10	0	26900	0	-30200	9870	-10	0	52800	0	-3300	6450	-10	0	52700	0	-25500	5300	-10	0	-1980	0	66100	15370	30	0	99000	0

BD REF :

BIM REF :

REV	DATE	AMENDMENT

PROJECT
CIC SAMPLE PROJECT

DRAWING TITLE
COLUMN / WALL LOADING SCHEDULE

SCALE AS SHOWN@A1

DRAWING NO. P006

REV. NO.

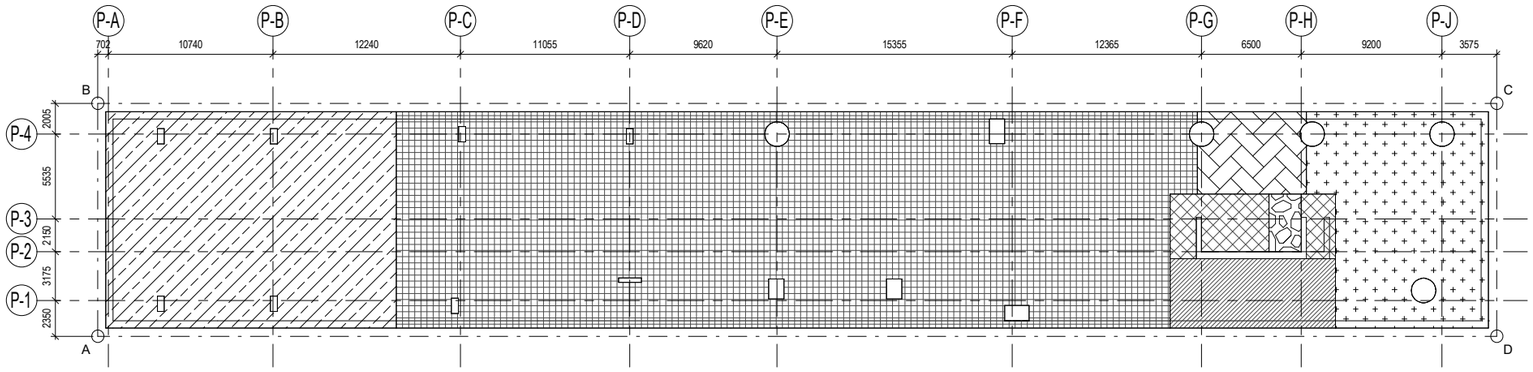
SOURCE ---

90mm (W) x 40mm (H) space
for COMPANY LOGO

90mm (W) x 60mm (H) space
for AP/RSE/RGE's
signature/ and stamp chop

BD's OFFICAL USE

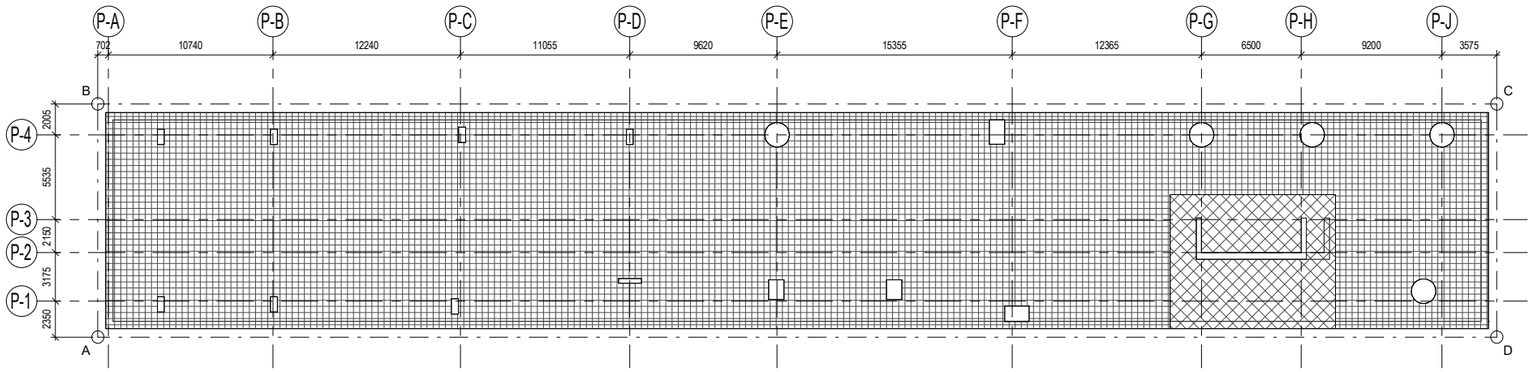
90mm (W) x 150mm (H) space
for BD's approval stamp /
certification of copies of
approved plans
(PNAP ADM-10 APP A)



1 LOADING INTENSITY PLAN AT B2
1 : 200

LOADING INTENSITY PLAN AT B2

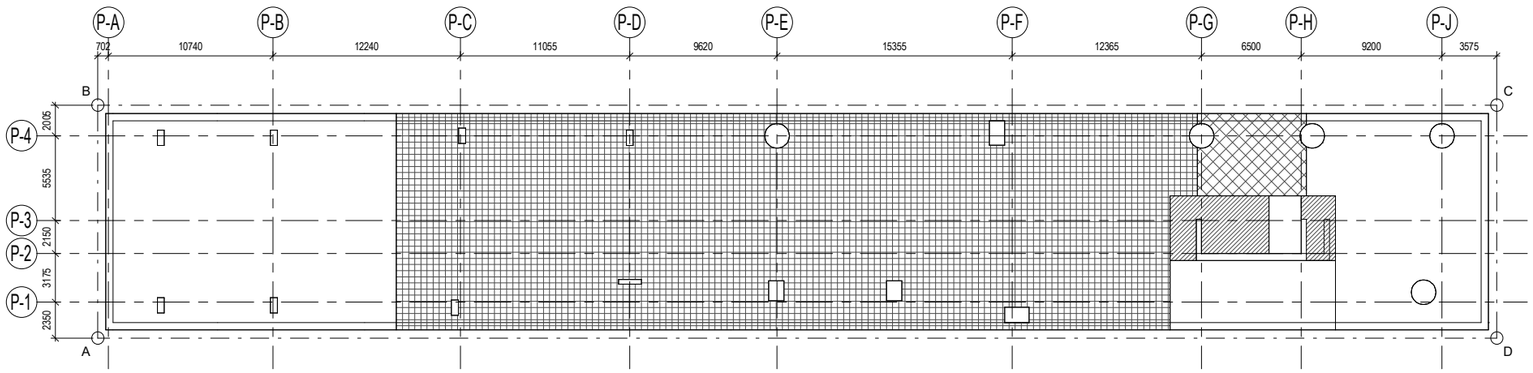
DESCRIPTION	LEGEND	FINISHES (kPa)	LIVE LOAD (kPa)
LOBBY		1.2	3.0
CARPARK		1.2	3.0
CAR LIFT PIT		1.2	7.5
LIFT PIT		1.2	7.5
PLANT ROOM		1.2	7.5
WATER TANK 1		14.7 + 1.2	20.0
WATER TANK 2		17.0 + 1.2	30.0



2 LOADING INTENSITY PLAN FOR FILL AT B2
1 : 200

LOADING INTENSITY PLAN FOR UPTHRUST AT B2

LEGEND	UPTHRUST (kPa)
	129.5
	154.5



3 LOADING INTENSITY PLAN FOR UPTHRUST AT B2
1 : 200

LOADING INTENSITY PLAN FOR FILL AT B2

LEGEND	FILL (kPa)
	12.3
	25.8
	61.3
	NO FILL

BD REF :

BIM REF :

REV	DATE	AMENDMENT

PROJECT
CIC SAMPLE PROJECT

DRAWING TITLE
LOADING INTENSITY PLAN

SCALE AS SHOWN@A1

DRAWING NO. P007

REV. NO.

SOURCE ---

90mm (W) x 40mm (H) space
for COMPANY LOGO

90mm (W) x 60mm (H) space
for AP/RSE/RGE's
signature/ and stamp chop

BD's OFFICAL USE

90mm (W) x 150mm (H) space
for BD's approval stamp /
certification of copies of
approved plans
(PNAP ADM-10 APP A)

BORED PILE LOADING SCHEDULE (1 OF 2)

BORED PILE MARK	BORED PILE CAP THICKNESS (FOR REFERENCE ONLY)	BORED PILE DIAMETER	BORED PILE EFFECTIVE SHAFT DIAMETER	ROCK SOCKET DIAMETER	PILE BASE DIAMETER	(X) BELLOUT DEPTH	(AA) CUT-OFF LEVEL	(W) TENTATIVE ROCKHEAD LEVEL	(Z) TENTATIVE FOUNDING LEVEL	(AB)=(AA)-(Z) TENTATIVE PILE LENGTH	(Y) EFFECTIVE ROCK SOCKET LENGTH	(a) SELF-WEIGHT OF BORED PILE (SUBMERGED) (SWP)	(b) Dmin (total)	(c)=(a)+(b) Dmin + SWP	(d) SDL(total)	(b)+(d) TOTAL DEAD LOAD (DL) = Dmin + SDL	(e) LIVE LOAD (LL) (total)	(f)=(b)+(d)+(e) DL + SDL + LL	(h) Wmax (total)	(i) TOTAL UPLIFT FORCE DUE TO GROUND WATER (U)	(j) ADDITIONAL LOAD DUE TO STEPPING EFFECT	(k)
																					WITHOUT WIND	WITH WIND
	(m)	(m)	(m)	(m)	(m)	(m)	(mPD)	(mPD)	(mPD)	(m)	(m)	(kN)	(kN)	(kN)	(kN)	(kN)	(kN)	(kN)	(kN)	(kN)	(kN)	(kN)
BP1	2.5	3.0	2.80	2.80	4.5	1.50	-8.775	-45.5	-50.90	42.125	3.6	3820	43000	46820	14700	57700	13700	71400	18500	-20400	80	99
BP2	2.5	2.5	2.35	2.35	3.75	1.25	-8.775	-44.5	-49.15	40.375	3.1	2580	33700	36280	14100	47800	9100	56900	18000	-9600	0	0
BP3	2.5	2.5	2.35	2.35	3.75	1.25	-8.775	-46.5	-51.15	42.375	3.1	2700	37500	40200	13500	51000	13000	64000	14700	-15500	0	0
BP4	5.0	3.0	2.80	2.80	4.5	1.50	-11.275	-47.0	-54.90	43.625	3.6	3950	45600	49550	17500	63100	15200	78300	15800	-21400	0	0
BP5	5.0	3.0	2.80	2.80	4.5	1.50	-11.275	-50.0	-56.80	45.525	5.0	4120	49000	53120	18100	67100	15900	83000	24900	-25300	49	61
BP6	2.5	3.0	2.80	2.80	4.5	1.50	-8.775	-46.0	-51.40	42.625	3.6	3860	38400	42260	17700	56100	10500	66600	24600	-12800	0	0

BORED PILE LOADING SCHEDULE (2 OF 2)

BORED PILE MARK	(f) MAX. PILE LOAD: DL + SDL + LL	(f)+(h) MAX. PILE LOAD: DL + SDL + LL + Wmax	(f)+(a)+(j) MAX. PILE LOAD: DL + SDL + LL + Stepping Load	(f)+(h)+(a)+(k) MAX. PILE LOAD: DL + SDL + LL + Wmax + Stepping Load	(l)=(b)+(i) MIN. PILE LOAD: Dmin + SWP -U	(m)=(b)-(h)+(i) MIN. PILE LOAD: Dmin + SWP - Wmax - U	(n)=(b)-1.5*(h)+1.5*(i) MIN. PILE LOAD: Dmin + SWP - 1.5Wmax - 1.5U	VERTICAL BARS: LAYER 1	VERTICAL BARS: LAYER 2	LINKS	(o) PILE BARING CAPACITY (COMPRESSION): WITHOUT WIND	(p)=(o)*1.25 PILE BARING CAPACITY (COMPRESSION): WITH WIND	(q) ROCK FRICTION (COMPRESSION): WITHOUT WIND	(r)=(q)*1.25 ROCK FRICTION (COMPRESSION): WITH WIND	(r1) ROCK FRICTION (TENSION)	(p1) ROCK/SOIL MASS (SUBMERGED)	(a1)=Min of(((r1),(p1)/3))+(a) UPLIFT RESISTANCE: ALLOWABLE	(u1)=Min of(((r1)*2,(p1))+(a) UPLIFT RESISTANCE: ULTIMATE	(u)=(o)+(q) BORED PILE BEARING CAPACITY (COMPRESSION): WITHOUT WIND	(v)=(u)*1.25 BORED PILE BEARING CAPACITY (COMPRESSION): WITH WIND	(b)+0.9*(u1)-1.5*(h)+1.5*(i)>0 STABILITY CHECK: Dmin + 0.9*Ru -1.5Wmax - 1.5U	(b)+(a1)-(h)+(i)>0 STABILITY CHECK: Dmin + Ra - Wmax - U	REFERENCE BORED HOLE
	(kN)	(kN)	(kN)	(kN)	(kN)	(kN)	(kN)				(m)	(kN)	(kN)	(kN)	(kN)	(kN)	(kN)	(kN)	(kN)	(kN)	(kN)	(kN)	
BP1	71400	89900	75300	93819	26420	7920	-11530	54 T40	50 T40	T16 / 300 (2 rings)	79530	99413	17250	21563	11090	21101	10854	24921	96780	120975	7079	14954	BH5
BP2	56900	74900	59480	77480	26680	8680	-5120	44 T50	40 T50	T16 / 200 (1 rings)	55230	69038	12150	15188	8020	14707	7482	17287	67380	84225	7858	13582	BH6
BP3	64000	78700	66700	81400	24700	10000	-5100	44 T50	40 T50	T16 / 200 (1 rings)	55230	69038	12150	15188	8020	15477	7859	18177	67380	84225	8559	15159	BH8
BP4	78300	94100	82250	98050	28150	12350	-6250	54 T40	50 T40	T16 / 300 (2 rings)	79530	99413	17250	21563	11090	21899	11250	25849	96780	120975	13064	19650	BH8
BP5	83000	107900	87169	112081	27820	2920	-22180	54 T40	50 T40	T16 / 300 (2 rings)	79530	99413	17250	21563	15400	32120	14827	34920	96780	120975	5128	13627	BH9
BP6	66600	91200	70460	95060	29460	4860	-13840	54 T40	50 T40	T16 / 300 (2 rings)	79530	99413	17250	21563	11090	21367	10982	25227	96780	120975	5004	11982	BH10

SOCKET H-PILE LOADING SCHEDULE (1 OF 2)

PILE MARK	PILE CAP THICKNESS (FOR REFERENCE ONLY)	(A) PIPE EFFECTIVE SHAFT DIAMETER	(A) ROCK SOCKET DIAMETER	PILE CAP BASE LEVEL	(AA) CUT-OFF LEVEL	(w) TANTATIVE ROCKHEAD LEVEL	(Z) TANTATIVE FOUNDING LEVEL	(AB) TENTATIVE PILE LENGTH	TENTATIVE PILE LENGTH ABOVE RH	(Y) EFFECTIVE ROCK SOCKET LENGTH	(P1) ROCK MASS (SUBMERGED)	(P2) SOIL MASS SURROUNDING PILE (SUBMERGED)	(P3) = (P1) + (P2) ROCK/SOIL MASS (SUBMERGED W/O PILE SELF-WEIGHT	(a) SELF-WEIGHT (SUBMERGED) (SWP)	(P4) = (P3) + (a) ROCK / SOIL MASS (SUBMERGED) W/ PILE SELF WEIGHT	(b) Min DEAD LOAD PER PILE (Dmin)	(d) SDL PER PILE	(b) + (d) TOTAL DEAD LOAD (DL) = Dmin + SDL	(e) LIVE LOAD (LL)	(f) = (b) + (d) + (e) DL + SDL + LL	(h) Wmax PER PILE	(i) UPLIFT FORCE PER PILE (AT THE BOTTOM OF CAP) (U)	(j) ADDITIONAL LOAD DUE TO STEPPING EFFECT: WITHOUT WIND	(k) = (j) * 1.25 ADDITIONAL LOAD DUE TO STEPPING EFFECT: WITH WIND
	(m)	(m)	(mPD)	(mPD)	(mPD)	(m)	(m)	(m)	(m)	(m)	(kN)	(kN)	(kN)	(kN)	(kN)	(kN)	(kN)	(kN)	(kN)	(kN)	(kN)	(kN)	(kN)
SP1A	2.0	0.61	0.61	-8.35	-8.275	-46.3	-53.3	45.025	38.025	7	200	5112	5312	230	5542	2197	1233	3430	1067	4497	333	-2500	441	551
SP1B	2.0	0.61	0.61	-8.35	-8.275	-46.3	-53.3	45.025	38.025	7	200	5112	5312	230	5542	2197	1233	3430	1067	4497	333	-2500	441	551
SP1C	2.0	0.61	0.61	-8.35	-8.275	-46.3	-53.3	45.025	38.025	7	200	5112	5312	230	5542	2197	1233	3430	1067	4497	333	-2500	441	551
SP2A	2.0	0.61	0.61	-8.35	-8.275	-58.3	-65.3	57.025	50.025	7	200	6704	6904	290	7194	2297	1433	3730	1167	4897	333	-2933	190	238
SP2B	2.0	0.61	0.61	-8.35	-8.275	-58.3	-65.3	57.025	50.025	7	200	6704	6904	290	7194	2297	1433	3730	1167	4897	333	-2933	190	238
SP2C	2.0	0.61	0.61	-8.35	-8.275	-58.3	-65.3	57.025	50.025	7	200	6704	6904	290	7194	2297	1433	3730	1167	4897	333	-2933	190	238
SP3A	2.0	0.61	0.61	-8.35	-8.275	-42.3	-49.3	41.025	34.025	7	200	5096	5296	210	5506	2397	1600	3997	1200	5197	533	-3000	626	783
SP3B	2.0	0.61	0.61	-8.35	-8.275	-42.3	-49.3	41.025	34.025	7	200	5096	5296	210	5506	2397	1600	3997	1200	5197	533	-3000	626	783
SP3C	2.0	0.61	0.61	-8.35	-8.275	-42.3	-49.3	41.025	34.025	7	200	5096	5296	210	5506	2397	1600	3997	1200	5197	533	-3000	626	783
SP4A	2.0	0.61	0.61	-8.35	-8.275	-52.8	-59.8	51.525	44.525	7	200	6638	6838	260	7098	1997	1567	3563	1100	4663	533	-3467	96	120
SP4B	2.0	0.61	0.61	-8.35	-8.275	-52.8	-59.8	51.525	44.525	7	200	6638	6838	260	7098	1997	1567	3563	1100	4663	533	-3467	96	120
SP4C	2.0	0.61	0.61	-8.35	-8.275	-52.8	-59.8	51.525	44.525	7	200	6638	6838	260	7098	1997	1567	3563	1100	4663	533	-3467	96	120
SP5A	2.0	0.61	0.61	-8.35	-8.275	-39.3	-46.3	38.025	31.025	7	200	9395	9595	190	9785	2180	1500	3680	800	4480	900	-3300	107	134
SP5B	2.0	0.61	0.61	-8.35	-8.275	-39.3	-46.3	38.025	31.025	7	200	9395	9595	190	9785	2180	1500	3680	800	4480	9000	-3300	107	134
SP6A	2.0	0.61	0.61	-8.35	-8.275	-38.3	-45.3	37.025	30.025	7	200	9106	9306	190	9496	2920	1250	4170	600	4770	300	-4200	0	0
SP6B	2.0	0.61	0.61	-8.35	-8.275	-38.3	-45.3	37.025	30.025	7	200	9106	9306	190	9496	2920	1250	4170	600	4770	300	-4200	0	0
SP7A	2.0	0.61	0.61	-8.35	-8.275	-40.3	-47.3	39.025	32.025	7	200	5436	5636	200	5836	2963	1133	4097	833	4930	367	-4367	54	68
SP7B	2.0	0.61	0.61	-8.35	-8.275	-40.3	-47.3	39.025	32.025	7	200	5436	5636	200	5836	2963	1133	4097	833	4930	367	-4367	54	68
SP7C	2.0	0.61	0.61	-8.35	-8.275	-40.3	-47.3	39.025	32.025	7	200	5436	5636	200	5836	2963	1133	4097	833	4930	367	-4367	54	68
SP8A	2.0	0.61	0.61	-8.35	-8.275	-39.3	-46.3	38.025	31.025	7	200	5271	5471	190	5661	2763	967	3730	700	4430	433	-3333	0	0
SP8B	2.0	0.61	0.61	-8.35	-8.275	-39.3	-46.3	38.025	31.025	7	200	5271	5471	190	5661	2763	967	3730	700	4430	433	-3333	0	0
SP8C	2.0	0.61	0.61	-8.35	-8.275	-39.3	-46.3	38.025	31.025	7	200	5271	5471	190	5661	2763	967	3730	700	4430	433	-3333	0	0

SOCKET H-PILE LOADING SCHEDULE (2 OF 2)

BORED PILE MARK	(f) MAX. PILE LOAD: DL + SDL + LL	(f)+(h) MAX. PILE LOAD: DL + SDL + LL + Wmax	(f)+(a)+(j) MAX. PILE LOAD: DL + SDL + LL + SWP + Stepping Load	(f)+(h)+(a)+(k) MAX. PILE LOAD: DL + SDL + LL + Wmax + SWP + Stepping Load	(l)=(b)+(a)+(i) MIN. PILE LOAD: Dmin + SWP -U	(m)=(b)-(h)+(i) MIN. PILE LOAD: Dmin + SWP - Wmax - U	(n)=(b)-1.5*(h)+1.5*(i) MIN. PILE LOAD: Dmin + SWP - 1.5Wmax - 1.5U	(o) PILE BARING CAPACITY (COMPRESSION): WITHOUT WIND	(p)=(o)*1.25 PILE BARING CAPACITY (COMPRESSION): WITH WIND	(r1) ROCK FRICTION (TENSION)	(p1) = (P3) ROCK/SOIL MASS (SUBMERGED)	(a1)=Min of(((r1),(p1)/3))+(a) UPLIFT RESISTANCE: ALLOWABLE	(u1)=Min of(((r1)*2,(p1))+(a) UPLIFT RESISTANCE: ULTIMATE	(b)+0.9*(u1)-1.5*(h)+1.5*(i)>0 STABILITY CHECK: Dmin + 0.9*Ru -1.5Wmax - 1.5U	(b)+(a1)-(h)+(i)>0 STABILITY CHECK: Dmin + Ra - Wmax - U	REFERENCE BORED HOLE
	(kN)	(kN)	(kN)	(kN)	(kN)	(kN)	(kN)	(m)	(kN)	(kN)	(kN)	Ra (kN)	Ru (kN)	(kN)	(kN)	
SP1A	4497	4830	5168	5611	-73	-407	-1823	6106	9159	3053	5312	2001	5542	2934	1364	BH1
SP1B	4497	4830	5168	5611	-73	-407	-1823	6106	9159	3053	5312	2001	5542	2934	1364	BH1
SP1C	4497	4830	5168	5611	-73	-407	-1823	6106	9159	3053	5312	2001	5542	2934	1364	BH1
SP2A	4897	5230	5377	5730	-347	-680	-2313	6106	9159	3053	6904	2591	6396	3153	1621	BH2
SP2B	4897	5230	5377	5730	-347	-680	-2313	6106	9159	3053	6904	2591	6396	3153	1621	BH2
SP2C	4897	5230	5377	5730	-347	-680	-2313	6106	9159	3053	6904	2591	6396	3153	1621	BH2
SP3A	5197	5730	6033	6722	-393	-927	-2693	6106	9159	3053	5296	1975	5506	2052	839	BH1
SP3B	5197	5730	6033	6722	-393	-927	-2693	6106	9159	3053	5296	1975	5506	2052	839	BH1
SP3C	5197	5730	6033	6722	-393	-927	-2693	6106	9159	3053	5296	1975	5506	2052	839	BH1
SP4A	4663	5197	5019	5565	-1210	-1743	-3743	6106	9159	3053	6838	2539	6366	1726	536	BH2
SP4B	4663	5197	5019	5565	-1210	-1743	-3743	6106	9159	3053	6838	2539	6366	1726	536	BH2
SP4C	4663	5197	5019	5565	-1210	-1743	-3743	6106	9159	3053	6838	2539	6366	1726	536	BH2
SP5A	4480	5380	4777	5704	-930	-1830	-3930	6106	9159	3053	9595	3243	6296	1546	1223	BH3
SP5B	4480	13480	4777	13804	-930	-9930	-16080	6106	9159	3053	9595	3243	6296	-10604	-6877	BH3
SP6A	4770	5070	4960	5260	-1090	-1390	-3640	6106	9159	3053	9306	3243	6296	1836	1663	BH4
SP6B	4770	5070	4960	5260	-1090	-1390	-3640	6106	9159	3053	9306	3243	6296	1836	1663	BH4
SP7A	4930	5297	5184	5564	-1203	-1570	-3937	6106	9159	3053	5636	2079	5836	1116	309	BH5
SP7B	4930	5297	5184	5564	-1203	-1570	-3937	6106	9159	3053	5636	2079	5836	1116	309	BH5
SP7C	4930	5297	5184	5564	-1203	-1570	-3937	6106	9159	3053	5636	2079	5836	1116	309	BH5
SP8A	4430	4863	4620	5053	-380	-813	-2697	6106	9159	3053	5471	2014	5661	2208	1010	BH6
SP8B	4430	4863	4620	5053	-380	-813	-2697	6106	9159	3053	5471	2014	5661	2208	1010	BH6
SP8C	4430	4863	4620	5053	-380	-813	-2697	6106	9159	3053	5471	2014	5661	2208	1010	BH6

BD REF :

BIM REF :

REV	DATE	AMENDMENT

PROJECT
CIC SAMPLE PROJECT

DRAWING TITLE
PILE LOAD SCHEDULE

SCALE AS SHOWN@A1

DRAWING NO. P008

REV. NO.

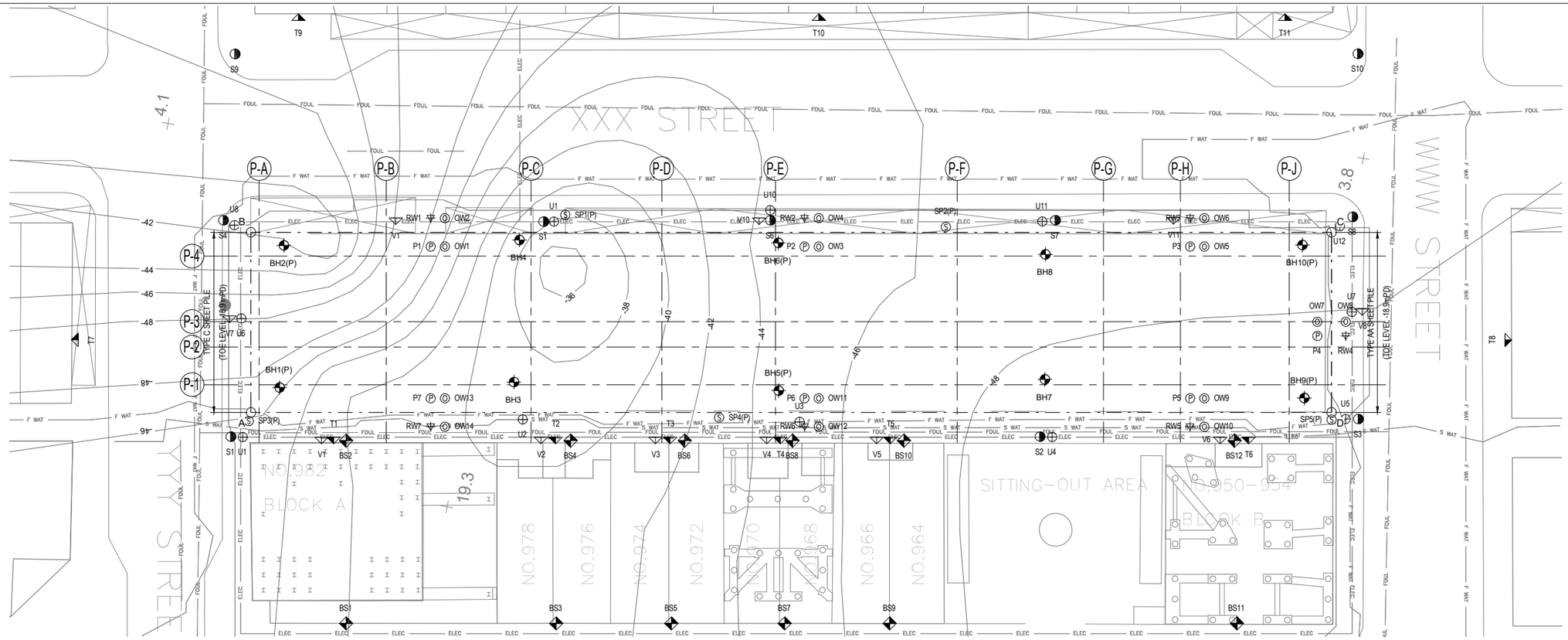
SOURCE ---

90mm (W) x 40mm (H) space for COMPANY LOGO

90mm (W) x 60mm (H) space for AP/RSE/RGE's signature/ and stamp chop

BD's OFFICAL USE

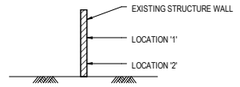
90mm (W) x 150mm (H) space for BD's approval stamp / certification of copies of approved plans (PNAP ADM-10 APP A)



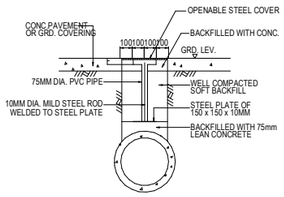
2 FOUNDATION MONITORING PLAN
1 : 200

AAA TRIGGER LEVELS

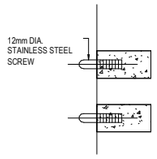
INSTRUMENT	CRITERION	ALERT	ALARM	ACTION
GROUND SETTLEMENT CHECK POINT (S1-S10)	TOTAL SETTLEMENT	12mm	18mm	20mm
UTILITY SETTLEMENT CHECK POINT (U1-U12)	TOTAL SETTLEMENT	12mm	18mm	25mm
TILTING CHECK POINT (T1-T11)	ANGULAR DISTORTION	1:1000	1:750	1:500
VIBRATION CHECK POINT (V1 TO V11)	PEAK PARTICLE VELOCITY	7.5mm/s	10mm/s	15mm/s
BUILDING SETTLEMENT CHECK POINT (BS1-BS12)	TOTAL SETTLEMENT	12mm	18mm	25mm
STANDPIPE/ PIEZONEMETER	RISE OF GROUND WATER LEVEL	+2.0mPD	+2.25mPD	+2.5mPD
STANDPIPE/PIEZONEMETER OUTSIDE COFFERDAM	DRAIN OF GROUND WATER LEVEL	-0.4mPD	-0.5mPD	-0.6mPD



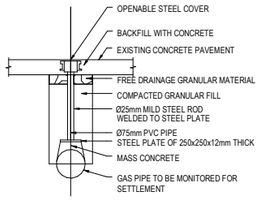
LOCATION OF TILTING CHECK POINT ON STRUCTURAL WALL
N.T.S.



UTILITY SETTLEMENT MARKER (USM)
N.T.S.



DETAIL OF SETTLEMENT/ TILTING MARKER ON EXISTING BUILDING/ RETAINING WALL
N.T.S.



DETAILS OF MONITORING STATION ON UTILITY
N.T.S.

NOTES:
1. THE PRIOR AGREEMENT FOR THE UTILITY OWNERS SHOULD BE OBTAINED BEFORE THE INSTALLATION WORK COMMENCE.

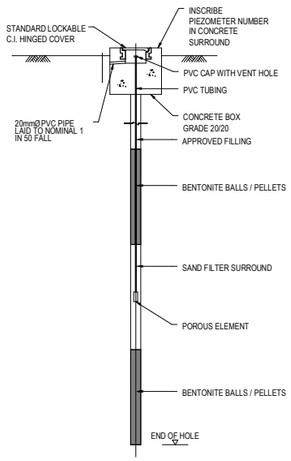
LEGEND AND NOTES:

— - —	BOUNDARY LINE	—GAS—	GAS PIPE
BH2(P)	BORED HOLE (WITH PIEZOMETER) (BH1 (P), BH2 (P) AND BH5 (P) BH6 (P), BH9 (P) AND BH10 (P) 6NOS.)	—S WAT—	SALT WATER PIPE
		—ELEC—	ELECTRIC CABLE
BH2	BORED HOLE (BH3, BH4, BH7 AND BH8 4 NOS.)	—FOUL—	FOUL WATER PIPE
4.15	EXISTING GROUND LEVEL	—F WAT—	FRESH WATER PIPE

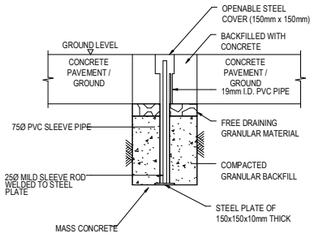
1. WHEN THE ALERT LEVEL IS REACHED, RESPONSE ACTION SHALL BE TAKEN:
   a. RC TO NOTIFY AND SUBMIT WRITTEN REPORT TO RSE/RGE.
   b. RSE/RGE TO ACCESS EFFECT OF MOVEMENTS AND PREDICT FUTURE MOVEMENTS.
   c. RSE/RGE TO AGREE WITH RC ON THE SUITABLE ACTION PLAN WHCH MAY INCLUDE THE INSTALLATION OF ADDITIONAL CHECK POINTS AND/OR INCREASING MONITORING FREQUENCY, AND THE REMEDIAL/MITIGATING MEASURES TO BE TAKEN UPON REACHING THE "ALARM LEVEL".

2. WHEN THE ALARM LEVEL IS REACHED, RESPONSE ACTION SHALL BE TAKEN:
   a. RC TO NOTIFY AND SUBMIT UPDATED REPORT TP RSE/RGE. THE BD AND THE RELEVANT PARTIES SHOULD BE NOTIFIED IMMEDIATELY.
   b. RSE/RGE AND RC TO CONDUCT JOINT SITE INSPECTION TO DETERMINE IF ANY CONSTRUCTION ACTIVITIES SHOULD BE TEMPORARILY SUSPENDED.
   c. RC TO IMPLEMENT THE NECESSARY REMEDIAL/MITIGATING MEASURES IN ACCORDANCE WITH THE AGREED ACTION PLAN.
   d. RSE/RGE AND RC TO DISCUSS THE INSTRUMENT RESPONSE AND REVIEW THE EFFECTIVENESS OF THE RESPONSE ACTION.
   e. RSE/RGE TO AGREE WITH RC ON THE EMERGENCY PLAN DETAILING THE MEASURES TO BE TAKEN UPON REACHING "ACTION LEVEL".
   f. ANY CONSTRUCTION ACTIVITIES MAY BE SUSPENDED IF THE RESPONSE ACTION HAS BEEN IMPLEMENTED AND ON THE ADVICE OF THE RSE/RGE AS NECESSARY.
   g. RSE/RGE TO REVIEW THE METHOD STATEMENTS OF THE PILING/ELS WORKS TO DETERMINE WHETHER MODIFICATION TO THE CONSTRUCTION METHODS IS REQUIRED TO PREVENT ACTION LEVEL FROM BEING REACHED.

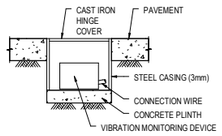
3. WHEN THE ACTION LEVEL IS REACHED, RESPONSE ACTION SHALL BE TAKEN:
   a. ALL WORKS THAT WILL CAUSE GROUND MOVEMENT ARE TO BE CEASED.
   b. RC TO NOTIFY AND CARRY OUT A JOINT SITE INSPECTION WITH THE RSE/RGE IMMEDIATELY. THE BD AND THE RELEVANT PARTIES SHOULD BE NOTIFIED IMMEDIATELY.
   c. RC TO IMPLEMENT THE NECESSARY EMERGENCY MEASURES IN ACCORDANCE WITH THE AGREED EMERGENCY PLAN.
   d. RC TO SUBMIT AN INCIDENT REPORT TO RSE/RGE AND THE BD DETAILING THE FULL HISTORY OF THE MOVEMENTS AND REMEDIAL/EMERGENCY MEASURES IMPLEMENTED.
   e. RSE/RGE TO REVIEW THE INCIDENT AND AGREE WITH RC ON FURTHER REMEDIAL AND PREVENTIVE MEASURES TO ENABLE RESUMPTION OF THE SUSPENDED WORKS.
   f. CONSTRUCTION ACTIVITIES SHOULD NOT BE RESUMED UNTIL THE NECESSARY REMEDIAL AND PREVENTIVE MEASURES HAVE BEEN COMPLETED TO THE SATISFACTION OF THE BD.
   g. IF THE TRIGGER VALUES AND REPONSE ACTION ARE REVISED, THE AMENDED PLANS SHOULD BE SUBMITTED TO THE BD FOR APPROVAL. THE SUSPENDED CONSTRUCTION ACTIVITIES SHOULD NOT BE RESUMED UNTIL THE AMENDED PLANS ARE APPROVED BY THE BA AND THE CONSENT IS GIVEN.



DETAILS OF PIEZOMETER
N.T.S.



DETAILS OF GROUND SETTLEMENT CHECK POINTS (BUILDING SETTLEMENT CHECK POINTS SIMILAR)
N.T.S.



DETAILS OF VIBRATION CHECK POINT
N.T.S.

INSTRUMENT SCHEDULE

SYMBOL	TYPE	NUMBER
BS1	BUILDING SETTLEMENT MARKER (BS1-BS12)	12
T1	BUILDING TILTING CHECK POINT WITH VERTICAL DISPLACEMENT (T1-T11)	11
S1	GROUND SETTLEMENT CHECK POINT (S1-S10)	10
OW1	OBSERVATION WELL (OW1-OW14)	14
P1	PUMP WELL (P1 TO P7)	7
RW1	RECHARGE WELL (RW1-RW7)	7
SP1(P)	STANDPIPE (WITH PIEZOMETER) (SP1(P) TO SP5(P))	5
U1	UTILITY SETTLEMENT MONITORING POINT ON GROUND (U1-U12)	12
V1	VIBRATION CHECK POINT (V1-V11)	11

GROUND INVESTIGATION TALBE OF ROCK HEAD

DRILL HOLE MARK	ROCKHEAD LEVEL (mPD)
BH1(P)	-42.58
BH2(P)	-59.31
BH3	-38.48
BH4	-34.69
BH5(P)	-44.93
BH6(P)	-44.18
BH7	-49.11
BH8	-45.57
BH9(P)	-51.71
BH10(P)	-44.58

BD REF :

BIM REF :

REV	DATE	AMENDMENT

PROJECT
CIC SAMPLE PROJECT

DRAWING TITLE
FOUNDATION MONITORING PLAN

SCALE AS SHOWN@A1

DRAWING NO. P009

REV. NO.

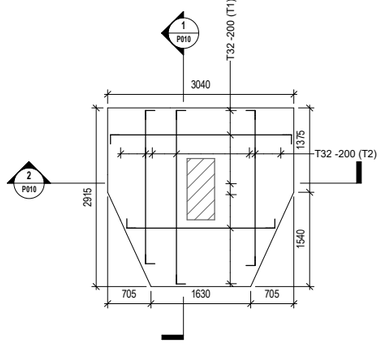
SOURCE ---

90mm (W) x 40mm (H) space for COMPANY LOGO

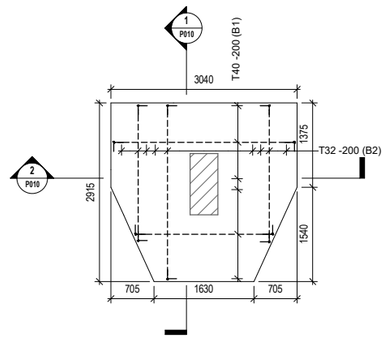
90mm (W) x 60mm (H) space for AP/RSE/RGE's signature/ and stamp chop

BD's OFFICAL USE

90mm (W) x 150mm (H) space for BD's approval stamp / certification of copies of approved plans (PNAP ADM-10 APP A)



PILE CAP F1 (2000mm THK.) TOP BAR
1 : 50



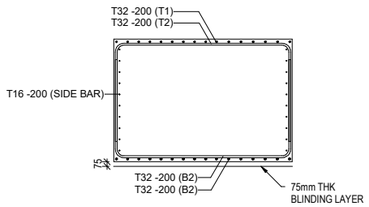
PILE CAP F1 (2000mm THK.) BOTTOM BAR
1 : 50

LEGEND

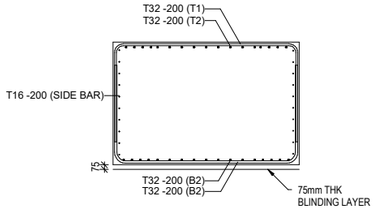
PROPOSED COLUMN/ WALL
(UNDER SEPARATE SUBMISSION)

LEGENDS FOR SHEAR LINK DIAGRAM:

PATTERN	LINK ARRANGEMENT
T16 SHEAR LINKS AT 150mm C/C BOTH WAYS	MAIN REINFORCEMENT
T16 SHEAR LINKS AT 175mm C/C BOTH WAYS	



1 **SECTION 1**
1 : 50



2 **SECTION 2**
1 : 50

BD REF :

BIM REF :

REV	DATE	AMENDMENT

PROJECT
CIC SAMPLE PROJECT

DRAWING TITLE
PILE CAP REINFORCEMENT LAYOUT PLAN (1 OF 2)

SCALE

DRAWING NO. P010

REV. NO.

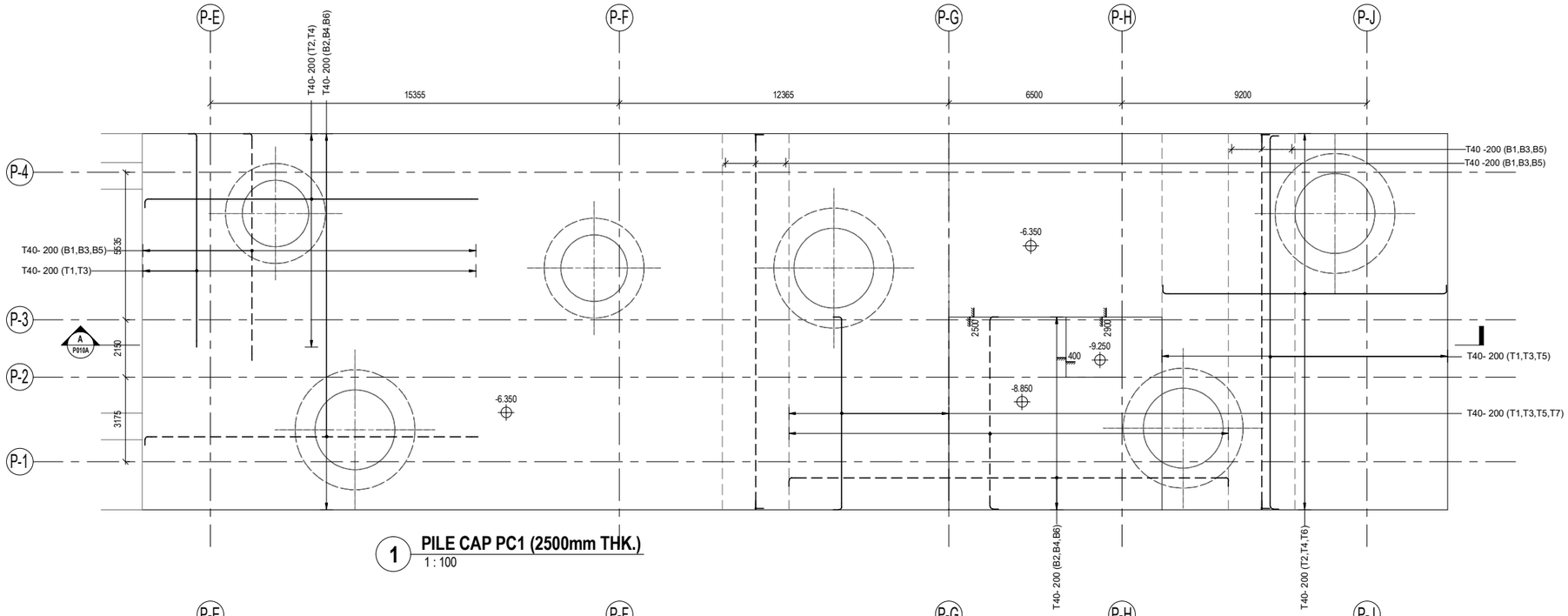
SOURCE ---

90mm (W) x 40mm (H) space for COMPANY LOGO

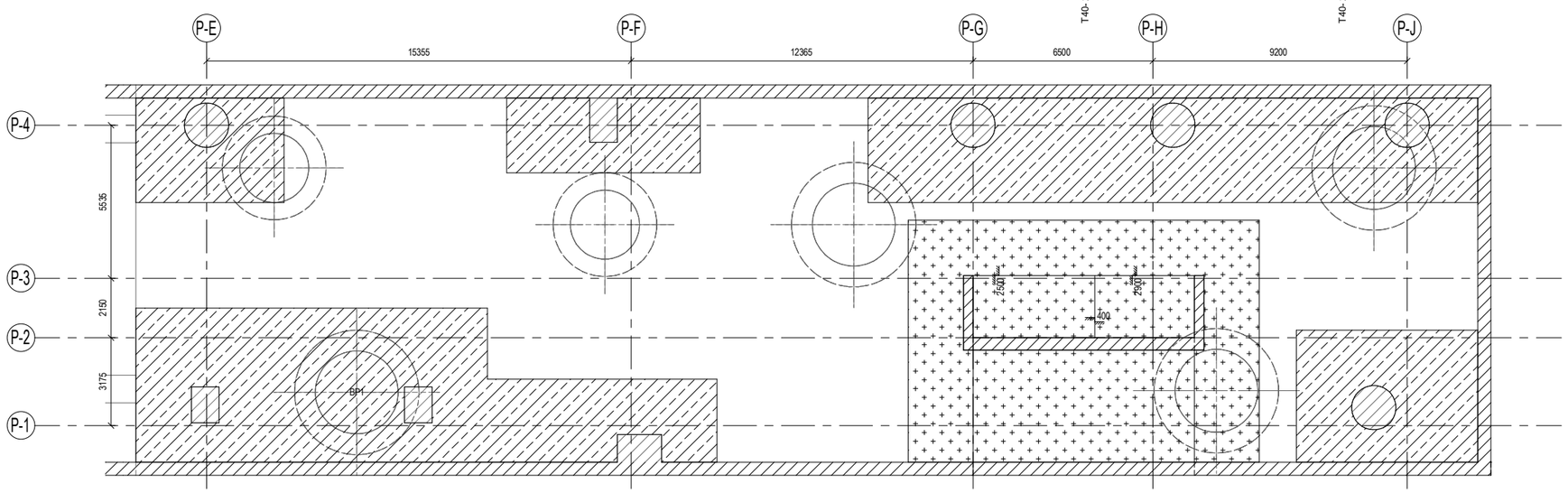
90mm (W) x 60mm (H) space for AP/RSE/RGE's signature/ and stamp chop

BD's OFFICAL USE

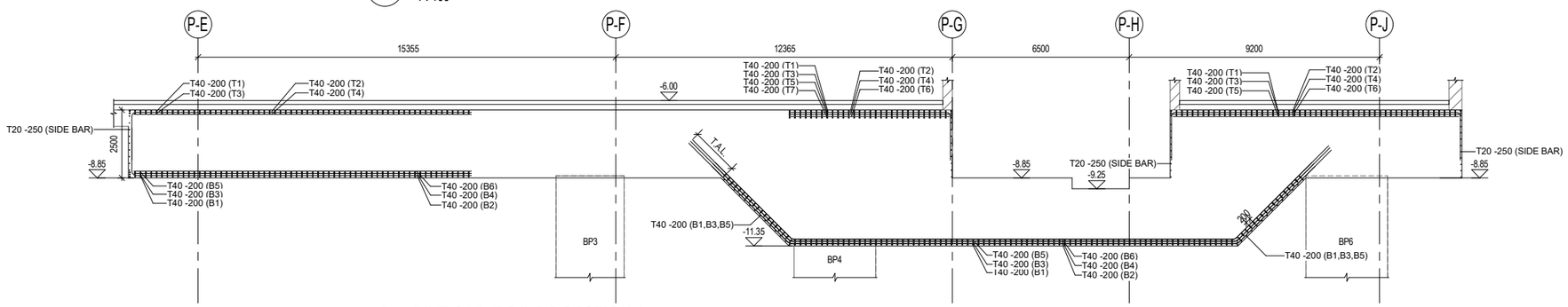
90mm (W) x 150mm (H) space for BD's approval stamp / certification of copies of approved plans (PNAP ADM-10 APP A)



1 PILE CAP PC1 (2500mm THK.)
1 : 100



3 PILE CAP F5 (2000mm THK.)
(SHEAR REINFORCEMENT)
1 : 100



A PILE CAP (PC1) RC SECTION A
1 : 100

LEGEND

PROPOSED COLUMN/ WALL
(UNDER SEPARATE SUBMISSION)

LEGENDS FOR SHEAR LINK DIAGRAM:

PATTERN	LINK ARRANGEMENT
T16 SHEAR LINKS AT 150mm C/C BOTH WAYS	MAIN REINFORCEMENT
T16 SHEAR LINKS AT 175mm C/C BOTH WAYS	

BD REF :

BIM REF :

REV	DATE	AMENDMENT

PROJECT
CIC SAMPLE PROJECT

DRAWING TITLE
PILE CAP REINFORCEMENT LAYOUT PLAN (2 OF 2)

SCALE 1 : 100@A1

DRAWING NO. P010A

REV. NO.

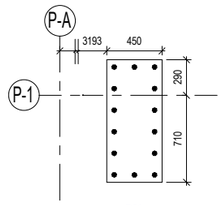
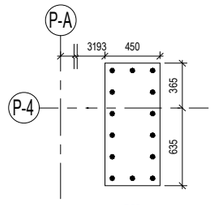
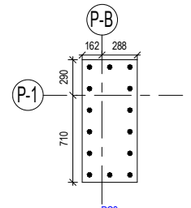
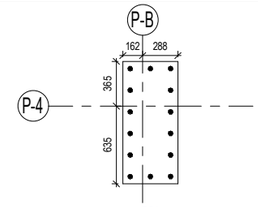
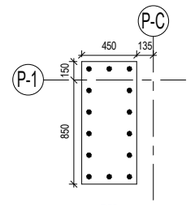
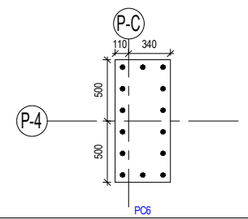
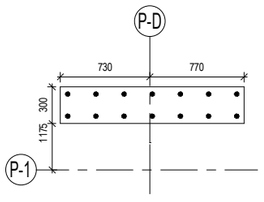
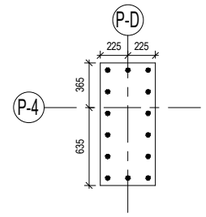
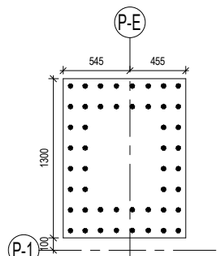
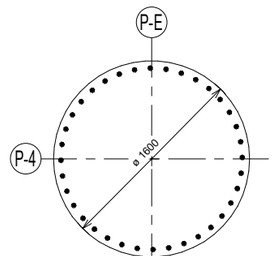
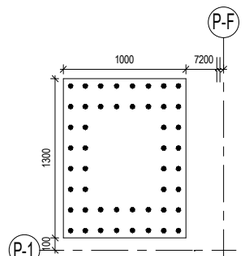
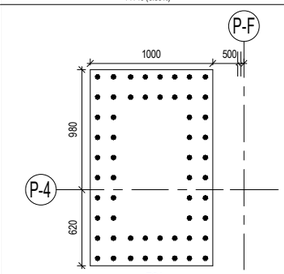
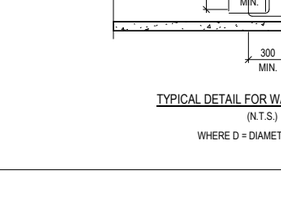
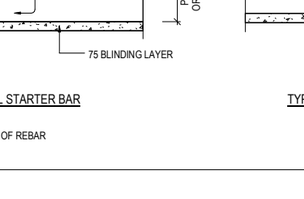
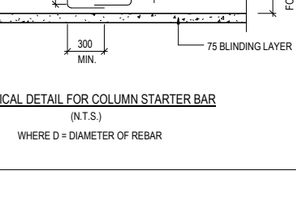
SOURCE ---

90mm (W) x 40mm (H) space for COMPANY LOGO

90mm (W) x 60mm (H) space for AP/RSE/RGE's signature/ and stamp chop

BD's OFFICAL USE

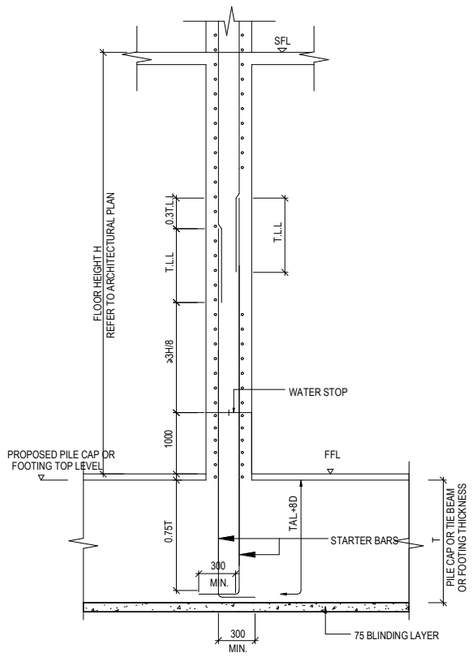
90mm (W) x 150mm (H) space for BD's approval stamp / certification of copies of approved plans (PNAP ADM-10 APP A)

G/F TO PILE CAP						
COLUMN MARK	PC1	PC2	PC3	PC4	PC5	PC6
COLUMN SIZE	450x1000	450x1000	450x1000	450x1000	450x1000	450x1000
VERT. BARS	14T40 (3.59%)	14T40 (3.83%)	14T40 (3.82%)	14T40 (3.53%)	14T40 (3.90%)	14T40 (3.83%)
G/F TO PILE CAP						
COLUMN MARK	PW7	PC8	TC1	TC2	TC3	TC4
COLUMN SIZE	300x1500	450x1000	1000x1300	Ø1600	1000x1300	1000x1600
VERT. BARS	14T40 (3.83%)	14T40 (3.91%)	48T40 (3.67%)	36T40 (4.00%)	48T40 (3.67%)	56T40 (3.97%)
G/F TO PILE CAP						
COLUMN MARK	TC5	TC7	TC8	TC9	TC10	
COLUMN SIZE	1000x1600	Ø1600	Ø1600	Ø1600	Ø1600	
VERT. BARS	56T40 (3.97%)	36T40 (4.00%)	36T40 (4.00%)	36T40 (4.00%)	36T40 (4.00%)	

WALL STARTER BAR SCHEDULE				
WALL MARK	FLOOR	THICKNESS (mm)	STARTER BAR	STEEL RATIO (%)
TW6A	PILE CAP TO B1/F	350	T40-210	2.7
TW6B	PILE CAP TO B1/F	450	T40-130	2.9
TW6C	PILE CAP TO B1/F	350	T40-210	2.7

LEGEND:

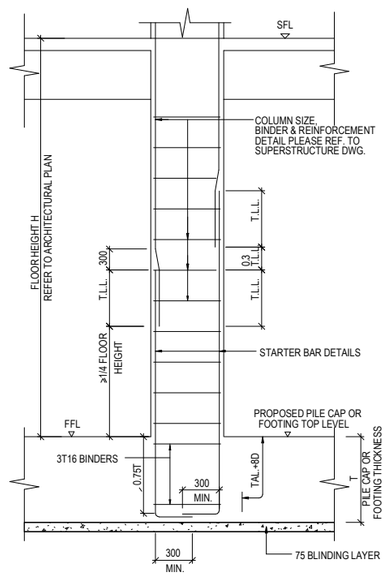
⊕ MECHANICAL COUPLER



TYPICAL DETAIL FOR WALL STARTER BAR

(N.T.S.)

WHERE D = DIAMETER OF REBAR



TYPICAL DETAIL FOR COLUMN STARTER BAR

(N.T.S.)

WHERE D = DIAMETER OF REBAR

BD REF :

BIM REF :

REV	DATE	AMENDMENT

PROJECT
CIC SAMPLE PROJECT

DRAWING TITLE
COLUMN AND WALL STARTER DETAILS

SCALE AS SHOWN@A1

DRAWING NO. P011

REV. NO.

SOURCE ---

90mm (W) x 40mm (H) space
for COMPANY LOGO

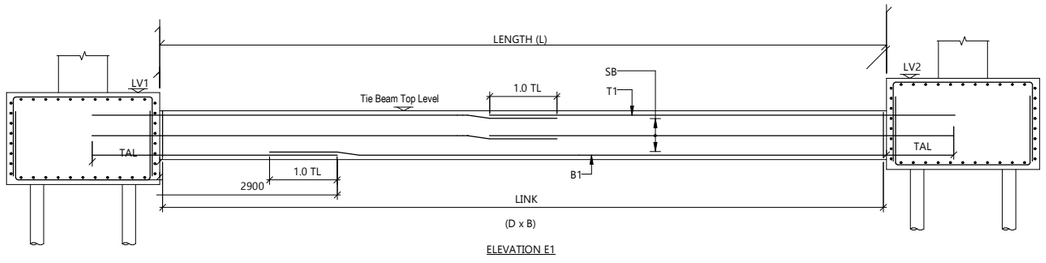
90mm (W) x 60mm (H) space
for AP/RSE/RGE's
signature/ and stamp chop

BD's OFFICAL USE

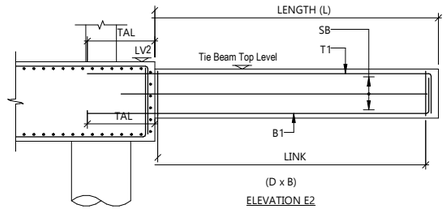
90mm (W) x 150mm (H) space
for BD's approval stamp /
certification of copies of
approved plans
(PNAP ADM-10 APP A)

TIE BEAM R.C. DETAILS SCHEDULE

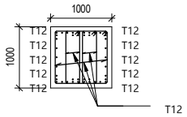
TIE BEAM MARK	BEAM SIZE (D x B)	LENGTH (m)	TIE BEAM TOP LEVEL (mPD)	PILE CAP (P1)	TOP LEVEL (Lv1) (mPD)	PILE CAP (P2)	TOP LEVEL (Lv2) (mPD)	STEEL BAR					LINK	SECTION REFERENCE	ELEVATION REFERENCE
								T1	T2	B1	B2	SB			
TB1	1000 x 800	10.935	-6.35	F1	-6.35	F2	-6.35	10T40	6T40	10T40	6T40	5T12 E.F.	T12-150 T.S.	SECTION S1	ELEVATION E1
TB2	1000 x 800	7.385	-6.35	F1	-6.35	F3	-6.35	10T40	6T40	10T40	6T40	5T12 E.F.	T12-150 T.S.	SECTION S1	ELEVATION E1
TB3	1000 x 800	7.400	-6.35	F2	-6.35	F4	-6.35	10T40	6T40	10T40	6T40	5T12 E.F.	T12-150 T.S.	SECTION S1	ELEVATION E1
TB4	1000 x 800	10.936	-6.35	F3	-6.35	F4	-6.35	10T40	6T40	10T40	6T40	5T12 E.F.	T12-150 T.S.	SECTION S1	ELEVATION E1
TB5	1000 x 800	12.293	-6.35	F4	-6.35	F6	-6.35	10T40	6T40	10T40	6T40	5T12 E.F.	T12-150 T.S.	SECTION S1	ELEVATION E1
TB6	1000 x 800	11.818	-6.35	F3	-6.35	F5	-6.35	10T40	6T40	10T40	6T40	5T12 E.F.	T12-150 T.S.	SECTION S1	ELEVATION E1
TB7	1000 x 800	11.220	-6.35	F5	-6.35	F6	-6.35	10T40	6T40	10T40	6T40	5T12 E.F.	T12-150 T.S.	SECTION S1	ELEVATION E1
TB8	1000 x 800	10.941	-6.35	F6	-6.35	F8	-6.35	10T40	6T40	10T40	6T40	5T12 E.F.	T12-150 T.S.	SECTION S1	ELEVATION E1
TB9	1000 x 800	11.530	-6.35	F5	-6.35	F7	-6.35	10T40	6T40	10T40	6T40	5T12 E.F.	T12-150 T.S.	SECTION S1	ELEVATION E1
TB10	1000 x 800	9.451	-6.35	F7	-6.35	F8	-6.35	10T40	6T40	10T40	6T40	5T12 E.F.	T12-150 T.S.	SECTION S1	ELEVATION E1
TB11	1000 x 800	3.075	-8.08	F7	-8.08	-	-8.08	10T32	-	10T32	-	5T12 E.F.	T12-150 T.S.	SECTION S1	ELEVATION E2
TB12	1000 x 800	1.450	-6.35	F5	-6.35	-	-6.35	10T32	-	10T32	-	5T12 E.F.	T12-150 T.S.	SECTION S1	ELEVATION E2
TB13	1000 x 800	1.455	-6.35	F6	-6.35	-	-6.35	10T32	-	10T32	-	5T12 E.F.	T12-150 T.S.	SECTION S1	ELEVATION E2
TB14	1000 x 800	3.595	-6.35	F1	-6.35	-	-6.35	10T32	-	10T32	-	5T12 E.F.	T12-150 T.S.	SECTION S1	ELEVATION E2
TB15	1000 x 800	3.595	-6.35	F2	-6.35	-	-6.35	10T32	-	10T32	-	5T12 E.F.	T12-150 T.S.	SECTION S1	ELEVATION E2
TB16	1000 x 800	7.065	-6.35	F8	-6.35	PC1	-6.35	10T40	6T40	10T40	6T40	5T12 E.F.	T12-150 T.S.	SECTION S1	ELEVATION E1
TB17	1000 x 800	7.045	-6.35	F7	-6.35	PC1	-6.35	10T40	6T40	10T40	6T40	5T12 E.F.	T12-150 T.S.	SECTION S1	ELEVATION E1



ELEVATION E1



ELEVATION E2



SECTION S1

BD REF :

BIM REF :

REV	DATE	AMENDMENT

PROJECT
CIC SAMPLE PROJECT

DRAWING TITLE
TIE BEAM DETAILS & SCHEUDLE

SCALE 1 : 50@A1

DRAWING NO. P012

REV. NO.

SOURCE ---

90mm (W) x 40mm (H) space
for COMPANY LOGO

90mm (W) x 60mm (H) space
for AP/RSE/RGE's
signature/ and stamp chop

BD's OFFICAL USE

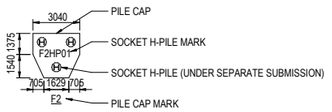
90mm (W) x 150mm (H) space
for BD's approval stamp /
certification of copies of
approved plans
(PNAP ADM-10 APP A)

LEGEND AND NOTES:

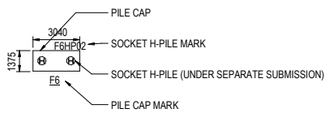
BOUNDARY LINE

BP1 — BORED PILE (UNDER SEPARATE SUBMISSION)

-6.35 — CAP TOP LEVEL (mPD)



PILE CAP
SOCKET H-PILE MARK
SOCKET H-PILE (UNDER SEPARATE SUBMISSION)
PILE CAP MARK



PILE CAP
SOCKET H-PILE MARK
SOCKET H-PILE (UNDER SEPARATE SUBMISSION)
PILE CAP MARK

TB1 (1000x800) — TIE BEAM

(600) / (600) — BASEMENT SLAB (UNDER SEPARATE SUBMISSION)

C1 — COLUMN / WALL ABOVE (UNDER SEPARATE SUBMISSION)

BASEMENT SCREEN WALL (UNDER SEPARATE SUBMISSION)

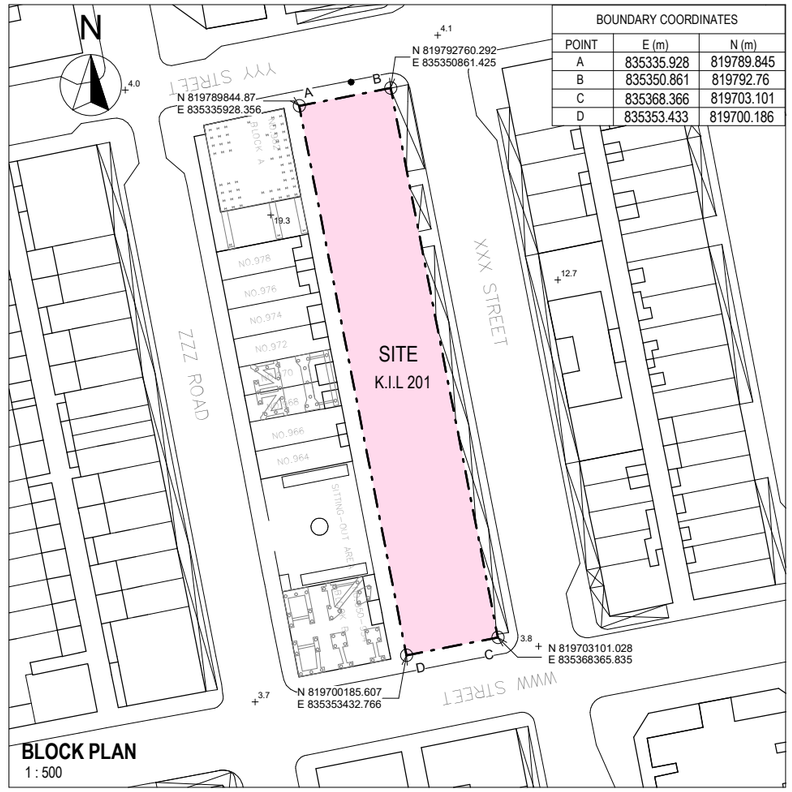
CP1 — PILE CAP (2000mm THICK)
CP1 - PILE CAP MARK

-50 — INFERRED ROCK HEAD LEVEL

BH1(P) — BORED HOLE (WITH PIEZOMETER)
(BH1 (P), BH2 (P) AND BH5 (P)
BH6 (P), BH9 (P) AND BH10 (P) 6NOS.)

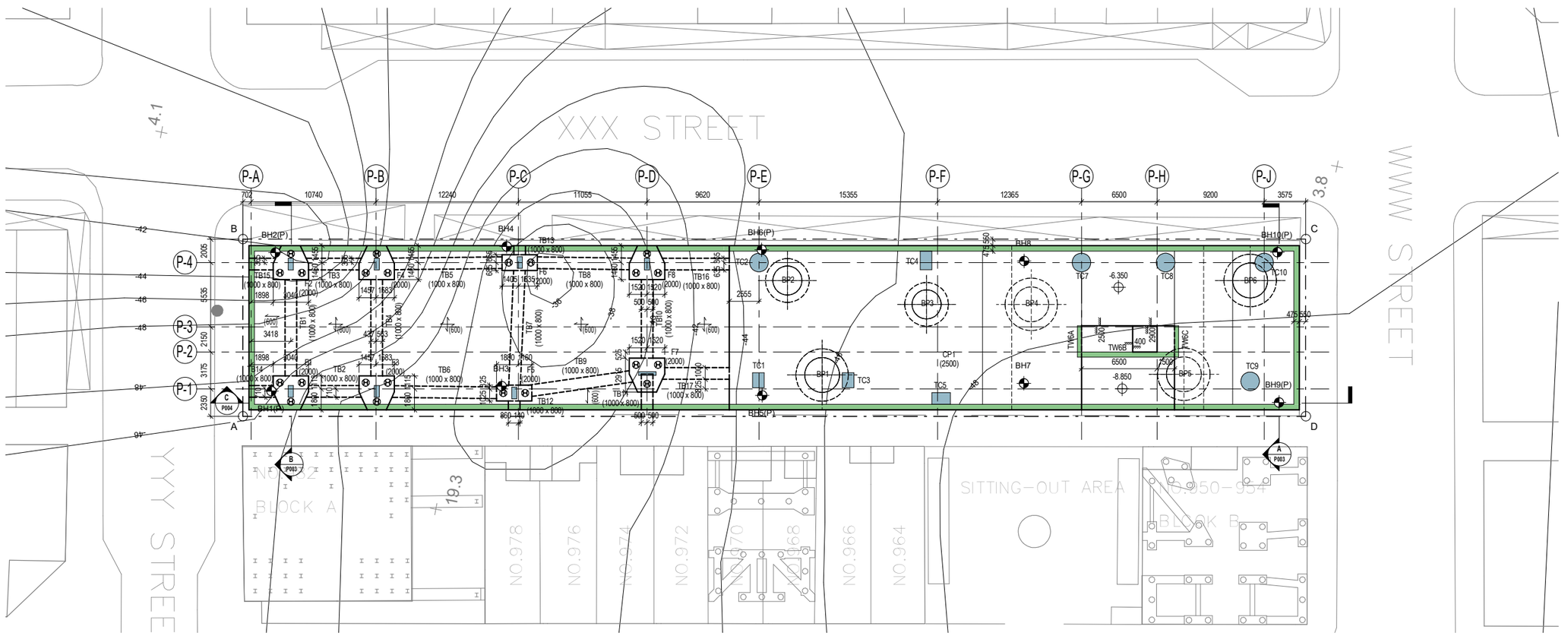
BH2 — BORED HOLE
(BH3, BH4, BH7 AND BH8 4 NOS.)

4.15 — EXISTING GROUND LEVEL



BOUNDARY COORDINATES		
POINT	E (m)	N (m)
A	835335.928	819789.845
B	835350.861	819792.76
C	835368.366	819703.101
D	835353.433	819700.186

BLOCK PLAN
1 : 500



1 PILE CAP LAYOUT PLAN
1 : 200

BD REF :

BIM REF :

REV	DATE	AMENDMENT

PROJECT
CIC SAMPLE PROJECT

DRAWING TITLE
PILE CAP LAYOUT PLAN

SCALE AS SHOWN@A1

DRAWING NO. P013

REV. NO.

SOURCE ---

90mm (W) x 40mm (H) space
for COMPANY LOGO

90mm (W) x 60mm (H) space
for AP/RSE/RGE's
signature/ and stamp chop

BD's OFFICAL USE

90mm (W) x 150mm (H) space
for BD's approval stamp /
certification of copies of
approved plans
(PNAP ADM-10 APP A)

GENERAL NOTES ON PILE CAP

1. ALL DESIGN SHALL COMPLY WITH HONG KONG BUILDING (CONSTRUCTION) REGULATIONS AND THE CODE OF PRACTICE FOR STRUCTURAL USE OF CONCRETE 2013, CODE OF PRACTICE FOR FOUNDATIONS
2. ALL DIMENSIONS ARE IN mm AND ALL LEVEL ARE IN METERS ABOVE PRINCIPAL DATUM UNLESS OTHERWISE STATED.
3. 75mm THICK BLINDING LAYER OF GRADE 10/20 CONCRETE SHALL BE LAID UNDERNEATH ALL PILE CAP
4. ALL REINFORCEMENT SHALL COMPLY WITH BS4449:1997 AND CONSTRUCTION STANDARD, CS2, 1995 'T' INDICATES HIGH TENSILE STEEL, WITH MINIMUM TENSILE STRESS EQUAL TO 500 MPa.
5. CONCRETE FOR ALL PILE CAP SHALL COMPLY WITH CS1:2010 (EXCEPT SECTION 7.1), THE CONCRETE DESIGN MIX SHALL BE GRADE 45D/20 AND MINIMUM CONCRETE COVER SHALL BE 40mm.
6. THE REACTIVE ALKALI OF CONCRETE EXPRESSED AS THE EQUIVALENT SODIUM OXIDE PER CUBIC METER OF OF CONCRETE SHALL NOT EXCEED 3.0kg WHEN DETERMINED IN ACCORDANCE WITH THE SPECIFIED ITEM GIVEN IN APPENDIX A OF PNAP APP-74.
7. ANY ADDITIVE OR ADMIXTURE SHALL COMPLY WITH BS5075 AND SHALL NOT BE USED WITHOUT PRIOR AGREEMENT OF THE ENGINEER.
8. SAMPLES OF ALL MATERIALS USED SHALL BE TESTED & TEST RESULTS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL ALL WORKS, MATERIALS AND TESTING SUCH AS TESTING OF STEEL BAR &CONCRETE CUBES SHALL COMPLY WITH GENERAL SPECIFICATION FOR CIVIL ENGINEERING WORKS 1992 EDITION AND HONG KONG BUILDING (CONSTRUCTION) REGULATIONS UNLESS STATED IN THE DRAWING.
9. DETAILS SETTING OUT OF THE BUILDING SHALL REFER TO BUILDING PLANS.
10. THE CONTRACTOR SHALL CHECK ALL RELEVANT DRAWINGS AND VERIFY LEVELS AND DIMENSIONS IN ADVANCE OF THE WORK AND REPORT ANY DISCREPANCY TO THE ARCHITECT/ENGINEER IMMEDIATELY.
11. THE WIND LOAD OF BUILDING IS BASED ON CODE OF PRACTICE ON WIND EFFECTS HONG KONG 2004.
12. ALL STRUCTURAL DRAWINGS ARE TO BE READ IN CONJUNCTION WITH THE RELEVANT ARCHITECTS AND SERVICES ENGINEER'S DRAWINGS THE CONTRACTOR SHALL CHECK ALL DRAWINGS AND VERIFY LEVELS AND DIMENSIONS IN ADVANCE OF THE WORK AND REPORT ANY DISCREPANCIES TO THE ENGINEER IMMEDIATELY.
13. HIGH TENSILE STEEL BARS (DENOTED BY T) SHALL BE HOT ROLLED TYPE 2 DEFORMED BAR OF GRADE 500 TO CS2-2012. MILD STEEL BARS (DENOTED BY R) SHALL BE PLAIN ROUND GRADE 250 TO CS2-2012. ALL REINFORCEMENT TO BE CUT AND BENT IN ACCORDANCE WITH BS4466.
14. ALLOW SUFFICIENT STEEL CHAIRS TO SUPPORT TOP REINFORCEMENTS IN PILE CAP AND TIE BEAM TO KEEP VERTICAL WALL REINFORCEMENTS IN THEIR CORRECT ALIGNMENTS.
15. UNLESS NOTED OTHERWISE, MINIMUM LAP LENGTHS AND MINIMUM ANCHORAGE LENGTHS OF BEAM BARS AND COLUMN BARS SHALL COMPLY WITH CODE OF PRACTICE FOR STRUCTURAL USE OF CONCRETE 2013 OR BE AS FOLLOW, WHICHEVER IS THE GREATER.

(A) MINIMUM TENSION ANCHORAGE LENGTH (T.A.L.)

HIGH YIELD BAR DIA. (mm.)	DESIGNED MIX (CONC GRADE)
	45D
10	300
12	360
16	480
20	600
25	750
32	960
40	1200

(B) MINIMUM TENSION LAP LENGTH (T.L.L.)

HIGH YIELD BAR DIA. (mm.)		DESIGNED MIX (CONC GRADE)
		45D
10	(L.L.)	300
	(1.4 L.L.)	420
	(2.0 L.L.)	600
12	(L.L.)	360
	(1.4 L.L.)	510
	(2.0 L.L.)	720
16	(L.L.)	480
	(1.4 L.L.)	680
	(2.0 L.L.)	960
20	(L.L.)	600
	(1.4 L.L.)	840
	(2.0 L.L.)	1200
25	(L.L.)	750
	(1.4 L.L.)	1050
	(2.0 L.L.)	1500
32	(L.L.)	960
	(1.4 L.L.)	1350
	(2.0 L.L.)	1920
40	(L.L.)	1200
	(1.4 L.L.)	1680
	(2.0 L.L.)	2400

NOTES :

1. TENSION LAP LENGTH (T.L.) NORMALLY EQUAL TO LAP LENGTH (L.L.)
2. LAP LENGTH FOR UNEQUAL SIZE BARS JULY BE BASED UPON THE SMALLER BAR.
3. (2.0 L.L.) APPEARS ON TOP MOST LAYERS OF STEEL BARS ONLY.

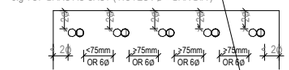
(C) SPECIAL CASE FOR TENSION LAP LENGTH

(a) WHERE A LAP OCCURS AT THE TOP OF A SECTION AS CAST AND THE MINIMUM COVER IS LESS THAN TWICE THE SIZE OF THE LAPPED REINFORCEMENT, THE LAP LENGTH SHOULD BE INCREASED BY A FACTOR OF 1.4.

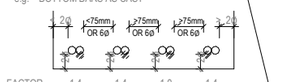
(b) WHERE A LAP OCCURS AT THE CORNER OF A SECTION AND THE MINIMUM COVER TO EITHER FACE IS LESS THAN TWICE THE SIZE OF THE LAPPED REINFORCEMENT OR, WHERE THE CLEAR DISTANCE BETWEEN ADJACENT LAPS IS LESS THAN 75mm OR SIX TIMES THE SIZE OF THE LAPPED REINFORCEMENT, WHICHEVER IS THE GREATER, THE LAP LENGTH SHOULD BE INCREASED BY A FACTOR OF 1.4.

(c) IN CASE WHERE BOTH CONDITIONS (a) & (b) APPLY, THE LAP LENGTH SHOULD BE INCREASED BY A FACTOR OF 2.0.

e.g TOP BARS AS CAST (NOTES : Ø = BAR DIA)



e.g. BOTTOM BARS AS CAST



16. THE PILE CAP DESIGN IS ADOPTED BY FLEXIBLE CAP ASSUMPTION.
17. THE CONCRETE COVER TO REINFORCEMENT BAR OF PILE CAP SHALL BE 40mm.
18. PULVERISED FUEL ASH (PFA) WILL BE USED AS A PARTIAL CEMENT REPLACEMENT IN CONCRETE OF PILE CAP:
    (a) PFA AS A SEPARATE CONSTITUENT MAY BE USED ONLY WITH OPC AND SHOULD COMPLY WITH BS3892 : PART I : 1982, EXCEPT THAT THE CRITERION FOR MAXIMUM WATER REQUIREMENT MAY NOT APPLY;
    (b) BLENDED CEMENT CONTAINING PFA SHOULD COMPLY WITH BS6588:1985 AND HAVE A NOMINAL PFA CONTENT NOT EXCEEDING 25%;
    (c) THE PFA CONTENT SHOULD NOT EXCEED 25% BY MASS OF THE CEMENTITIOUS CONTENT (OPC PLUS PFA) OF THE CONCRETE.

NOTES ON PROTECTION OF EARTHWORKS AGAINST HEAVY RAINFALL

1. SURFACE WATER FLOWING INTO AND OUT OF THE SITE SHALL BE INTERCEPTED AND CONDUCTED FORM THE SITE TO A SAFE DISCHARGE POINT AT EACH INTERSECTION AND ABRUPT CHANGE IN DIRECTION OF SURFACE CHANNEL, ACCESSIBLE CATCHPIT SHALL BE PROVIDED ALL DRAINAGE WORKS SHALL BE KEPT CLEAR OF DEBRIS.
2. WHERE PARTIALLY COMPLETED DRAINAGE WORKS DISCHARGE WITHIN THE SITE A TEMPORARY CONDUIT SHALL BE PROVIDED TO THE DISCHARGE POINT.
3. DURING EXCAVATION A METHOD OF WORKING SHALL BE ADOPTED IN WHICH THE MINIMUM OF BARE SOIL IS EXPOSED AT ANY TIME. EXCAVATION TO FORM THE FINAL FACE SHALL BE FOLLOWED UP IMMEDIATELY WITH SURFACE PROTECTION AND DRAINAGE WORKS.
4. WHERE TEMPORARY BARE EARTH SLOPE FACES ARE UNAVOIDABLE. THEY SHALL BE PROTECTED WITH HEAVY DUTY SHEETING ADEQUATELY SECURED AT THE EDGES, SEALED AT THE CREST, AND LAPPED AT JOINTS WHERE SLOPE FACES ARE TO BE TEMPORARILY EXPOSED FOR MORE THAN TWO WEEKS, TEMPORARY DRAINS SHALL BE INSTALLED IN ADDITION TO SURFACING.

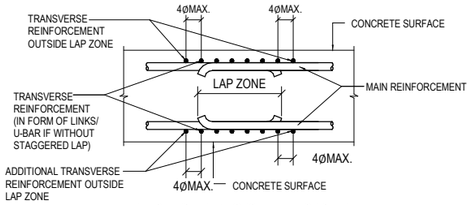
NOTES ON COMPACTED BACKFILL (FOR INFORMATION ONLY)

1. FILL MATERIAL SHALL BE GRADED, CONTAINING NO PARTICLES COARSER THAN 200mm AND THE PERCENTAGE BY MASS PASSING 75mm BS TEST SIEVE SHALL BE 75% TO 100%.
2. FILL MATERIAL SHALL BE PLACED IN LAYERS OF NOT MORE THAN 300mm THICK, AND EACH LAYER SHALL BE COMPACTED TO NOT LESS THAN 95% MAXIMUM DRY DENSITY.
3. FILL MATERIALS SHALL BE AT OPTIMUM MOISTURE CONTENT DURING COMPACTION THE TOLERANCE ON THE OPTIMUM MOISTURE CONTENT PERCENTAGE SHALL BE 3%, PROVIDED THAT THE FILL MATERIAL IS STILL CAPABLE OF BEING COMPACTED IN ACCORDANCE WITH THE SPECIFIED REQUIREMENTS.
4. COMPACTION OF THE SOFT FILL SHALL BE PERFORMED IN ACCORDANCE WITH THE REQUIREMENT STIPULATED IN CLAUSE 6.46 - 6.48 OF GENERAL SPECIFICATION FOR CIVIL ENGINEERING WORKS, PNAP APP-8 AND PNAP APP-64.
5. FILL MATERIAL SHALL BE APPROVED BY THE ENGINEER.
6. IF THE FRACTION OF FILL MATERIAL PASSING A 420 MICRO SIEVE IS PLASTIC, THE LIQUID LIMIT SHALL NOT EXCEED 45% AND THE PLASTIC LIMIT SHALL NOT EXCEED 20%.
7. THE MAXIMUM DRY DENSITY AND OPTIMUM MOISTURE CONTENT SHALL BE DETERMINED IN ACCORDANCE WITH GEO REPORT NO 36 TEST NO 4.3.3 EACH SOIL TYPE SHALL BE TESTED WHEN FIRST USED AND THEREAFTER AT THE SAME TIME AS EVERY SET OF FIELD DENSITY TESTS RECORDS SHALL SHOW CLEARLY SOIL TYPE, TEST LOCATION AND ELEVATION IN mPD FOR EACH TEST TOGETHER WITH THE MAXIMUM DRY DENSITY AND OPTIMUM MOISTURE CONTENT RESULTS.
8. THE INSITU FIELD DENSITY AND MOISTURE CONTENT SHALL BE DETERMINED IN ACCORDANCE WITH GEO REPORT NO 36 TEST NO 9.2.1 AND PNAP APP-8.
9. ONLY LABORATORIES ACCREDITED UNDER HOKLAS FOR THE RELEVANT TESTS SHALL BE EMPLOYED IN ACCORDANCE WITH PNAP APP-64 AND THE TEST RESULTS SHALL BE ISSUED ON HOKLAS-ENDORSED TEST CERTIFICATES OR REPORTS.

DETAILS OF MINIMUM TRANSVERSE REINFORCEMENT IN LAP ZONE

TALBE : TRANSVERSE REINFORCEMENT

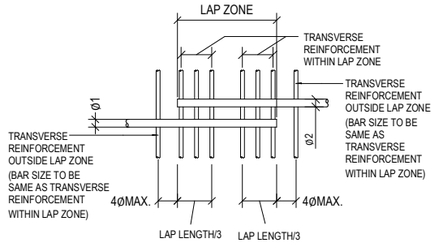
MAIN REINFORCEMENT AT LAP (THE SMALLER OF Ø1 OR Ø2)	TRANSVERSE REINFORCEMENT REQUIRED WITHIN LAP ZONE			
	(WITH STAGGERED LAP)	(WITHOUT STAGGERED LAP)		
		1.0TL	1.4TL	2.0TL
< 20	NO EXTRA REQUIREMENT			
20	4T10	2x3T10-100	2x3T10-125	2x4T10-125
	3T12			
25	5T12	2x3T12-125	2x4T10-100	2x5T10-125
32	11T10	2x4T12-150	2x5T12-125	2x6T12-150
	8T12			
40	16T10	2x6T12-100	2x6T12-125	2x7T12-150
	12T12			
50	25T10	2x5T16-125	2x5T16-150	2x9T12-200
	18T12			



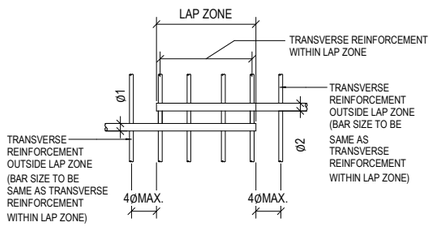
TRANSVERSE REINFORCEMENT FOR SLAB

NOTES :

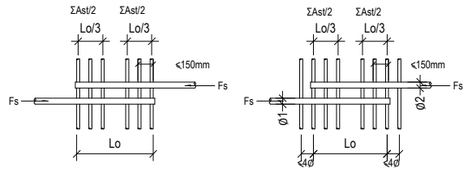
1. Ø IS THE SMALLER OF Ø1 AND Ø2
2. TRANSVERSE REINFORCEMENT SHOULD BE PLACE PERPENEDICULAR TO THE DIRECTION OF THE LAPPED REINFORCEMENT AND BETWEEN THAT AND THE SURFACE OF THE CONCRETE
3. TRANSVERSE REINFORCEMENT SHALL INCLUDE HORIZONTAL BARS BARS OF WALL, BINDERS OF COLUMN OR SHEAR LINKS OF BEAM



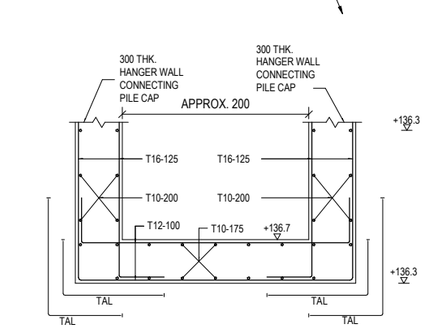
WITHOUT STAGGERED LAP
(N.T.S)



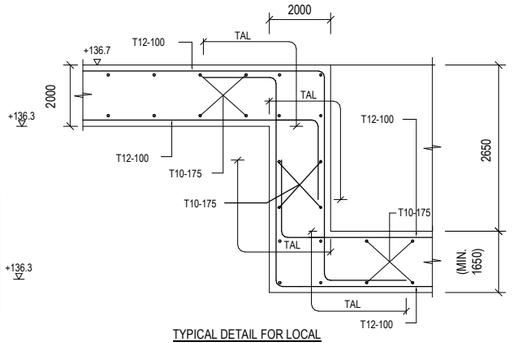
WITH STAGGERED LAP
(N.T.S)



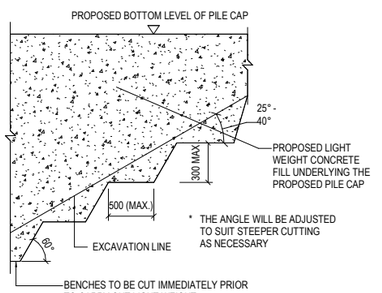
TRANSVERSE REINFORCEMENT IN LAP ZONE (FOR OUTER MOST REBAR)
(N.T.S)



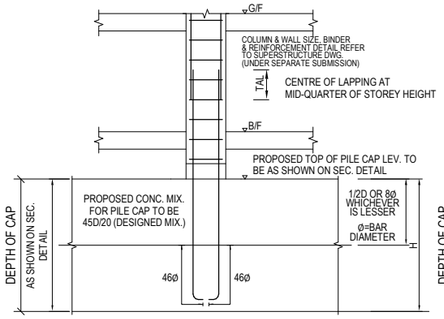
TYPICAL DETAILS OF LIFT PIT SLAB (800)
(N.T.S)



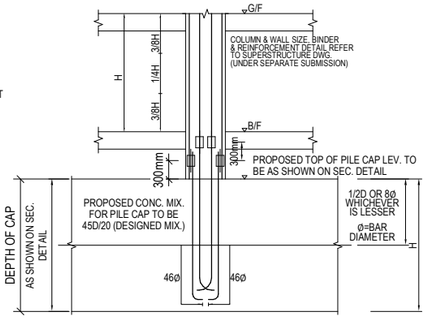
TYPICAL DETAIL FOR LOCAL SUMP PIT AT LIFT PIT
(N.T.S)



DETAILS OF BENCHING UNDERLYING THE PILE CAP
(N.T.S)

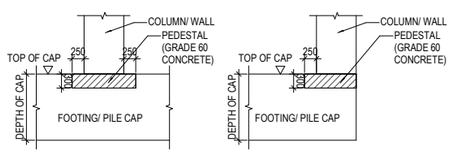


TYPICAL DETAIL FOR COLUMN & WALL STARTER BAR
(FOR INFORMATION ONLY)
(N.T.S)

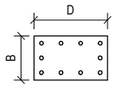


TYPICAL DETAIL FOR TYPE 2 STARTER BAR
(N.T.S)

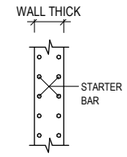
SYMBOL: (THE COUPLER FOR COLUMN AND WALL STARTER SHALL BE "BOSA" DUCTILITY COUPLER)



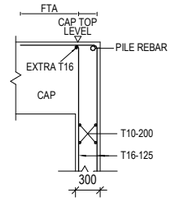
DETAIL OF PEDESTAL FOR COLUMN/ WALL
(N.T.S)



TYPICAL ARRANGEMENT OF STARTER BAR DETAIL FOR COLUMN
(N.T.S)
* CONCRETE COVER FOR STARTER BAR TO BE 40mm.



TYPICAL ARRANGEMENT OF STARTER BAR DETAIL FOR WALL
(N.T.S)



TYPICAL DETAIL DETAILS BETWEEN HANGER WALL AND PILE CAP
(N.T.S)

BD REF :

BIM REF :

REV	DATE	AMENDMENT

PROJECT
CIC SAMPLE PROJECT

DRAWING TITLE
GENERAL NOTES FOR PILE CAP

SCALE 1 : 100@A1

DRAWING NO. P014

REV. NO.

SOURCE ---

90mm (W) x 40mm (H) space for COMPANY LOGO

90mm (W) x 60mm (H) space for AP/RSE/RGE's signature/ and stamp chop

BD's OFFICAL USE

90mm (W) x 150mm (H) space for BD's approval stamp / certification of copies of approved plans (PNAP ADM-10 APP A)

METHOD STATEMENT FOR DEMOLITION WORK:

1. GENERAL
   - 1.1 DEMOLITION WORKS SHALL COMPLY WITH BUILDING (DEMOLITION WORKS) REGULATIONS, BS6187:82, CONSTRUCTION SITE (SAFETY) REGULATIONS, THE GUIDELINES AND REQUIREMENTS SET OUT IN PNAP71 AND CODE OF PRACTICE FOR DEMOLITION OF BUILDINGS 2004.
   - 1.2 ALL STRUCTURES TO BE DEMOLISHED BY ORDINARY HAND-HELD TOOLS.
   - 1.3 POWERED MECHANICAL PLANTS MAY BE EMPLOYED AND RESTED AT SOLID GROUND TO HELP REMOVAL OF DEBRIS AT G/F.
   - 1.4 DEMOLITION SHALL BEGIN ON THE ROOF AND PROCEED DOWN FLOOR BY FLOOR TO THE GROUND FLOOR. THE CONCRETE OF EACH STRUCTURAL ELEMENT SHALL BE BROKEN DOWN GRADUALLY. THE REINFORCEMENT SHALL BE LEFT IN PLACE UNTIL THE CONCRETE IS BROKEN AWAY AND WHEN ITS SUPPORT IS NO LONGER NEEDED.
   - 1.5 THE DEMOLITION OF EACH STRUCTURAL ELEMENT SHALL BE PERFORMED ACCORDING TO THE DETAILS AS SHOWN ON DEMOLITION PLANS.
   - 1.6 BEFORE DEMOLITION WORKS, THE PROPPING UNDERNEATH CANTILEVER BEAMS IF ANY SHALL BE INSTALLED.
   - 1.7 BEFORE DEMOLITION WORKS, ALL UNAUTHORIZED STRUCTURES SHALL BE REMOVED.
   - 1.8 THE CONTRACTOR SHOULD VERIFY THE STRUCTURE WITH THE LATEST STRUCTURE APPROVED PLANS (INCLUDING A&A WORKS) BEFORE COMMENCEMENT OF THE DEMOLITION WORKS. WHERE CONDITIONS ON SITE REVEALED SITUATION AND ARRANGEMENT DIFFERENT FROM THE AVAILABLE INFORMATION, OR HAVING ANY POTENTIAL INSTABILITY, THE CONTRACTORS SHOULD SEEK OPINION AND ADVICE FROM AP/RSE BEFORE PROCEED.
   - 1.9 GROUND FLOOR SLAB TO BE
   - 1.10 ALL SCAFFOLDING WORKS SHOULD STRICTLY FOLLOW THE GUIDANCE NOTES OF CODE OF PRACTICE FOR BAMBOO SCAFFOLDING SAFETY AND GUIDANCE NOTES TO RENOVATION SAFETY ISSUED BY LABOUR DEPARTMENT.

2. DEMOLITION SEQUENCE (TOP DOWN - BY MANUAL METHOD)
   - 2.1 DEMOLITION SEQUENCE SHALL BE DETERMINED ACCORDING TO THE ACTUAL SITE CONDITIONS, RESTRAINTS, ORIGINAL BUILDING LAYOUT AND ITS CONSTRUCTION. IN GENERAL, THE FOLLOWING SEQUENCE SHALL APPLY:
     - (i) ALL CANTILEVERED STRUCTURE CANOPIES, AND VERANDAHS SHALL FIRST BE DEMOLISHED PRIOR TO THE DEMOLITION OF MAIN BUILDING AND ITS INTERNAL STRUCTURES ON EACH FLOOR;
     - (ii) THE STRUCTURAL ELEMENTS, IN GENERAL, SHALL BE DEMOLISHED IN THE FOLLOWING SEQUENCE:
       - SLAB
       - SECONDARY BEAMS, THEN
       - INTERNAL PRIMARY BEAMS
     - (iii) ALL DEMOLITION WORKS TO BE CARRIED OUT FLOOR BY FLOOR.
     - (iv) THE PERIPHERAL ELEMENT OF THE BUILDING SHALL BE DEMOLISHED IN ACCORDANCE WITH THE DEMOLITION SEQUENCE OF PERIPHERAL ELEMENTS.
     - (v) THE INTERNAL ELEMENT, INCLUDING BEAMS AND COLUMNS SHALL BE DEMOLISHED BY GRADUALLY BREAKING DOWN THE CONCRETE OR BY PULLING THEM DOWN IN A CONTROLLED MANNER.
     - (vi) THE ABOVE PROCEDURES SHALL BE REPEATED (IF NECESSARY) FOR DEMOLITION DOWN TO THE LOWEST FLOOR AT GROUND LEVEL.

3. PRIOR TO COMMENCEMENT OF THE DEMOLITION WORK AN ASBESTOS INVESTIGATION SURVEY SHALL BE CARRIED OUT BY A SPECIALIST ASBESTOS CONSULTANT FIRM TO DETERMINE ANY ASBESTOS BASED PRODUCTS WHICH MAY EXIST.

DEMOLITION SEQUENCE:

1. REMOVE THE UBW WORKS UNDER MINOR WORKS IF APPLICABLE.
2. PRIOR TO THE DEMOLITION WORKS, THE HOARDING SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE HOARDING PLANS UNDER SEPARATE SUBMISSION.
3. THE TWO-STORIES PROPPING SHOULD BE PROVIDED PRIOR TO START OF DEMOLITION WORK.
4. REMOVE ALL UBW STRUCTURES.
5. DEMOLITION SEQUENCE OF ROOF FLOOR:
   - a. PARAPETS, STAIRHOOD AND OTHER STRUCTURES ABOVE ROOF FLOOR LEVEL;
   - b. EXTERIOR WALLS LINKING THE CANTILEVERED STRUCTURE AT ROOF FLOOR;
   - c. CANTILEVER SLABS OR CANOPY AT ROOF FLOOR;
   - d. REMAINING SLAB AT ROOF FLOOR;
   - e. NON-LOAD BEARING WALLS BETWEEN ROOF AND FLOOR BELOW ROOF FLOOR;
   - f. SECONDARY BEAMS AT ROOF FLOOR;
   - g. MAIN BEAMS AT ROOF FLOOR;
   - h. COLUMNS AND LOAD BEARING WALLS BETWEEN ROOF AND FLOOR BELOW ROOF.
6. DEMOLITION OF SUBSEQUENT FLOORS BELOW ROOF FLOOR:
   - a. PARAPETS, STAIRHOOD AND OTHER STRUCTURES ABOVE FLOOR LEVEL IF APPLICABLE;
   - b. EXTERIOR WALLS LINKING THE CANTILEVERED STRUCTURES IF APPLICABLE;
   - c. CANTILEVERED SLABS OR CANOPY;
   - d. REMAINING SLABS;
   - e. NON-LOAD BEARING WALLS BETWEEN THE FLOOR AND THE FLOOR BELOW;
   - f. SECONDARY BEAMS;
   - g. MAIN BEAMS;
   - h. COLUMNS AND LOAD BEARING WALLS BETWEEN THE FLOOR AND THE FLOOR BELOW.

DEMOLITION OF CANTILEVER STRUCTURE:

1. PROPPINGS SHALL BE INSTALLED FOR ALL CANTILEVERED STRUCTURES PRIOR TO COMMENCEMENT OF DEMOLITION WORKS.
2. NO STRUCTURAL MEMBER SHALL BE REMOVED ABOVE THAT FLOOR CAN BE DEMOLISHED PRIOR TO THE DEMOLITION OF THE CANTILEVER STRUCTURE AT THAT FLOOR.
3. THE EXTERIOR WALL CONNECTED SHALL BE DEMOLISHED FIRST WITH THE CANTILEVER SLAB.
4. ANY STRUCTURE OR DEAD LOAD SUPPORTED BY THE CANTILEVERED SYSTEM SHALL BE REMOVED PRIOR TO DEMOLISHING THE CANTILEVER SLAB.
5. THE CONCRETE SHALL BE BROKEN DOWN GRADUALLY STARTING FROM THE EXTERIOR EDGE OF THE CANTILEVER FLOOR, WORKING INWARD AND TOWARD ITS SUPPORTING BEAMS.

DEMOLITION OF BRICK IN-FILL WALL:

TO AVOID ANY POTENTIAL HAZARD OF BRICKS FALLING OUT OF THE BUILDING, ALL THE BRICK IN-FILL SHALL BE REMOVED BY PUSHING INWARD, BEFORE DISMANTLING THE REINFORCED CONCRETE FRAMING. WORKING PLATFORMS OUTSIDE THE BUILDING SHALL BE FOR REMOVAL OF THE BRICK IN-FILL WALLS. BRICK REMOVAL SHALL BEGIN FROM THE TOP LAYER DOWNWARDS. THE WORKS SHALL BE CARRIED OUT LAYER BY LAYER WITH EACH LAYER NOT LARGER THAN 300mm.

PRECAUTIONARY MEASURES:

1. HOARDING (SUBMITTED SEPARATELY)
   THE HOARDING SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE HOARDING PLANS UNDER SEPARATE SUBMISSION.
2. TEMPORARY SUPPORT
   STEEL PROPPING SHALL HAVE A WORKING CAPACITY OF 25kN PER PROP. THE PROPS SHALL BE BRACED WITH LATERAL RESTRAINTS IN AT LEAST TWO DIRECTIONS.
3. EXISTING UTILITIES
   ALL EXISTING UTILITIES SHALL BE TERMINATED. SEWER SERVICE AND DRAINAGE CONNECTIONS SHALL BE PROPERLY DISCONNECTED AND SEALED OFF AT LAST MANHOLE. CONTRACTOR SHALL ASSIST THE CLIENT TO COORDINATE WITH UTILITY COMPANIES FOR ALL SERVICE TERMINATION.
4. NOTIFICATION TO AP/RSE FOR ANOMALIES OR IRREGULARITIES OBSERVED
   - 4.1 THE FRAMING PLANS ARE RECORDED ON SITE. PRIOR TO THE DEMOLITION WORK, THE CONTRACTOR SHOULD CARRY OUT A DETAILED INSPECTION TO VERIFY THE ACCURACY OF THE INFORMATION AS SHOWN. WHERE CONDITIONS ON SITE REVEALED SITUATION AND ARRANGEMENT DIFFERENT FROM NORMAL OR HAVING ANY POTENTIAL HAZARDS. THE CONTRACTOR SHOULD SEEK OPINION AND ADVICE OF AP/RSE BEFORE PROCEEDING FURTHER.
   - 4.2 THE CONTRACTOR SHOULD EXAMINE AND IDENTIFY FOR THEMSELVES OF THE NATURE OR TAIL LOADING OF ANY CANTILEVER CONSTRUCTION SUCH AS BALCONIES, HEAVY CORNICES OR STAIRCASES. IF UNCERTAIN, AP/RSE ADVICE SHOULD BE SOUGHT. GENERALLY, ALL CANTILEVER CONSTRUCTION SHOULD BE PROPPED PRIOR TO THE ACTUAL DEMOLITION.
   - 4.3 THE CONTRACTOR SHOULD NOTIFY THE AP/RSE DURING THE COURSE OF DEMOLITION WORKS, THE FOLLOWING DEFECTS, IF ANY
     - (i) STRUCTURAL DEFORMATION;
     - (ii) CRACK; AND
     - (iii) CORROSION OF REINFORCEMENT
5. DEBRIS HANDLING
   - 5.1 ANY EXISTING FURNITURE, WOOD FLOORS, DOOR FRAMES, WINDOWS, PIPING SHALL BE SORTED AND REMOVED SEPARATELY.
   - 5.2 DEMOLITION DEBRIS SHALL BE PICKED UP ON GROUND FLOOR AND CARRIED AWAY BY DUMP TRUCKS. DEBRIS CLEARING AND TRANSPORTATION SHALL BE SCHEDULED TO MAINTAIN THE FOLLOWING CONDITIONS:
     - (i) DEBRIS ACCUMULATION ON THE COCKLOFT OR FIRST FLOOR OR ABOVE SHALL NOT BE HIGHER THAN 100mm.
     - (ii) DEBRIS ACCUMULATION ON THE GROUND FLOOR SHALL NOT EXCEED 1m.
     - (iii) NO DEBRIS SHALL BE ALLOWED TO ACCUMULATE ON THE CANTILEVER STRUCTURES.
6. SPECIAL SITE SAFETY
   - 6.1 EMERGENCY EXIT
     THE EXISTING STAIRCASE SHALL BE USED AS EMERGENCY ROUTE. THE EMERGENCY ROUTE SHALL BE MAINTAINED THROUGHOUT THE DEMOLITION PROCESS. THE ROUTE SHALL BE CLEARED OF OBSTRUCTION AT ALL TIME. SIGNS OR MARKINGS SHALL BE INSTALLED TO CLEARLY IDENTIFY THE ROUTE.
   - 6.2 PROTECTION OF OPENINGS
     THE CONTRACTOR SHOULD ENSURE THAT EVERY WORK PLACE AND APPROACH AND ALL OPENINGS DANGEROUS TO PERSONS EMPLOYED AND OTHERS BE PROPERLY ILLUMINATED AND PROTECTED. SATISFACTORY MEASURES SHALL BE PROVIDED TO AVOID PERSONS FALLING FROM HEIGHT.
   - 6.3 FIRE PREVENTION
     - (i) FIRE EXTINGUISHER OR FIRE FIGHTING EQUIPMENT SHALL BE PLACED IN VISIBLE LOCATIONS, ADJACENT TO THE STAIRCASE, ON EACH FLOOR. ALL FLAMMABLE MATERIALS SHALL BE STORED IN A SAFE LOCATION IN ACCORDANCE WITH THE FACTORIES AND INDUSTRIAL UNDERTAKING REGULATIONS.
   - 6.4 DUST AND NOISE
     - (i) WATER SPRAYING SHALL BE APPLIED TO SUPPRESS THE DUST GENERATED DURING THE DEMOLITION OPERATION AND DEBRIS HAULING.
     - (iii) SUPER SILENCED TYPE AIR COMPRESSOR SHALL BE USED. DEMOLITION WORKS SHALL NOT BE PERFORMED WITHIN THE RESTRICTED HOURS FROM 1900 HRS TO 0700 HRS ON ALL DAY AND FROM 0700 HRS TO 1900 HRS ON GENERAL HOLIDAYS INCLUDING SUNDAY, OR AS PER EPD'S REQUIREMENT.
   - 6.5 TRAINING
     ALL SITE PERSONNEL SHALL GO THROUGH A TRAINING PROGRAM TO UNDERSTAND THE PROJECT AND SITE SAFETY REQUIREMENTS. THE TRAINING PROGRAM SHALL BE CONDUCTED BY A COMPETENT TRAINER. THE TRAINING PROGRAM SHALL INCLUDE THE FOLLOWING:
     - (i) AN INDUCTION TRAINING COURSE AT THE BEGINNING OF THE JOB TO CIRCULATE INFORMATION ON THE PROPOSED METHOD AND REQUIRED SAFETY MEASURES TO PERFORM THE WORK.
     - (ii) DAILY SAFETY MEETINGS TO MAINTAIN AND REINFORCE THE SAFETY CONCEPT.
   - 6.6 TYPHOON
     IN THE CASE WHEN TYPHOON SIGNAL NO. 3 IS HOISTED, THE CONTRACTOR SHALL INSPECT ALL EXTERNALLY EXPOSED TEMPORARY WORK AND STRENGTHEN ANY LOOSE CONNECTIONS. AFTER THE TYPHOON, ALL EXTERNALLY EXPOSED TEMPORARY WORKS SHALL BE INSPECTED AND CONFIRMED TO BE SAFE BY THE COMPETENT AND EXPERIENCED PERSON.

7. MAINTENANCE AND INSPECTION
   - 7.1 THE DEMOLITION WORKS SHALL BE SUPERVISED BY AUTHORIZED PERSON, REGISTERED STRUCTURAL ENGINEER, REGISTERED SPECIALIST CONTRACTOR AND THEIR TECHNICALLY COMPETENT PERSON IN ACCORDANCE WITH THE SITE SAFETY SUPERVISION PLAN LODGED WITH BUILDING AUTHORITY.
   - 7.2 ALL THE PRECAUTIONARY MEASURES AND TEMPORARY SUPPORTS SHALL BE INSPECTED BY THE CONTRACTOR ON A DAILY BASIS. ANY ACCUMULATION OF BUILDING DEBRIS ON THE CATCH FANS AND CATCH PLATFORMS SHALL BE REMOVED. ANY DEFICIENCY SHALL BE REPAIRED WHEN FOUND NECESSARY. THE INSPECTION AND REPAIR RECORDS SHALL BE PROVIDED TO THE AP AND RSE.
   - 7.3 BEFORE LEAVING THE JOB SITE EACH DAY, THE CONTRACTOR SHALL IDENTIFY AND RECTIFY ANY UNSAFE CONDITIONS SUCH AS PARTIALLY DEMOLISHED STRUCTURAL ELEMENTS AND DAMAGED TEMPORARY SUPPORTS.
   - 7.4 THE BAMBOO SCAFFOLDING SHALL BE INSPECTED AND MAINTAINED IN ACCORDANCE WITH WITH THE CODE OF PRACTICE FOR BAMBOO SAFETY AND THE CONSTRUCTION SITE (SAFETY) REGULATIONS BY THE CONTRACTOR.
8. EMERGENCY PLAN
   - 8.1 EMERGENCY TELEPHONE NUMBERS SHALL BE CLEARLY DISPLAYED IN A CONSPICUOUS LOCATION. IN THE EVENT OF ANY EMERGENCY OR ACCIDENT, THE CONTRACTOR SHALL NOTIFY THE POLICE AND FIRE SERVICES DEPARTMENTS FOR ASSISTANCE. THE CONTRACTOR SHALL ALSO NOTIFY THE AP AND RSE IMMEDIATELY.
   - 8.2 AT THE INITIAL WARNING OF A TYPHOON OR A MAJOR STORM EVENT, THE FOLLOWING SHALL BE PERFORMED:
     - 8.2.1 CONTRACTOR SHALL SECU
     - 8.2.2 ALL FLAMMABLE MATERIALS, OXYGEN AND ACETYLENE BOTTLES SHALL BE REMOVED OR SECURED IN A SAFE LOCATION.
     - 8.2.3 NO UNSTABLE AND/OR PARTIALLY DEMOLISHED STRUCTURAL ELEMENTS SHALL BE BRACED AND SECURED.
9. POST DEMOLITION
   - 9.1 UPON COMPLETION OF THE DEMOLITION, THE SITE SHALL BE LEVELLED AND CLEARED OF DEBRIS.
   - 9.2 IN THE CASE OF NO IMMEDIATE REDEVELOPMENT, THE SITE BOUNDARY SHALL BE COMPLETELY ENCLOSED TO PREVENT PUBLIC ACCESS.
   - 9.3 DAMAGE TO PAVEMENT, FOOTPATH AND OTHER ELEMENTS WITHIN THE RIGHT OF WAY SHALL BE REPAIRED TO ITS ORIGINAL CONDITION PRIOR TO THE COMPLETION OF THE DEMOLITION PROJECT.
   - 10. SITE SUPERVISION
     - 10.1 SITE STAFF RESPONSIBLE FOR SUPERVISION AND CONTROL OF DEMOLITION SHALL BE EXPERIENCED IN THE DEMOLITION OF BUILDINGS SIMILAR TO THOSE TO BE DEMOLISHED.
     - 10.2 THE CONTRACTOR SHALL PROVIDE THE FOLLOWING MINIMUM SITE SUPERVISION REQUIREMENTS:
       - (i) A FULL-TIME SITE ENGINEER WHO SHALL BE REGISTERED PROFESSIONAL ENGINEER, IN THE STRUCTURAL, CIVIL OR BUILDING DISCIPLINE AND SHALL BE DIRECTLY RESPONSIBLE TO THE CONTRACTOR DURING DEMOLITION OF CANTILEVER STRUCTURES.
       - (ii) EXPERIENCED FOREMAN WHO SHALL BE FULL-TIME ON SITE. EACH FOREMAN SHALL BE RESPONSIBLE AND SUPERVISE THE DEMOLITION WORKS FOR EACH ZONE OF THE DEMOLITION WORKS.
       - (iii) SITE SUPERVISION REQUIREMENTS AS STIPULATED IN THE LATEST VERSION OF THE DEMOLITION CODE AND BUILDING (DEMOLITION WORKS) REGULATION.

NOTES ON UBW:

1. UBW SHALL BE REMOVED UNDER
   SUPERVISION UPON ISSUANCE OF THE DEMOLITION CONSENT AS INDICATED ON PLANS.

NOTES ON DEBRIS MANAGEMENT SYSTEM:

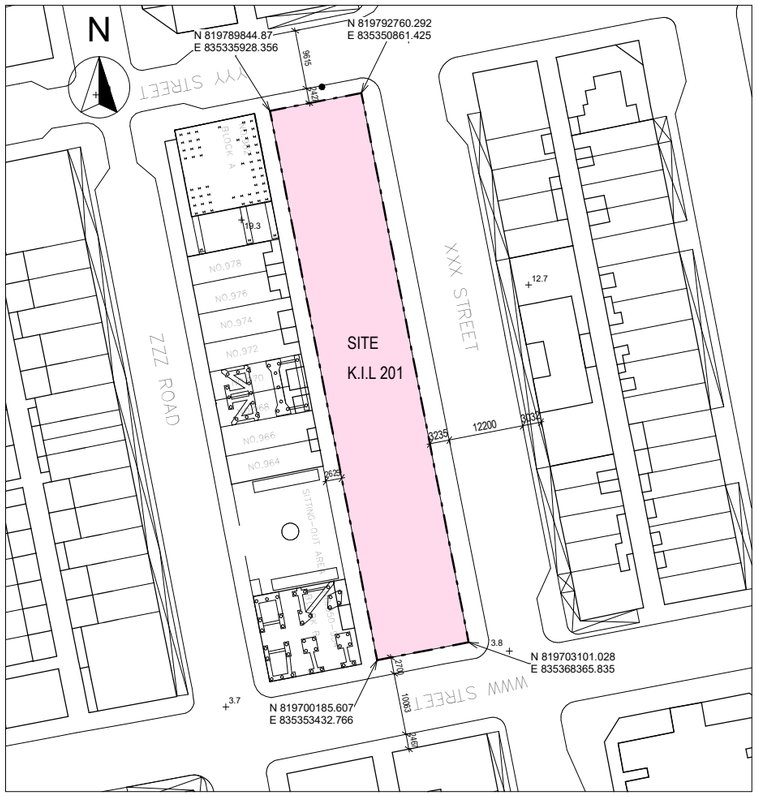
1. DEBRIS MUST BE DISPOSED OF PROMPTLY. A DEBRIS DISPOSAL AND MANAGEMENT SYSTEM SHALL BE PREPARED AND IMPLEMENTED BY THE RSC TO THE SATISFACTION OF AP / RSE. THE DEBRIS DISPOSAL AND MANAGEMENT SYSTEM SHOULD LAY DOWN THE FOLLOWING DETAILS:
   - 1.1 METHOD OF HANDLING DEMOLISHED BUILDING DEBRIS;
   - 1.2 THE ROUTING AND MOVEMENT OF DEBRIS FROM EACH FLOOR TO ON GRADE HOLDING AREA PRIOR TO LEAVING THE SITE;
   - 1.3 MEANS OF TRANSPORTATION OF DEBRIS OFF THE SITE;
   - 1.4 TIME AND FREQUENCY OF
   - 1.5 RECORD SCHEME ON THE TONNAGE OF EACH TRUCK LOAD, TRUCK LICENSE PLATE, DRIVER'S NAME, TRIP TICKETS AND LOCATION OF DUMP SITE; AND
   - 1.6 THE SITE SUPERVISORY PERSONNEL RESPONSIBLE FOR THE DEBRIS MANAGEMENT SYSTEM.
2. DETAILS OF THE DEBRIS DISPOSAL AND MANAGEMENT SYSTEM SHALL BE SUBMITTED TO THE BUILDINGS DEPARTMENT TOGETHER WITH THE SITE SAFETY SUPERVISION PLAN PRIOR TO OR AT THE TIME OF CONSENT APPLICATION.

NOTES ON SITE VIDEO CAMERA:

1. VIDEO CAMERA TO RECORD THE ENTIRE DEMOLITION PROCESS SHALL BE PROVIDED. THE VIDEO CAMERA SHALL BE SECURELY PROTECTED FROM BEING TEMPERED WITH SO THAT THE ENTIRE DEMOLITION PROCESS INCLUDING THE MOVEMENT OF DEBRIS AND THE OVERALL SEQUENCE OF DEMOLITION CAN BE RECORDED. FOR
   VIDEO CAMERA REFERS TO DEMOLITION PLAN. THE VIDEO CAMERA RECORDS SHALL BE KEPT BY THE RSE FOR AT LEAST 14 DAYS.

NOTES ON BEAM PLUS:

1. DEMOLITION WORKS AND RELEV
   BUILDING ENVIRONMENTAL ASSESSMENT METHOD (BEAM) PLUS V1.2 REQUIREMENT.



BLOCK PLAN
1 : 500

BD REF :

BIM REF :

REV	DATE	AMENDMENT

PROJECT
CIC SAMPLE PROJECT

DRAWING TITLE
GENERAL NOTES FOR DEMOLITION

SCALE

DRAWING NO. D001

REV. NO.

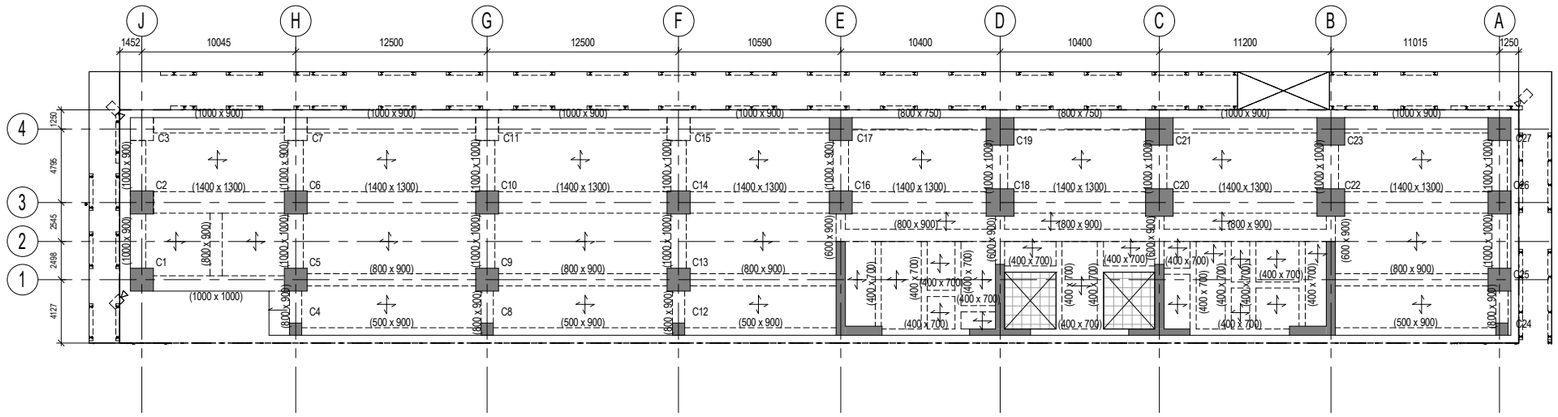
SOURCE ---

90mm (W) x 40mm (H) space for COMPANY LOGO

90mm (W) x 60mm (H) space for AP/RSE/RGE's signature/ and stamp chop

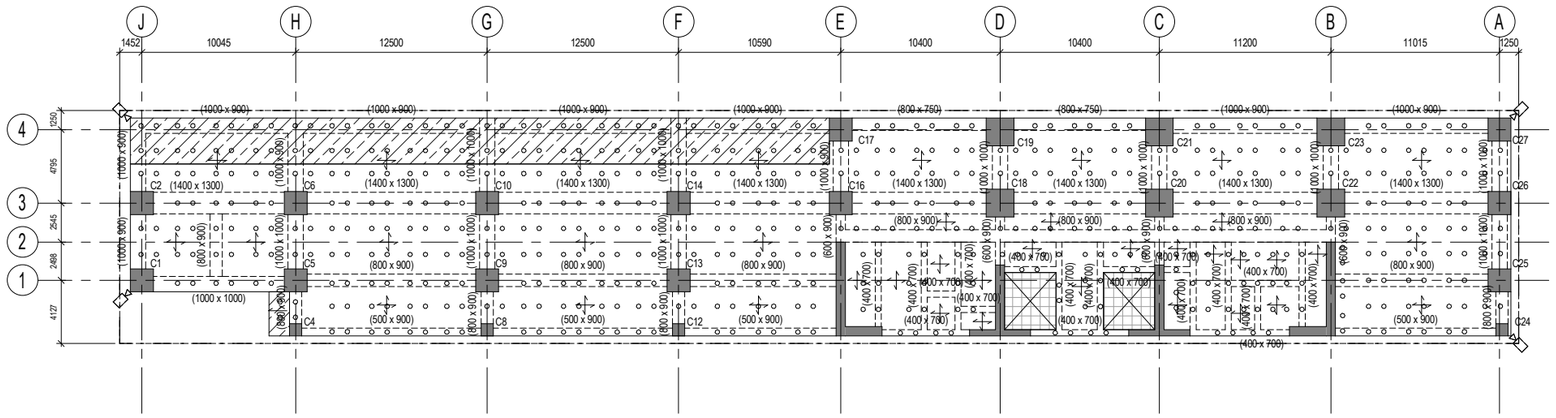
BD's OFFICAL USE

90mm (W) x 150mm (H) space for BD's approval stamp / certification of copies of approved plans (PNAP ADM-10 APP A)



1 DEMOLITION PLAN - EXISTING G/F FRAMING PLAN

1 : 200



2 DEMOLITION PLAN - EXISTING 1/F AND TYPICAL FLOOR FRAMING PLAN

1 : 200

LEGEND:

- TEMPORARY STEEL PROP AT 1200mm c/c UNDER
- PROPOSED DEBRIS CHUTE
- CANTILEVER STRUCTURE
- SITE BOUNDARY
- CONCRETE FOOTING
- VIDEO CAMERA

BD REF :

BIM REF :

REV	DATE	AMENDMENT
1	Date 1	Revision 1

PROJECT
CIC SAMPLE PROJECT

DRAWING TITLE
DEMOLITION PLAN - EXISTING G/F, 1/F FRAMING PLAN

SCALE AS SHOWN@A1

DRAWING NO. D002

REV. NO. 1

SOURCE ---

90mm (W) x 40mm (H) space
for COMPANY LOGO

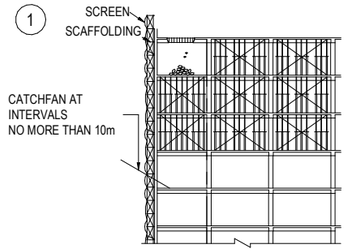
90mm (W) x 60mm (H) space
for AP/RSE/RGE's
signature/ and stamp chop

BD's OFFICAL USE

90mm (W) x 150mm (H) space
for BD's approval stamp /
certification of copies of
approved plans
(PNAP ADM-10 APP A)

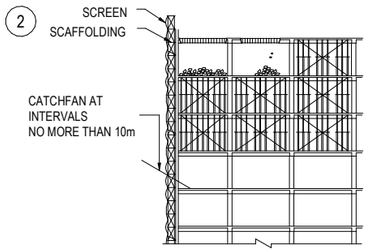
TYPICAL SEQUENCE OF TOP DOWN METHOD
WITH HAND HELD TOOLS

1



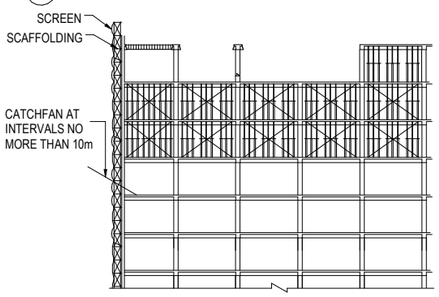
1. DEMOLITION OF SLABS AND BEAMS.

2



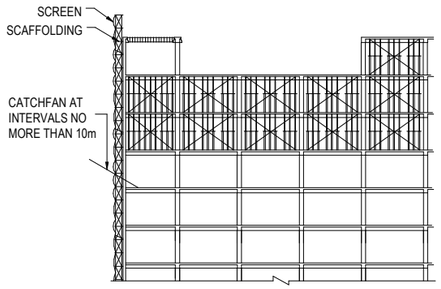
2. CONTINUE DEMOLITION OF SLABS AND BEAMS.

3



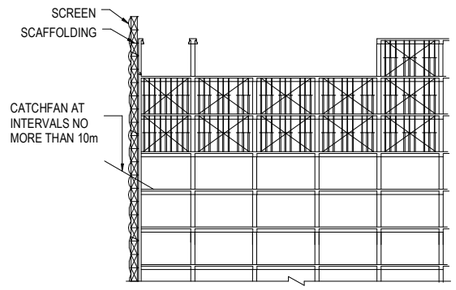
3. DEMOLITION OF INTERIOR COLUMN MAY BE NEEDED TO CREATE ACCESS AND WORKING ROOM FOR EXTERIOR WALL DEMOLITION. DEMOLISH COLUMN BY FIRST PRE-WEAKENING THE BOTTOM. THEN THE FRAME SHALL BE PULLED DOWN AND CONTROLLED MOTION IMMEDIATELY AFTER THE REINFORCING STEEL IS CUT AT THE DISCONNECTING POSITIONS.

4



4. DEMOLITION OF EXTERNAL WALL CUTTING SHOULD BE CAREFUL TO MINIMIZE DEBRIS FALLING OUTSIDE.
5. CUTTING THE EXTERIOR WALL IN SECTIONS AND COLUMNS. CUTTING SHOULD BE CAREFUL TO MINIMIZE DEBRIS FALLING OUTSIDE.

5



6. WHILE CUTTING THE REINFORCEMENT BARS CONNECTING THE WALL SECTION. THE WALL SHOULD BE TIED TO INTERIOR COLUMN OR BEAM. THE WALL SECTION / COLUMN SHALL BE PULLED DOWN IN A CONTROLLED MOTION.
7. DEMOLITION OF SLABS AND BEAMS OF THE REMAINING BLOCK.
8. DEMOLISH COLUMN AND WALLS OF THE REMAINING BLOCK.

BD REF :

BIM REF :

REV	DATE	AMENDMENT

PROJECT
CIC SAMPLE PROJECT

DRAWING TITLE
DEMOLITION DETAILS (BY HAND HELD TOOLS)

SCALE

DRAWING NO. D003 REV. NO.

SOURCE ---

90mm (W) x 40mm (H) space
for COMPANY LOGO

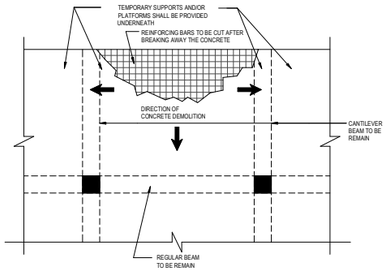
90mm (W) x 60mm (H) space
for AP/RSE/RGE's
signature/ and stamp chop

BD's OFFICAL USE

90mm (W) x 150mm (H) space
for BD's approval stamp /
certification of copies of
approved plans
(PNAP ADM-10 APP A)

DEMOLITION OF R.C. SLAB (MANUAL METHOD)

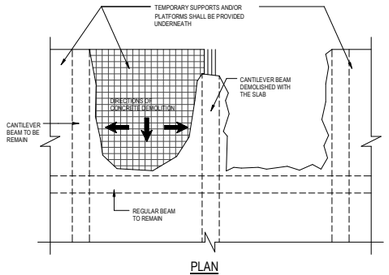
1. ENSURE ALL LOADS OTHER THAN SELF-WEIGHT, ARE REMOVED FROM SLABS. FOR CANTILEVER SLAB, THE EXTERIOR WALL OR PARAPET SHALL BE DEMOLISHED FIRST.
2. THE SLAB SHALL BE DEMOLISHED BY GRADUALLY BREAKING AWAY THE CONCRETE.
3. THE REINFORCEMENT SHALL REMAIN AND BE CUT OFF AFTER THE CONCRETE IS BROKEN AWAY.



PLAN

CANTILEVER SLAB

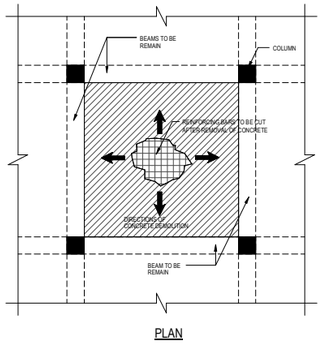
1. TEMPORARY SUPPORTING STRUCTURES AND/OR CATCH PLATFORM SHALL BE PLACE DIRECTLY UNDERNEATH THE CANTILEVER STRUCTURE AS PRECAUTION MEASURES, (SEE SECTION REFER TO SEPARATE DRG.)
2. THE CONCRETE SHALL BE BRAKEN DOWN GRADUALLY STARTING FROM THE EXTERIOR EDGE OF THE CANTILEVER FLOOR, WORKING INWARDS AND TOWARDS ITS SUPPORTING BEAM.



PLAN

CANTILEVER SLAB AND BEAM

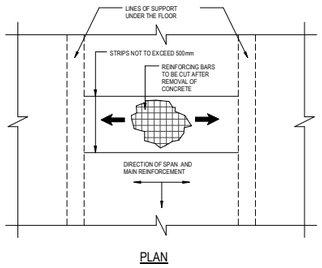
THE CANTILEVER BEAM SHALL BE DEMOLISHED AFTER THE DEMOLITION OF THE CONNECTING FLOOR SLAB. DEMOLITION OF THE CANTILEVER BEAM SHALL NOT ADVANCE FURTHER THAN THE SLAB SO THAT THE SUPPORT FOR THE SLAB IS ALWAYS MAINTAINED.



PLAN

TWO WAY SLAB

DEMOLITION OF SLAB SHALL BEGIN IN THE MIDDLE OF THE SLAB AND ADVANCE TOWARDS THE SIDES IN 4 DIRECTIONS.



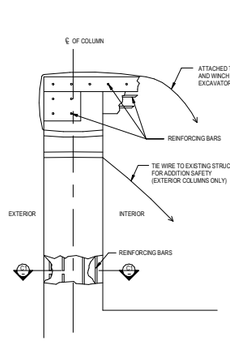
PLAN

ONE WAY SLAB

1. THE BREAKING OF CONCRETE SHALL BEGIN AT UNSUPPORTED END AND PROCEED IN STRIPS NOT EXCEEDING 500mm PERPENDICULAR TO THE LINKS OF SUPPORT.
2. THE STRIPS SHALL BE DEMOLISHED FROM THEIR CENTRE TOWARDS IN BOTH DIRECTION.

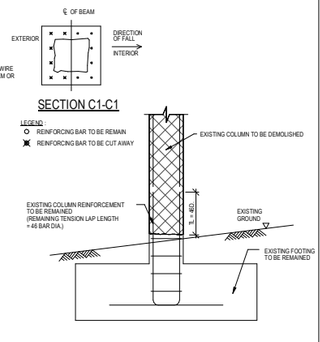
PRE-WEAKENING AND DISMANTLING OF R.C. COLUMN (MANUAL METHOD)

NOTES:-
1. SECURE THE COLUMN BY WIRE & WINCH TO EXISTING STRUCTURE
2. PRE-WEAKENING AT THE BOTTOM OF COLUMN BY HAND HELD TOOLS.
   i) BREAK AWAY THE CONCRETE TO EXPOSE THE REINFORCING BARS.
   ii) CUT THE REINFORCING BARS AT THE EXTERIOR HALF OF THE COLUMN. CUTTING SHALL BE PERFORMED IMMEDIATELY PRIOR TO PULLING.
3. PULLING DOWN THE COLUMN IN A CONTROLLED MOTION.



DEMOLITION OF R.C. COLUMN

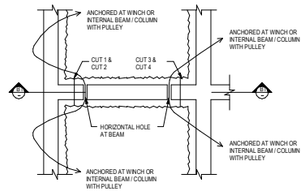
ALL COLUMN, EITHER EXTERIOR OR INTERIOR MAY BE PRE-WEAKENED AT THE BOTTOM OF COLUMN, PULLED DOWN ONTO BUILDING FLOOR FOR FURTHER BREAKEN.



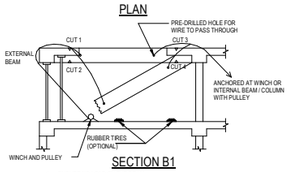
TYPICAL DETAIL OF DEMOLITION COLUMN ABOVE GROUND

DEMOLITION OF R.C. BEAM (MANUAL METHOD)

1. BEAMS MAY BE DEMOLISHED BY GRADUALLY BREAKING AWAY THE CONCRETE. THE REINFORCEMENT SHALL REMAIN AND CUT OFF AFTER THE CONCRETE IS BROKEN AWAY.
2. ALTERNATIVELY, THE ENTIRE BEAM SECTION MAY BE DISMANTLED AND LOWER ONTO THE FLOOR LEVEL FOR FURTHER BREAKDOWN.



PLAN

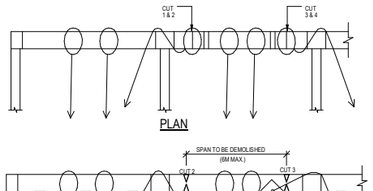


SECTION B1

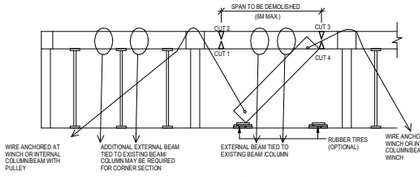
1. ENSURE NO LOAD ON THE BEAM.
2. TIE THE BEAM TO BE DEMOLISHED (TO DETAILS AS SHOWN)
3. EXPOSE REINFORCEMENTS AT BOTH ENDS OF THE BEAM.
4. CUT REINFORCEMENTS AT POSITIONS CUT 1, CUT 2, AND CUT 3.
5. LOWER THE BEAM AT EXTERNAL END. ONTO BUILDING FLOOR IN A CONTROLLED MANNER.
6. CUT REINFORCEMENTS AT CUT 4 AND LOWER THE BEAM COMPLETELY.

NOTE : THE TIE WIRE ARE INDICATIVE. IF THERE ARE PERMANENT ANCHORS OR LIFTING MACHINES AVAILABLE, TIE WIRE ARRANGEMENTS MAY BE SIMPLIFIED TO SUIT.

DEMOLITION OF SECONDARY BEAM



PLAN

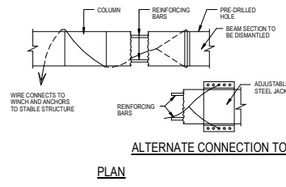


ELEVATION

1. PROP ALL SPAN OF EXTERNAL BEAM .
2. TIE THE SPAN OF BEAM TO DEMOLISHED. (REFER TO DETAILS AS SHOWN)
3. REMOVE PROPS AT SPAN TO BE DEMOLISHED.
4. EXPOSE ALL REINFORCEMENT AT CUT 1 TO CUT 4.
5. CUT REINFORCEMENT AT CUT 1, CUT 2, AND CUT 3.
6. LOWER THE END AT CUT 1 & CUT 2 ONTO BLDG. FLOOR IN A CONTROLLED MANNER.
7. CUT REINFORCEMENT AT CUT 4.
8. LOWER THE OTHER END OF BEAM IN A CONTROLLED MANNER.

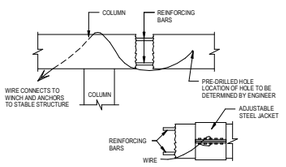
NOTE : THE TIE WIRE ARE INDICATIVE. IF THERE ARE PERMANENT ANCHORS OR LIFTING MACHINES AVAILABLE TIE WIRE ARRANGEMENTS MAY BE SIMPLIFIED TO SUIT.

DEMOLITION OF MAIN BEAM



ALTERNATE CONNECTION TO BEAM

PLAN

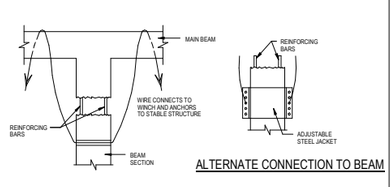


ALTERNATE CONNECTION TO BEAM

ELEVATION

NOTES :
THE TIE WIRE ARRANGEMENT IS ILLUSTRATION PURPOSE. IT MAY BE SIMPLIFIED TO SUIT DEPENDING ON THE AVAILABILITY OF STRUCTURAL ANHOR.

DETAILS FOR SECURING EXTERNAL BEAMS BEFORE DISMANTLING

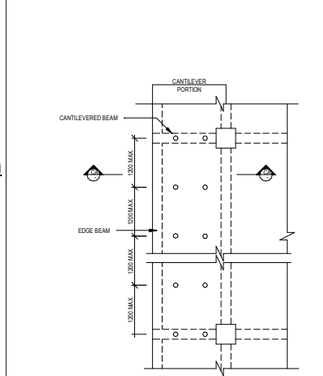


ELEVATION

ALTERNATE CONNECTION TO BEAM

NOTES :
THE TIE WIRE ARRANGEMENT IS ILLUSTRATION PURPOSE. IT MAY BE SIMPLIFIED TO SUIT DEPENDING ON THE AVAILABILITY OF STRUCTURAL ANHOR.

DETAILS FOR SECURING SECONDARY BEAMS BEFORE DISMANTLING

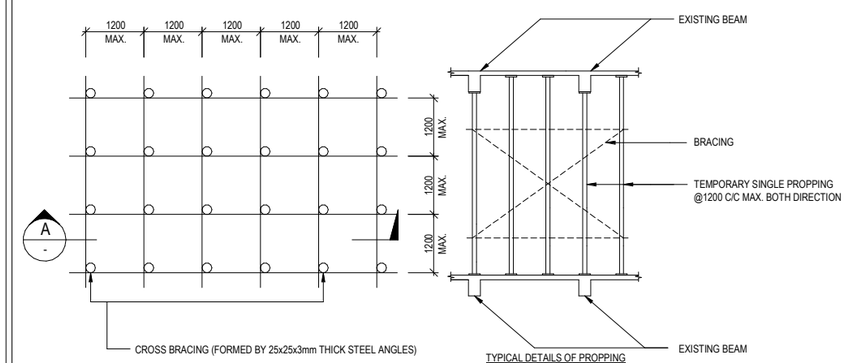


TYPICAL PLAN AT CANTILEVER

(MIN. SUPPORT CAPACITY = 25 kN/LEG)

SECTION CA

TYPICAL SECTION AT CANTILEVER



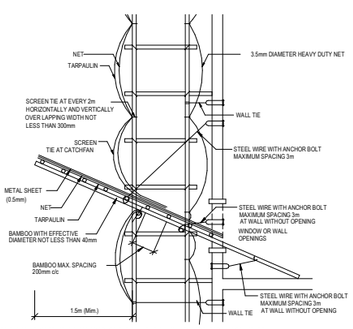
TYPICAL PLAN FOR PROPPING

N.T.S.

TYPICAL DETAILS OF PROPPING

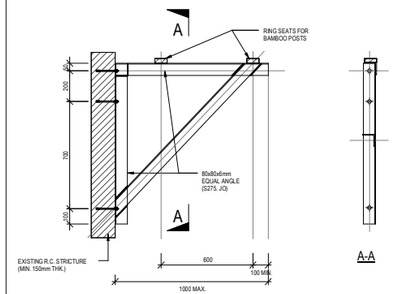
N.T.S.

ALL PROPS SHALL HAVE CAPACITY OF 25kN PER LEG WITH BRACING AT REQUIRED SPACING TO MANUFACTURER'S RECOMMENDATION



TYPICAL DETAIL FOR BAMBOO CATCHFAN & SCREEN COVER

NOTES :
1. BAMBOO FOR THE CONSTRUCTION OF SCAFFOLD, AND CATCHFAN SHALL HAVE AN EFFECTIVE DIAMETER NOT LESS THAN 40mm.
2. METAL SHEET, NET AND TARPAULIN SHALL BE FASTENED TO THE BAMBOO DECK AT 4 CORNERS OF THE SHEET OR AT SPACING NO LESS THAN 1.5m APART WHICHEVER IS LESS.



TYPICAL DETAIL FOR STEEL BRACKET

* ALL JOINTS TO BE 5mm F.W. ALL ROUND

A-A

NOTES ON ANCHOR BLOTS:
1. ANCHOR BLOTS SHALL BE INSTALLED STRICTLY IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATION

TYPE	MIN. EMBEDMENT TO SOUND CONCETS (mm)	MIN. SPACING (mm)	MIN. EDGE DISTANCE (mm)	RECOMMENDED LOAD		TEST LOAD TENSION (KN)
				TENSION (KN)	SHEAR (KN)	
HST M12	70	60	75	4.0	11.7	6.0

BD REF :

BIM REF :

REV	DATE	AMENDMENT

PROJECT
CIC SAMPLE PROJECT

DRAWING TITLE
DETAIL FOR DEMOLITION WORKS (1 OF 2)

SCALE

DRAWING NO. D004

REV. NO.

SOURCE ---

90mm (W) x 40mm (H) space for COMPANY LOGO

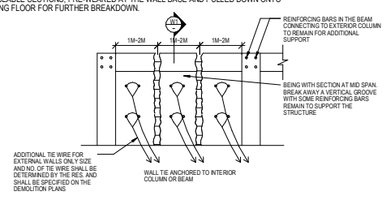
90mm (W) x 60mm (H) space for AP/RSE/RGE's signature/ and stamp chop

BD's OFFICAL USE

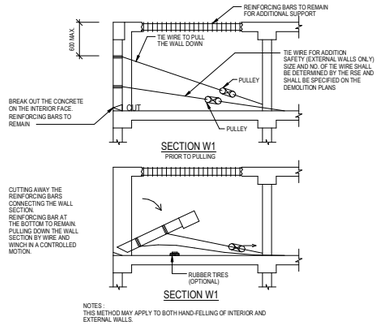
90mm (W) x 150mm (H) space for BD's approval stamp / certification of copies of approved plans (PNAP ADM-10 APP A)

FELLING OF R.C. WALL (MANUAL METHOD)

1. REINFORCEMENT CONCRETE WALLS MAY BE DEMOLISHED BY CUTTING DOWN THE WALL INTO MANAGEABLE SECTIONS. PRE-WEAKED AT THE WALL BASE AND PULLED DOWN ONTO BUILDING FLOOR FOR FURTHER BREAKDOWN.

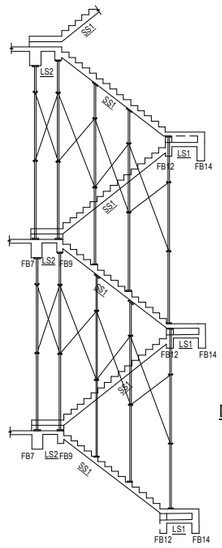


EXTERNAL R.C. WALL (VIEW FROM INSIDE)



NOTES :
THIS METHOD MAY APPLY TO BOTH HAND-FELLING OF INTERIOR AND EXTERNAL WALLS.

FELLING OF REINFORCED CONCRETE WALL



SEQUENCE FOR DEMOLITION OF STAIRCASE:

1. ERECT THE STEEL PROPS AT 1.2m c/c MAX. IN BOTH DIRECTION UNDERNEATH THE STAIRCASE BEFORE DEMOLITION.
2. DEMOLITION OF STAIR FLIGHT SS1 OF STAIRCASE.
3. DEMOLITION OF UPPER LANDING LS2
4. DEMOLITION OF LOWER LANDING LS1
5. DEMOLITION THE SUPPORTING BEAM FB9&FB12
6. THE MAIN BEAM FB7 AND FB14 SHALL BE DEMOLISHED UNTIL DEMOLISHED ALL THE SUPPORTING MEMBER.

DEMOLITION SEQUENCE OF STAIRCASE

BD REF :

BIM REF :

REV	DATE	AMENDMENT

PROJECT
CIC SAMPLE PROJECT

DRAWING TITLE
DETAIL FOR DEMOLITION WORKS (2 OF 2)

SCALE

DRAWING NO. D005

REV. NO.

SOURCE ---

90mm (W) x 40mm (H) space for COMPANY LOGO

90mm (W) x 60mm (H) space for AP/RSE/RGE's signature/ and stamp chop

BD's OFFICAL USE

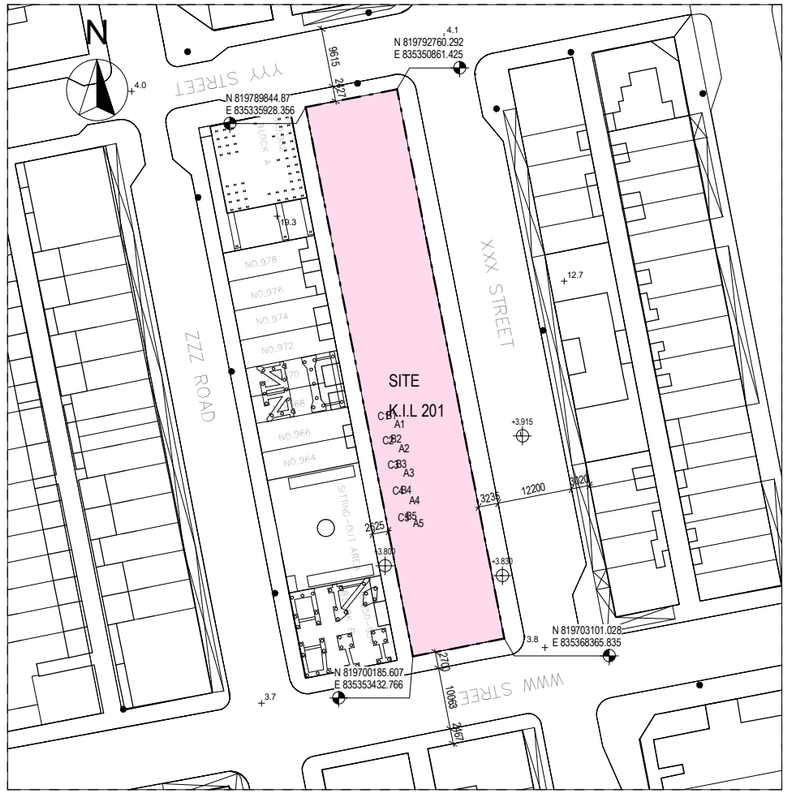
90mm (W) x 150mm (H) space for BD's approval stamp / certification of copies of approved plans (PNAP ADM-10 APP A)

LEGEND:

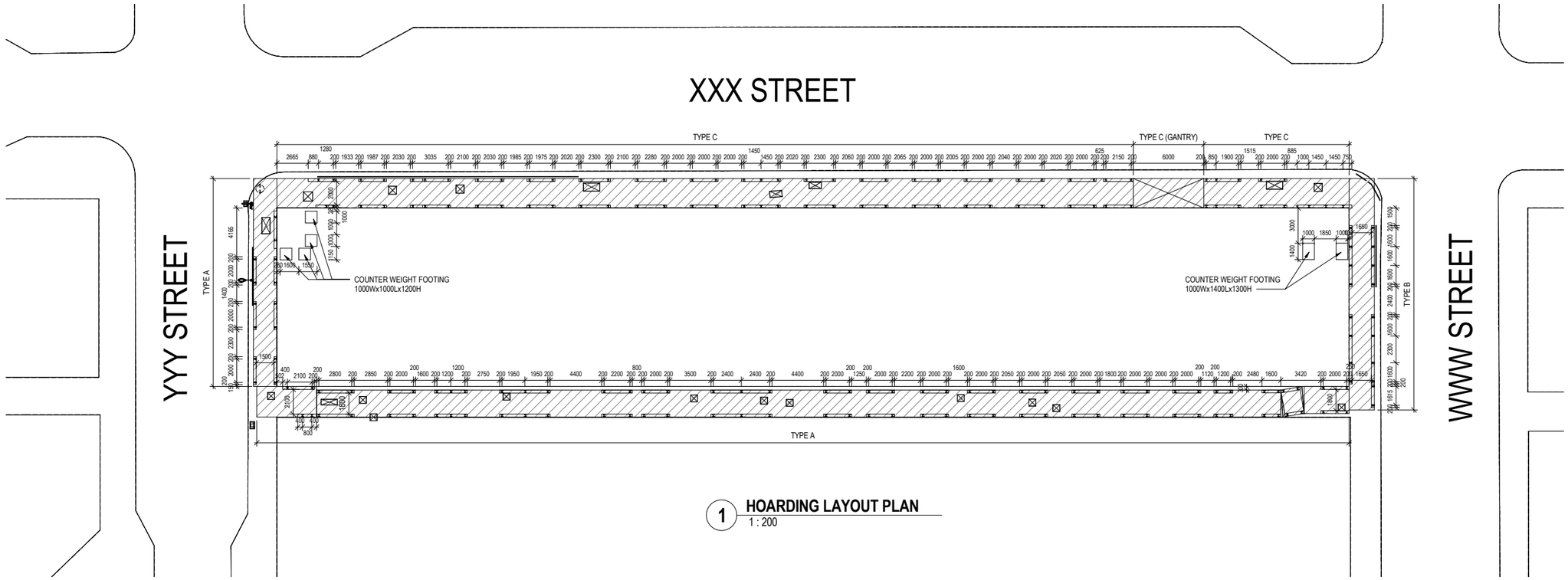
PROPOSED COVERED WALKWAY	STREET LIGHT
PROPOSED GANTRY	TRAFFIC LIGHT
CONCRETE FOOTING	PILLAR BOX
SITE BOUNDARY	FIRE HYDRANT
MANHOLE	PEDESTRIAN RAILING

SCHEDULE SHOWING WIDTH OF THE WALKWAY

STREET/LINE	ROAD/STREET WIDTH	PAVEMENT WIDTH	CLEAR WIDTH OF WALKWAY	REMARKS
XXX STREET	18.5 m	2.5 m	2.0 m	-
SERVICE LANE	N.A.	2.6 m	1.8 m	-
YYY STREET	15.0 m	2.4 m	1.5 m	-
WWW STREET	15.2 m	2.5 m	1.65 m	-



BLOCK PLAN
1 : 500



1 HOARDING LAYOUT PLAN
1 : 200

REV	DATE	AMENDMENT
1	Date 1	Revision 1

BD REF :

BIM REF :

PROJECT
CIC SAMPLE PROJECT

DRAWING TITLE
HOARDING LAYOUT PLAN

SCALE AS SHOWN@A1

DRAWING NO. H001

REV. NO. 1

SOURCE ---

90mm (W) x 40mm (H) space
for COMPANY LOGO

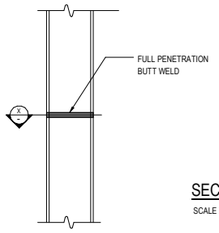
90mm (W) x 60mm (H) space
for AP/RSE/RGE's
signature/ and stamp chop

BD's OFFICAL USE

90mm (W) x 150mm (H) space
for BD's approval stamp /
certification of copies of
approved plans
(PNAP ADM-10 APP A)

MEMBER SIZE:

CONCRETE FOORING (TYPE 1 TO V) REBAR SIZE, SPACING	T10 @ 250 BW
C1	152 x 152 x 23 kg/m UC
C2	203 x 203 x 46 kg/m UC
B1	152 x 89 x 16 kg/m UB
B2	203 x 133 x 25 kg/m UB
B3	254 x 146 x 31 kg/m UB
B4	457 x 191 x 74 kg/m UB
B5	178 x 102 x 19 kg/m UB
SB1,MB1	305 x 165 x 54 kg/m UB
CH1	127 x 64 x 12.9 kg/m CHANNEL @ 300c/c
CH2	76 x 38 x 6.7 kg/m CHANNEL @ 600c/c
SP1	6mm STEEL PLATE IF GRADE S275 OR EQUIVALENT
SP2	3mm STEEL PLATE IF GRADE S275 OR EQUIVALENT
STIFFENER PLATE	6mm STEEL PLATE IF GRADE S275 OR EQUIVALENT

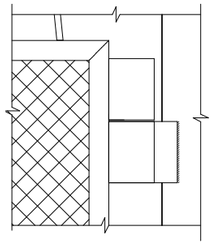


CONNECTION DETAIL OF STEEL POST

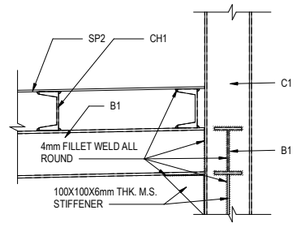
SCALE 1:10

SECTION X

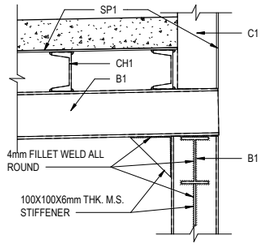
SCALE 1:10



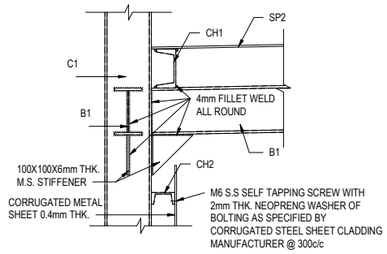
DETAIL 2
1 : 10



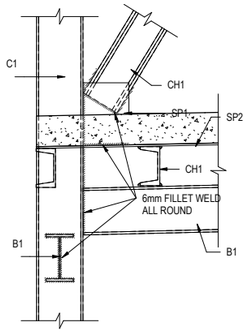
DETAIL 3
1 : 10



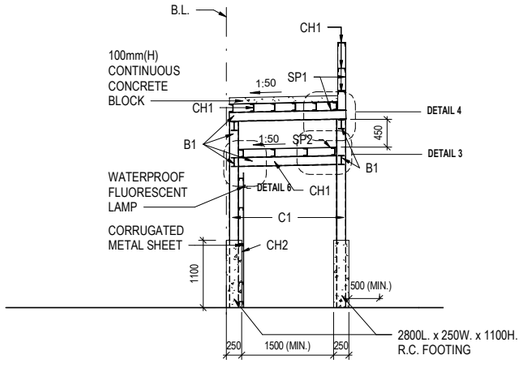
DETAIL 4
1 : 10



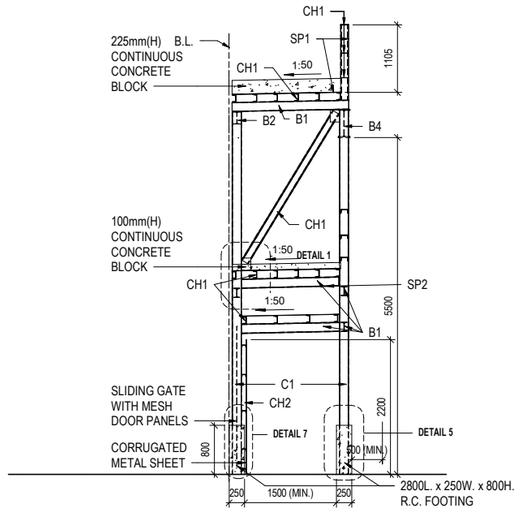
DETAIL 6
1 : 10



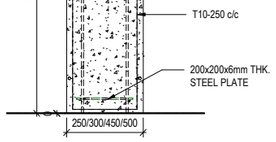
DETAIL 1
1 : 10



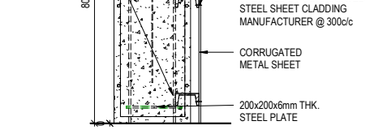
1 TYPICAL SECTION OF HOARDING TYPE C
1 : 50



2 TYPICAL SECTION OF GANTRY TYPE C
1 : 50



DETAIL 5
1 : 10



DETAIL 7
1 : 10

A ELEVATION OF COVERED WALKWAY & GANTRY
1 : 50

BD REF :

BIM REF :

REV	DATE	AMENDMENT

PROJECT
CIC SAMPLE PROJECT

DRAWING TITLE
HOARDING TYPICAL DETAILS

SCALE AS SHOWEN@A1

DRAWING NO. H002

REV. NO.

SOURCE ---

90mm (W) x 40mm (H) space for COMPANY LOGO

90mm (W) x 60mm (H) space for AP/RSE/RGE's signature/ and stamp chop

BD's OFFICAL USE

90mm (W) x 150mm (H) space for BD's approval stamp / certification of copies of approved plans (PNAP ADM-10 APP A)

GENERAL NOTES:

1. ALL DIMENSIONS ARE IN mm AND LEVELS IN mPD.
2. ALL DESIGN SHALL COMPLY WITH HONG KONG BUILDING (CONSTRUCTION) REGULATION 1990 EDITION AND STRUCTURAL DESIGN OF STEEL IS IN ACCORDANCE WITH THE CODE OF PRACTICE FOR THE STRUCTURAL USE OF STEEL 2011.
3. THIS SET OF DRAWINGS SHALL BE READ IN CONJUNCTION WITH THE FOUNDATION PLAN.
4. THE CONTRACTOR SHALL CHECK ALL RELEVANT DRAWINGS AND VERIFY LEVELS AND DIMENSIONS IN ADVANCE OF THE WORK AND WORK AND REPORT ANY DISCREPANCY TO THE ENGINEER IMMEDIATELY.
5. ALL EXCAVATION SHALL BE BACKFILLED TO THE PROPOSED GROUND LEVEL AFTER COMPLETION OF FOUNDATION CONSTRUCTION.
6. THE CONSTRUCTION SEQUENCE FOR EXCAVATION AND LATERAL SUPPORT, REFER TO DRG. NO. S-ELS-006 TO 007.
7. THE INSTALLATION OF SHEET PILE SHALL BE WALL CARRIED OUT TO ACCORDING TO APPROVAL DRAWINGS PRIOR TO THE COMMENCEMENT OF EXCAVATION AND LATERAL SUPPORT WORKS.

NOTES ON CONSTRUCTION MATERIAL

1. STRUCTURAL STEEL MEMBERS
   a. ALL STRUCTURAL STEEL MEMBERS SHALL BE GRADE S355 (CLASS 1) WELDABLE STRUCTURAL STEEL AND COMPLY WITH TO BS EN 10025:2004.
   b. ALL WELDING SHALL COMPLY WITH THE CODE OF PRACTICE FOR STRUCTURAL USE OF STEEL 2005, BS EN 1011-1:2009, BS EN 1011-2:2001 & BS EN 499:1995.
   c. ALL CONNECTIONS SHALL BE 10mm FILLET WELDS ALL ROUNDED UNLESS OTHERWISE SPECIFIED.
   d. SAMPLES OF WELDING MATERIALS USED SHALL BE TESTED & TEST RESULTS SHALL BE SUBMITTED TO RSE FOR APPROVAL. ALL WORKS, MATERIALS AND TESTING SUCH AS TESTING OF STEEL BAR SHALL COMPLY WITH GENERAL SPECIFICATION FOR CIVIL ENGINEER WORKS 1992 EDITION AND HONG KONG BUILDING(CONSTRUCTION) REGULATION 1990 EDITION UNLESS OTHERWISE STATED IN THE DRAWING.

NOTES FOR EXCAVATION AND LATERAL SUPPORT (ELS) WORKS (TEMPORARY)

1. THE CONTRACTOR SHALL TAKE FULL RESPONSIBILITY FOR THE ERECTION, MAINTENANCE AND REMOVAL OF ALL TEMPORARY WORKS DURING CONSTRUCTION.
2. NECESSARY PRECAUTIONS SHALL BE TAKEN TO PREVENT DAMAGE TO EXISTING FOUNDATIONS, DRAINS, PAVEMENTS, FEATURES, SERVICES ETC. SHOULD ANY DAMAGE OCCUR, NOTIFY THE ARCHITECT AND RELEVANT AUTHORITIES CONCERNED IMMEDIATELY AND MAKE GOOD BY THE CONTRACTOR AT NO EXTRA COST AND NO EXTENSION OF TIME.
3. ALL TEMPORARY WORKS SHALL BE WITHIN THE SITE BOUNDARY.
4. DURING SUBSTRUCTURE CONSTRUCTION, THE GROUNDWATER LEVEL SHALL BE KEPT BELOW THE FINAL FORMATION LEVEL.
5. THE CONTRACTOR SHALL INCREASE THE FREQUENCY OF MONITORING AS INSTRUCTED BY THE ENGINEER SHOULD ANY UNDUE GROUND MOVEMENT BE OBSERVED.
6. MAX. ANGLE FOR TEMPORARY SOIL CUT SLOPE SHALL BE REFERRED TO PLANS AND SECTIONS. BUT IN NO CIRCUMSTANCE BE GREATER THAN 20?IN MD LAYER.

NOTES ON STRUCTURAL STEELWORK

1. ALL STRUCTURAL STEELWORK SHALL BE COMPLED WITH CODE OF PRACTICE FOR THE STRUCTURAL USE OF STEEL 2011.
2. ALL LEVEL SHOWN ARE IN METERS AND OTHER DIMENSIONS SHOWN ARE IN MILLIMETERS UNLESS OTHERWISE STATED.
3. ALL STRUCTURAL STEEL SECTION SHALL BE WELDABLE STRUCTURAL STEEL TO BS EN 10025:2004 UNLESS OTHERWISE NOTED.
4. DESIGN SURCHARGE:
   a) BACK SERVICE LANE (2.0m WIDE) : 10kPa
   b) RECLAMATION STREET (9.0m WIDE) : 20kPa
   c) FOOTPATH ALONG RECLAMATION STREET (2.0m WIDE) : 5kPa
   d) BEARING PRESSURE AT HOARDING FOOTPATH (0.45m WIDE) : 20kPa
   e) D.L. & L.L. OF EXISTING BUILDING VIA PILING SYSTEM : (REFER TO RECORD PLAN) DATUM FOR SURCHARGE AT 2/3 OF THE LENGTH OF PILE MEASURED FROM GROUND LEVEL
   f) LIVE LOAD FOR EACH LAYER OF WALING/ STRUT : 2kPa

NOTES ON WELDING

1. THE CONTRACTOR SHALL SUBMIT TO AP/ RSE HIS PROPOSED PROCEDURE FOR WELDING. WELDING PROCEDURE WILL BE TESTED IN ACCORDANCE WITH BS EN ISO 15614-1:2004+A1:2008.
2. THE CONTRACTOR SHALL ONLY USE QUALIFIED WELDERS WHO HAVE DEMONSTRATED THEIR COMPETENCE IN WELDING TO THE AGREED PROCEDURE. EACH WELDER WILL BE TESTED AS DESCRIBED IN BS EN 287-1:2004.
3. ALL WELDS SHALL MEET THE ACCEPTANCE CRITERIA LAID DOWN IN BS EN 1011-1:2009 & BS EN 1011-2:2001.
4. UPON REQUESTED BY THE ARCHITECT WELDS WILL BE TESTED BY RADIOGRAPHIC EXAMINATION TO BS EN 1435:1997 OR ULTRASONIC EXAMINATION TO BS EN 1714:1998
5. UNLESS OTHERWISE APPROVED, ALL SPLICES TO BE CONTINUOUS FULL-STRENGTH FULL PENETRATION BUTT WELDS.
6. UNLESS OTHERWISE STATED, ALL FILLET WELDS SHALL BE 8mm ALL ROUND.
7. ALL IMPROPER MATERIALS (e.g. SLAG, DIRT, IRREGULARITIES, OIL etc.) TO BE REMOVED FROM JOINTS PRIOR TO WELDING.
8. ALL WELDING SHALL COMPLY WITH BS EN 1011, P.T.1:2009, P.T. 2:2001.
9. SAMPLES OF ALL MATERIALS USED SHALL BE TESTED & TEST RESULT'S SHALL BE SUBMITTED TO RSE FOR APPROVAL. ALL WORKS, MATERIALS AND TESTING SUCH AS TESTING OF STEEL BAR SHALL COMPLY WITH GENERAL SPECIFICATION FOR CIVIL ENGINEER WORKS 1992 EDITION AND HONG KONG BUILDING (CONSTRUCTION) REGULATION UNLESS OTHERWISE STATED IN THE DRAWING.

NOTES ON SITE SUPERVISION

THE TCP T5 SITE SUPERVISION PERSONNEL UNDER THE RGE'S STREAM SHALL SUBMIT REGULAR REPORTS OF HER/HIS/THEIR FINDINGS AND RECOMMENDATIONS TO THE RGE. THE RGE SHALL FORMALLY SUBMIT THESE REPORTS TO THE BD AND PROVIDE A COPY TO THE GEO AT MONTHLY INTERVALS OR MORE FREQUENTLY AS NECESSARY
TYPICAL CONTENTS OF THE REGULAR REPORTS PREPARED BY THE TCP T5 SITE SUPERVISION PERSONNEL INCLUDE THE FOLLOWING:

(1) PROGRESS OF THE WORKS
(2) RESULTS OF MONITORING DURING CONSTRUCTION
(3) SITE OBSERVATIONS
(4) INSPECTION RECORDS
(5) REVIEW

STANDARD FOR FILLING WORK

1. FILL MATERIAL SHALL BE GRADED, CONTAINING NO PARTICLES COARSER THAN 200mm AND THE PERCENTAGE BY MASS PASSING 75mm BS TEST SIEVE SHALL BE 75% TO 100%.
2. THE IN SITU FIELD DRY DENSITIES OF COMPACTED MATERIALS FORMING THE EARTH FILL SLOPE SHALL BE NOT LESS THAN 95% OF THE MAXIMUM DRY DENSITY DESCRIBED IN ITEM (2) BELOW.
3. THE MAXIMUM DRY DENSITY AND OPTIMUM MOISTURE CONTENTS SHALL BE DETERMINED IN ACCORDANCE WITH THE STANDARD GIVEN IN GEO SPEC 3 CLAUSE 10.1 & 10.2. EACH SOIL TYPE SHALL BE TESTED WHEN FIRST USED THEREAFTER AT THE SAME TIME AS EVERY SET OF FIELD DENSITY TESTS ARE OBTAINED. RECORDS SHALL BE KEPT, IDENTIFYING ON DRAWINGS THE SOIL TYPE, PLAN LOCATION AND ELEVATION REFERENCE TO PRINCIPAL DATUM OF EACH TEST TOGETHER WITH THE MAXIMUM DRY DENSITY AND OPTIMUM MOISTURE CONTENTS. GRAPHS OF DRY DENSITY VS MOISTURE CONTENTS, LABORATORY TEST RECORD SHEETS AND A COMPLETE SOIL DESCRIPTION ARE TO BE KEPT IN A COMPANION FOLDER.
4. THE IN SITU FIELD DENSITY AND MOISTURE CONTENTS SHALL BE DETERMINED IN ACCORDANCE WITH THE STANDARD GIVEN IN GEO SPEC 3 CLAUSE 11.1 & PNAP 55 TO DETERMINE THE RELATIVE COMPACTION ACHIEVED. THE NUMBER OF DETERMINATIONS FOR EACH BATCH OF FILL MATERIAL SHALL BE AS STATED IN TABLE 1 BELOW. RECORDS SHALL BE KEPT, IDENTIFYING ON DRAWINGS THE SOIL TYPE, PLAN LOCATION AND ELEVATION REFERENCE TO PRINCIPAL DATUM OF EACH TEST TOGETHER WITH DRY DENSITY OF SOIL TESTED, MOISTURE CONTENTS AND RELATIVE COMPACTION ACHIEVED (%). THE FIELD SHEETS, CALCULATION SHEETS AND A COMPLETE SOIL DESCRIPTION ARE TO BE KEPT IN A COMPANION FOLDER.
5. ALL TESTS SHALL BE CARRIED OUT BY OR UNDER THE SUPERVISION OF THE GEOTECHNICAL ENGINEER, OR BY AN INDEPENDENT TESTING AGENCY.

NOTES ON PROTECTION OF EARTHWORKS AGAINST HEAVY RAINFALL

1. SURFACE WATER FLOWING INTO AND OUT OF THE SITE SHALL BE INTERCEPTED AND CONDUCTED FROM THE SITE TO AN INDICATED SAFE DISCHARGE POINT. AT EACH INTERSECTION AND ABRUPT CHANGE IN DIRECTION OF SURFACE DRAINAGE, CHANNELS AND ACCESSIBLE CATCH PIT SHALL BE PROVIDED. ALL DRAINAGE WORKS SHALL BE KEPT CLEAR OF DEBRIS.
2. WHERE PARTIALLY COMPLETED DRAINAGE WORKS DISCHARGE WORKS DISCHARGE WITHIN THE SITE, A TEMPORARY CONDUIT SHALL BE PROVIDED TO THE DISCHARGE POINT.
3. DURING EXCAVATION, A METHOD OF WORKING SHALL BE ADOPTED IN WHICH THE MINIMUM AMOUNT OF BARE SOIL IS EXPOSED AT ANY TIME. EXCAVATION TO FORM THE FINAL FACE SHALL BE FOLLOWED UP IMMEDIATELY WITH SURFACE PROTECTION AND DRAINAGE WORKS AND THE FACE PANEL SIZE SHALL BE SMALL ENOUGH TO PERMIT THIS.
4. WHERE TEMPORARY BARE EARTH SLOPE FACES ARE UNAVOIDABLE, THEY SHALL BE PROTECTED WITH HEAVY DUTY SHEETING ADEQUATELY SECURED AT THE EDGES, SEALED AT THE CREST, AND LAPPED AT JOINTS. WHERE SLOPE FACES ARE TO BE TEMPORARILY EXPOSED FOR MORE THAN TWO WEEKS, TEMPORARY DRAINS SHALL BE INSTALLED IN ADDITION TO SURFACING.
5. TRENCHES ON/OR ADJACENT TO SLOPES SHALL BE EXCAVATED WITH EXTREME CARE IN SHORT SECTIONS AT A TIME. PRECAUTIONS SHALL ALWAYS BE TAKEN TO PREVENT WATER ENTERING AND CONNECTING IN THE TRENCHES.

FOR REFERENCE ONLY

NOTES ON SHEET PILING

1. STEEL SHEET PILES TO COMPLY WITH BS EN 1993-5 2007 GRADE S355.
2. UPON COMPLETION OF INSTALLING SHEET PILE WALLS, A RECORD PLAN FOR SHEET PILES SHALL BE SUBMITTED TO THE BUILDING AUTHORITY VIA THE R.S.E. FOR CONSENT APPLICATION.
3. IN CASE ROCK OR OBSTRUCTION DUE TO BOULDER OR CORESTONE IS ENCOUNTERED, PREBORING SHOULD BE CARRIED OUT.
4. TOLERANCE - THE MAXIMUM PERMISSIBLE DEVIATION FROM THE VERTICAL AT ANY LEVEL OF A FINISHED PILE IS 1 IN 75.
5. THE SHEET PILE WALLS SHALL BE INSTALLED BY PRESS-IN, NO VIBRO DRAWING IS ALLOWED DURING INSTALLATION.

NOTES ON EXISTING SERVICES, UTILITIES AND STRUCTURES

1. BEFORE CONSTRUCTION COMMENCES, THE CONTRACTOR SHALL CONSULT THE VARIOUS SERVICES AND UTILITY AUTHORITIES FOR THE EXTENT OF WORKS TO BE CARRIED OUT.
2. THE CONTRACTOR SHALL EXERCISE DUE CARE DURING THE WORKS ON SITE TO AVOID CAUSING DAMAGE TO ADJACENT STRUCTURES PAVETMENT, UTILITIES/SERVICES, PRIVATE AND GOVERNMENT PROPERTIES.
3. SHOULD ANY DAMAGE OCCUR TO THE ADJACENT STRUCTURES, PAVEMENT, UTILITIES/SERVICES, PRIVATE AND GOVERNMENT PROPERTIES DUE TO THE CONTRACTOR'S WORKS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY COST INCURRED FROM THE DAMAGE. THE CONTRACTOR SHALL REPAIR, REINSTATE AND MAKE GOOD ANY DAMAGE DUE TO THE CONTRACTOR'S WORKS TO THEIR ORIGINAL CONDITIONS OR TO THE SATISFACTION OF THE CM, UNLESS OTHERWISE SPECIFIED.

PRECAUTIONARY MEASURES TO PREVENT THE OCCURRENCE OF OVER BREAK DURING PREBORING

1. A PROCEDURE SHALL BE CARRIED OUT TO MONITOR THE CONDITION OF OVER BREAK. IF THE DRILL BIT IS FOUND NOT TO PROPAGATE AFTER A CONSIDERABLE AMOUNT OF DRILLING, THE OPERATOR OF THE DRILLING RIG SHALL STOP THE DRILLING PROCESS AND INFORM THE ENGINEER IMMEDIATELY. THE RGE/RSE SHALL REVIEW THE GEOLOGY OF THE SPECIFIC LOCATION. PROPOSAL TO LIMIT ANY OVER BREAK OF SOIL SHALL BE SUBMITTED TO AND AGREED BY THE RSE/RGE PRIOR TO ANY FURTHER DRILLING WORKS MAY COMMENCE.
2. SHOULD ANY UNDUE OVER BREAK OF SOIL OBSERVED DURING THE DRILLING OPERATIONS, THE DRILLING AT THAT LOCATION SHOULD BE STOPPED AND THE RSE SHALL BE INFORM IMMEDIATELY. THE MONITORING DATA AND METHOD OF PREBORING SHALL BE REVIEWED. PROPOSAL TO LIMIT ANY FURTHER OVER BREAK OF SOIL SHALL BE SUBMITTED AND AGREED WITH RSE PRIOR TO ANY FURTHER DRILLING WORKS MAY COMMENCE.

PRECAUTIONARY MEASURES FOR PREBORING METHOD

1. (a) THE AMOUNT OF AIR SUPPLY TO LIMIT THE PRESSURE OF DRILLINGS SHOULD BE MONITORED.
   (b) THE ADVANCEMENT RATE OF DRILL BIT SHOULD BE MONITORED DURING THE BORING.
2. THE OVERBREAK SHOULD NOT BE ALLOWED.
3. THE DRILL BIT SHOULD BE ADVANCED SIMUTANOUSLY WITH THE STEEL CASING.

DEPROPPING SEQUENCE OF STRUTS

ALL STRUT SHALL NOT BE REMOVED UNTIL CONSTRUCTION UP TO THE GROUND FLOOR OF THE SUPERSTRUCTURE HAS BEEN COMPLETED AND THE REQUIRED 28-DAY CONCRETE STRENGTH HAS BEEN ACHIEVED.
STAGE 1 : CAST PILE CAPS, STRAP/ GROUND BEAM (UNDER SEPARATE SUBMISSION)
STAGE 2 : CAST BASEMENT WALL, COLUMN, WALL, BEAM & SLAB OF B1/F & G/F (UNDER SEPARATE SUBMISSION)
STAGE 3 : REMOVE ALL STRUTS WHEN G/F SLAB AND BASEMENT WALL ACHIEVE 28 DAYS OF STREMGTH

NOTES ON PRE-BORING FOR INSTALLATION OF SHEET PILES

1. THE PRE-BORED HOLES SHALL BE SUNK ALONG THE ALIGNMENT OF THE SHEET PILE WALL USING SYMMETRIX DRILLING METHOD. THE PRE-BORED HOLES SHALL BE SUPPORTED BY TEMPORARY STEEL CASING ALONG THE FULL DEPTH OF THE EXCAVATION.
2. THE PRE-BORED HOLES SHALL BE DRILLED IN ACCORDANCE WITH THE FOLLOWING REQUIREMENTS: -
   a) DEVIATION FROM THE CORRECT LINE FOR THE LOCATION NOT GREATER THAN 20mm.
   b) DEVIATION FROM VERTICALITY OF INDIVIDUAL PRE-BORED HOLES IN ANY DIRECTION SHALL BE LESS THAN 1:100.
   c) DRILL 250mm MINIMUM DIAMETER HOLES FROM EXISTING GROUND LEVEL TO THE REQUIRED LEVEL BY SYMMETRIX DRILLING METHOD.
3. AFTER DRILLING THROUGH TO THE REQUIRED DEPTH OF OBSTRUCTIONS THE INTERIOR OF EACH CASING SHALL BE FILLED WITH APPROVED GRANULAR BACKFILL MATERIAL SHALL BE TOPPED UP IMMEDIATELY.
4. UPON COMPLETION SHEET PILE WALL SHALL BE INSTALLED TO THE REQUIRED TOE LEVEL BY THE METHOD APPROVED BY THE RSE. THROUGH A GUIDE FRAME AT GROUND LEVEL TO ENSURE PROPER PITCHING, VERTICALITY AND ALIGNMENT OF SHEET PILE WALL
5. NO WITHSTANDING THE ABOVE-MENTIONED MINIMUM PRE-BORING REQUIREMENTS, IT IS THE CONTRACOTRS RESPONSIBILITY TO PROVIDE ANY ADDITIONAL PRE-BORING OR ALTERNATIVE MEASURES TO ENSURE THAT ALL SHEET PILE WALLS ARE TO BE PRESSED IN FREE OF OBSTRUCTIONS TO ACHIEVE THE REQUIRED TOE LEVELS SPECIFIED.
6. THE CONTRACTOR SHALL SUBMIT A DETAILED METHOD STATEMENT TOGETHER WITH THE PLANT AND EQUIPMENT FOR PRE-BORING to AP, RSE & RGE FOR APPROVAL BEFORE COMMENCEMENT OF WORKS. THE PROPOSED METHOD AND SEQUENCE OF PRE-BORING SHALL BE ARRANGED SO AS TO MINIMIZE THE CONSTRUCTION NOISE DURING PRE-BORING.
7. SHALL ANY UNDUE SETTLEMENT OCCUR DUE TO PRE-BORING, THE CONTRACTOR SHALL SUBMIT A REMEDIAL PROPOSAL FOR THE APPROVAL OF THE RSE TO PREVENT FURTHER UNDUE SETTLEMENT PRIOR TO THE RE-COMMENCEMENT OF THE PRE-BORING WORKS.
8. THE CONTRACTOR SHALL KEEP RECORD OF EACH PRE-BORED HOLES FOR ENGINEER INSPECTION.

SOIL PARAMETER

SOIL PARAMETER		
	Ø (DEGREE)	C' (kpa)
FILL	33	1
MD	33	1
ALL.	32	2
CDG	34	5

SCHEDULE OF VERTICAL TIE

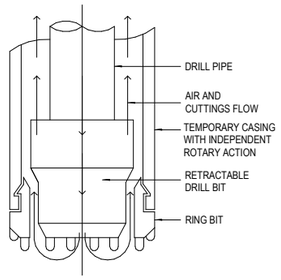
SCHEDULE OF VERTICAL TIE			
ITEM	MEMBER MARK	GRADE	MEMBER SIZE
VERTICAL TIE	D4	S355	UBP356x368x174

SCHEDULE OF HORIZONTAL TIE

SCHEDULE OF HORIZONTAL TIE			
ITEM	MEMBER MARK	GRADE	MEMBER SIZE
TIE	T1	S355	UC203x203x46

SCHEDULE OF MAIN STRUT

SCHEDULE OF MAIN STRUT					
PILE TYPE	LAYER	WALING MEMBER SIZE	STRUT LEVEL (mPD)	HORIZONTAL LOAD (kN/m)	DESIGN LOAD FOR STRUT (kN)
A	1	203X203X46 kg/m UC	+3.1	86	569
A	2	305X305X97 kg/m UC	+1.6	130	860
A	3	356X368X177 kg/m UC	+0.1	251	1661
A	4	356X368X177 kg/m UC	-1.4	452	2990
A	5	356X368X202 kg/m UC	-2.9	640	4234
A	6	356X406X235 kg/m UC	-4.4	824	5451
A	7	356X406X287 kg/m UC	-5.9	805	5326
A	8	356X406X287 kg/m UC	-7.4	961	6358
B	1	203X203X46 kg/m UC	+3.1	156	1032
B	2	356X368X177 kg/m UC	+0.1	410	2713
B	3	356X368X177 kg/m UC	-2.9	411	2719
B	4	356X368X202 kg/m UC	-4.4	600	3969
B	5	356X368X202 kg/m UC	-5.9	623	4122
B	6	356X406X235 kg/m UC	-7.4	528	3493
C	1	203X203X46 kg/m UC	+3.1	130	860
C	2	356X368X177 kg/m UC	+0.1	420	2779
C	3	356X368X202 kg/m UC	-2.9	673	4452
C	4	356X406X287 kg/m UC	-5.9	1032	6827



SCHEMATIC DETAILS OF RING BIT DRILLING SYSTEM FOR OVERCOMING UNDERGROUND OBSTRUCTIONS

N.T.S.

SCHEDULE OF WALING

SCHEDULE OF WAILING					
PILE TYPE	LAYER	WALING MEMBER SIZE	COMPRESSION (kN) =1.4*Fh* (1.4*4*3.15)	SHEAR (kN) =1.4*Fh* (0.6*3.15)	MOMENT (kNm) =1.4*Fh* (3.15^2/9)
A	1	533X210X92 kg/m UB	531	228	100
A	2	533X210X92 kg/m UB	803	344	151
A	3	610X305X179 kg/m UB	1550	665	291
A	4	610X305X179 kg/m UB	2791	1196	524
A	5	610X305X238 kg/m UB	3952	1694	741
A	6	610X305X238 kg/m UB	5088	2181	954
A	7	610X305X238 kg/m UB	4971	2131	932
A	8	914X305X289 kg/m UB	5934	2543	1113
AA	1	533X210X92 kg/m UB	464	199	87
AA	2	533X210X92 kg/m UB	1186	509	223
AA	3	610X305X179 kg/m UB	1760	755	330
AA	4	610X305X238 kg/m UB	3020	1294	567
AA	5	610X305X238 kg/m UB	3662	1570	687
AA	6	610X305X238 kg/m UB	3705	1588	695
AA	7	610X305X238 kg/m UB	3884	1665	729
B	1	533X210X92 kg/m UB	964	413	181
B	2	610X305X179 kg/m UB	2532	1085	475
B	3	610X305X179 kg/m UB	2538	1088	476
B	4	610X305X238 kg/m UB	3705	1588	695
B	5	610X305X238 kg/m UB	3847	1649	722
B	6	610X305X238 kg/m UB	3260	1398	612
C	1	533X210X92 kg/m UB	803	344	151
C	2	610X305X179 kg/m UB	2594	1112	487
C	3	610X305X238 kg/m UB	4156	1781	780
C	4	914X305X289 kg/m UB	6372	2731	1195

SCHEDULE OF SECONDARY STRUT AND CORNER STRUT

SCHEDULE OF SECONDARY STRUT AND CORNER STRUT			
PILE TYPE	LAYER	STRUT MEMBER SIZE	STRUT LEVEL (mPD)
A	1	203X203X46 kg/m UC	+3.1
A	2	356X368X202 kg/m UC	+1.6
A	3	356X368X202 kg/m UC	+0.1
A	4	356X368X202 kg/m UC	-1.4
A	5	356X406X235 kg/m UC	-2.9
A	6	356X406X235 kg/m UC	-4.4
A	7	356X406X235 kg/m UC	-5.9
A	8	356X406X235 kg/m UC	-7.4
AA	1	203X203X46 kg/m UC	+3.1
AA	2	356X368X202 kg/m UC	+1.6
AA	3	356X368X202 kg/m UC	+0.1
AA	4	356X368X202 kg/m UC	-1.4
AA	5	356X406X235 kg/m UC	-2.9
AA	6	356X406X235 kg/m UC	-4.4
AA	7	356X406X235 kg/m UC	-5.9
B	1	203X203X46 kg/m UC	+3.1
B	2	356X368X202 kg/m UC	+0.1
B	3	356X368X202 kg/m UC	-2.9
B	4	356X406X235 kg/m UC	-4.4
B	5	356X406X235 kg/m UC	-5.9
B	6	356X406X235 kg/m UC	-7.4
C	1	203X203X46 kg/m UC	+3.1
C	2	356X368X177 kg/m UC	+0.1
C	3	356X368X177 kg/m UC	-2.9
C	4	356X368X202 kg/m UC	-5.9

SECTION PROPERTIES OF WAILING

SECTION PROPERTIES OF WAILING									
ITEM	GRADE	SECTION AREA (cm²)	MOMENT OF INERTIA (cm4)	WEIGHT (kg/m)	SECTION MODULUS (cm³)	DEPTH D (mm)	WIDTH B (mm)	WEB THICKNESS t (mm)	FLANGE THICKNESS T (mm)
533X210X92 kg/m UB	S355	117	55200	92	2070	533.1	209.3	10.1	15.6
610X305X179 kg/m UB	S355	228	153000	179	4930	620.2	307.1	14.1	23.6
610X305X238 kg/m UB	S355	303	209000	238	6590	635.8	311.4	18.4	31.4
914X305X289 kg/m UB	S355	368	504000	289	10900	926.6	307.7	19.5	32.0

SECTION PROPERTIES OF STRUTS

SECTION PROPERTIES OF STRUTS									
ITEM	GRADE	SECTION AREA (cm²)	MOMENT OF INERTIA (cm4)	WEIGHT (kg/m)	SECTION MODULUS (cm³)	DEPTH D (mm)	WIDTH B (mm)	WEB THICKNESS t (mm)	FLANGE THICKNESS T (mm)
203X203X46 kg/m UC	S355	58.7	4570	46	450	203.2	203.6	7.2	11.0
305X305X97 kg/m UC	S355	123	22200	97	1450	307.9	305.3	9.9	15.4
356X368X177 kg/m UC	S355	226	57100	177	3100	368.2	372.6	14.4	23.8
356X368X202 kg/m UC	S355	257	66300	202	3540	374.6	374.7	16.5	27.0
356X406X235 kg/m UC	S355	299	79100	235	4150	381.0	394.8	18.4	30.2
356X406X287 kg/m UC	S355	366	99900	287	5070	393.6	399.0	22.6	36.5

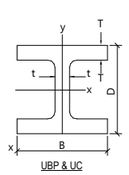
SECTION PROPERTIES OF SHORT STRUT / SPACER

SECTION PROPERTIES OF SHORT STRUT / SPACER									
ITEM	GRADE	SECTION AREA (cm²)	MOMENT OF INERTIA (cm4)	WEIGHT (kg/m)	SECTION MODULUS (cm³)	DEPTH D (mm)	WIDTH B (mm)	WEB THICKNESS t (mm)	FLANGE THICKNESS T (mm)
152x89x24 kg/m CH	S355	30.4	1168	23.87	153	152.4	88.9	7.1	11.6

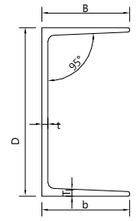
SECTION PROPERTIES OF TIE

SECTION PROPERTIES OF HORIZONTAL TIE									
ITEM	GRADE	SECTION AREA (cm²)	MOMENT OF INERTIA (cm4)	WEIGHT (kg/m)	SECTION MODULUS (cm³)	DEPTH D (mm)	WIDTH B (mm)	WEB THICKNESS t (mm)	FLANGE THICKNESS T (mm)
203X203X46 kg/m UC	S355	58.7	4570	46	450	203.2	203.6	7.2	11.0

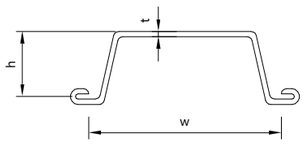
SECTION PROPERTIES OF VERTICAL TIE									
ITEM	GRADE	SECTION AREA (cm²)	MOMENT OF INERTIA	WEIGHT (kg/m)	SECTION MODULUS (cm³)	DEPTH D (mm)	WIDTH B (mm)	WEB THICKNESS t (mm)	FLANGE THICKNESS T (mm)
356X368X174 kg/m UBP	S355	221	51000	173.9	2820	361.4	378.5	20.3	20.4



UBP & UC



CHANNEL



FSP IV/VIL SHEET PILE

BD REF :

BIM REF :

REV	DATE	AMENDMENT

PROJECT
CIC SAMPLE PROJECT

DRAWING TITLE
EXCAVATION & LATERAL SUPPORT GENERAL NOTES

SCALE 1 : 100@A1

DRAWING NO. E001

REV. NO.

SOURCE ---

90mm (W) x 40mm (H) space for COMPANY LOGO

90mm (W) x 60mm (H) space for AP/RSE/RGE's signature/ and stamp chop

BD's OFFICAL USE

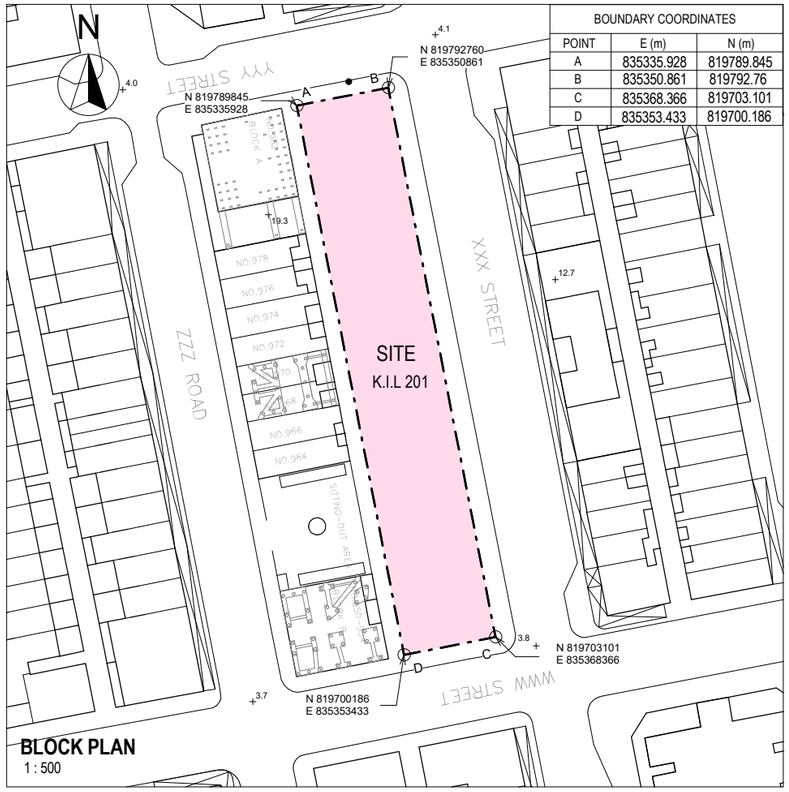
90mm (W) x 150mm (H) space for BD's approval stamp / certification of copies of approved plans (PNAP ADM-10 APP A)

LEGEND:

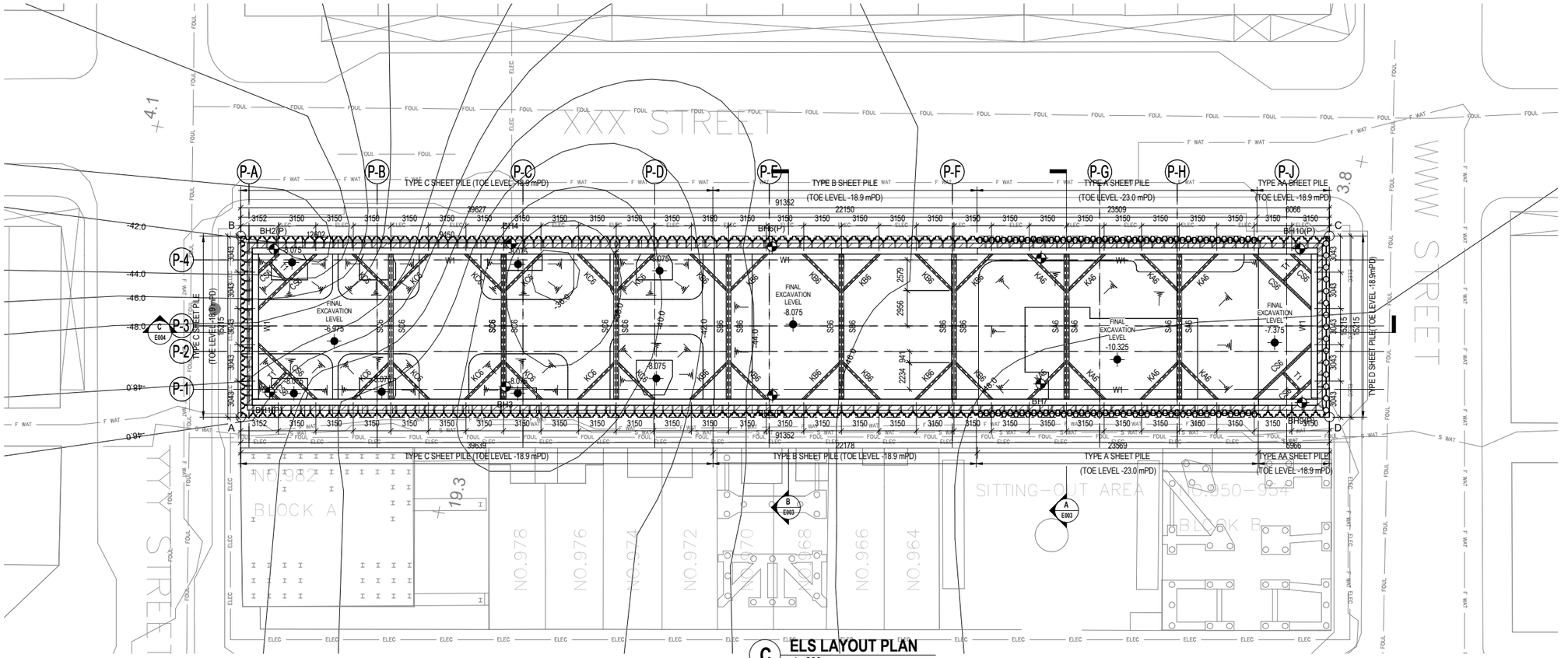
- SITE BOUNDARY
- BH1, BH1(P) — EXISTING BOREHOLE
- PROPOSED SHEET PILE
- PROPOSED SHORT STRUT
- 4.5 — EXISTING LEVEL
- PROPOSED MAX. 30° OPEN CUT SLOPE
- KA1 / KA1 / SA1 / SA1 — PROPOSED STRUT
- +2.90 — PROPOSED EXCAVATION LEVEL
- PROPOSED BASEMENT WALL (UNDER SEPARATE SUBMISSION)
- T1 — PROPOSED TIE
- GAS — GAS PIPE
- S WAT — SALT WATER PIPE
- ELEC — ELECTRIC CABLE
- FOUL — FOUL WATER PIPE
- F WAT — FRESH WATER PIPE

SHEET PILE SCHEDULE						
SHEET PILE TYPE	MEMBER SIZE	TOE LEVEL (mPD)	MAX RETAINING HEIGHT (m)	FINAL EXCAVATION LEVEL (mPD)	MIN EMBEDMENT LENGTH (m)	GRADE
A	FSP-VIL (BOX TYPE)	-23.000	12.675	-10.325	14.225	S275
AA	FSP-VIL	-18.900	11.275	-7.375	11.525	S275
B	FSP-VIL	-18.900	12.175	-8.075	10.825	S275
C	FSP-IV	-18.900	12.175	-8.075	10.825	S275
D	CHS508.0*16.0	-18.900	11.275	-7.375	11.525	S275

SHEET PILE SECTION PROPERTIES											
MEMBER SIZE	DIMENSIONS (mm)			SECTION AREA (PER PILE) (cm²)	MOMENT OF INERTIA (PER PILE) (cm4)	WEIGHT (PER PILE) (kg/m)	SECTION MODULUS (PER PILE) (cm³)	SECTION AREA (PER 1m PILE) (cm²)	MOMENT OF INERTIA (PER 1m PILE) (cm4)	WEIGHT (PER 1m PILE) (kg/m)	SECTION MODULUS (PER 1m PILE) (cm³)
	w	h	t								
FSP IV	400	170	15.5	97	4670	76.1	362	242.5	38600	153	2270
FSP VIL	500	225	27.6	153	11400	120	680	306	86000	300	3820
FSP VIL (BOX)	500	207	27.6	306	22800	240	1360	306	172000	600	7640



BLOCK PLAN
1 : 500



C ELS LAYOUT PLAN
1 : 200

BD REF :

BIM REF :

REV	DATE	AMENDMENT

PROJECT
CIC SAMPLE PROJECT

DRAWING TITLE
EXCAVATION & LATERAL SUPPORT LAYOUT PLAN

SCALE AS SHOWN@A1

DRAWING NO. E002

REV. NO.

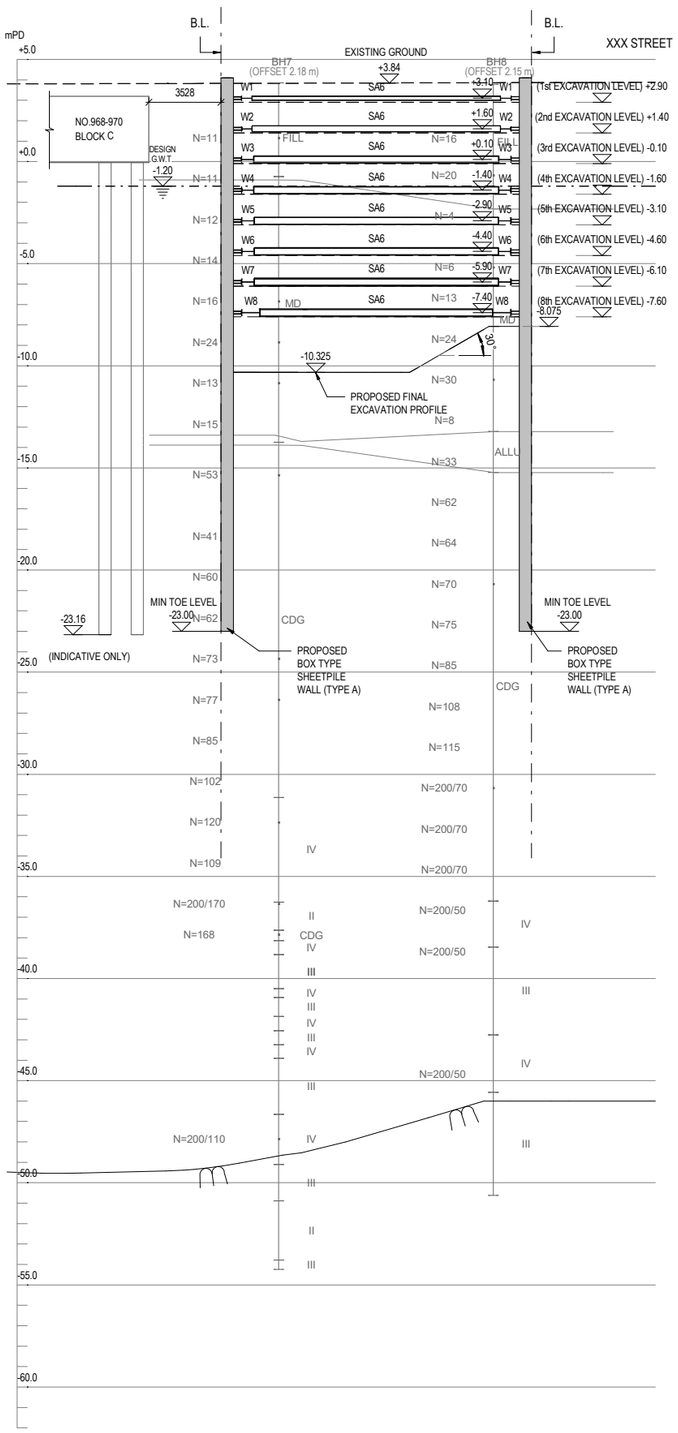
SOURCE ---

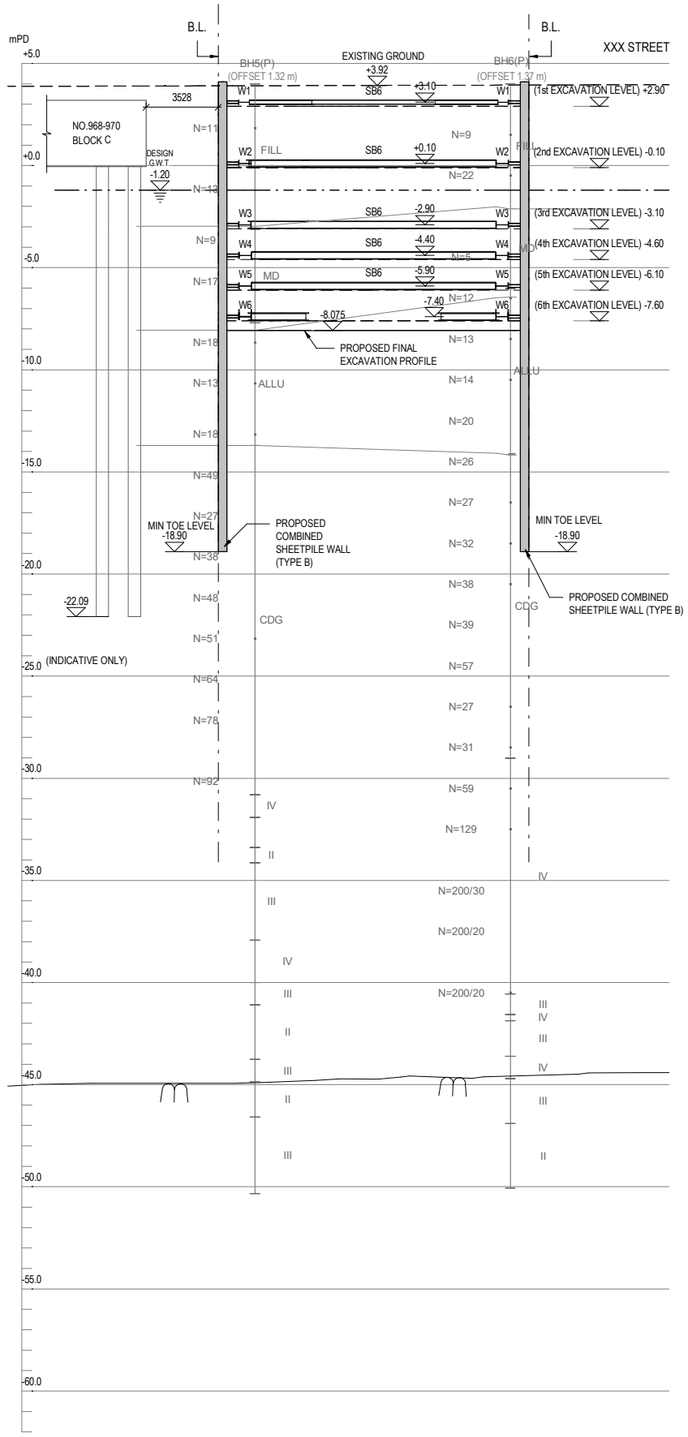
90mm (W) x 40mm (H) space for COMPANY LOGO

90mm (W) x 60mm (H) space for AP/RSE/RGE's signature/ and stamp chop

BD's OFFICAL USE

90mm (W) x 150mm (H) space for BD's approval stamp / certification of copies of approved plans (PNAP ADM-10 APP A)





LEGEND AND NOTES:

— - —	BOUNDARY LINE
FILL	FILL
CDG	COMPLETELY DECOMPOSED GRANITE
IV	HIGHLY DECOMPOSED GRANITE
III	MODERATELY DECOMPOSED GRANITE
II	SLIGHTLY DECOMPOSED GRANITE
N=28	SPT N VALUE
	PROPOSED SHEET PILE
	PROPOSED WALING
	PROPOSED SHORT STRUT
	PROPOSED STRUT
	PROPOSED EXCAVATION PROFILE

A **ELS SECTION A**
1 : 150

B **ELS SECTION B**
1 : 150

BD REF :

BIM REF :

REV	DATE	AMENDMENT

PROJECT
CIC SAMPLE PROJECT

DRAWING TITLE
EXCAVATION & LATERAL SUPPORT SECTIONS (1 OF 2)

SCALE AS SHOWN@A1

DRAWING NO. E003

REV. NO.

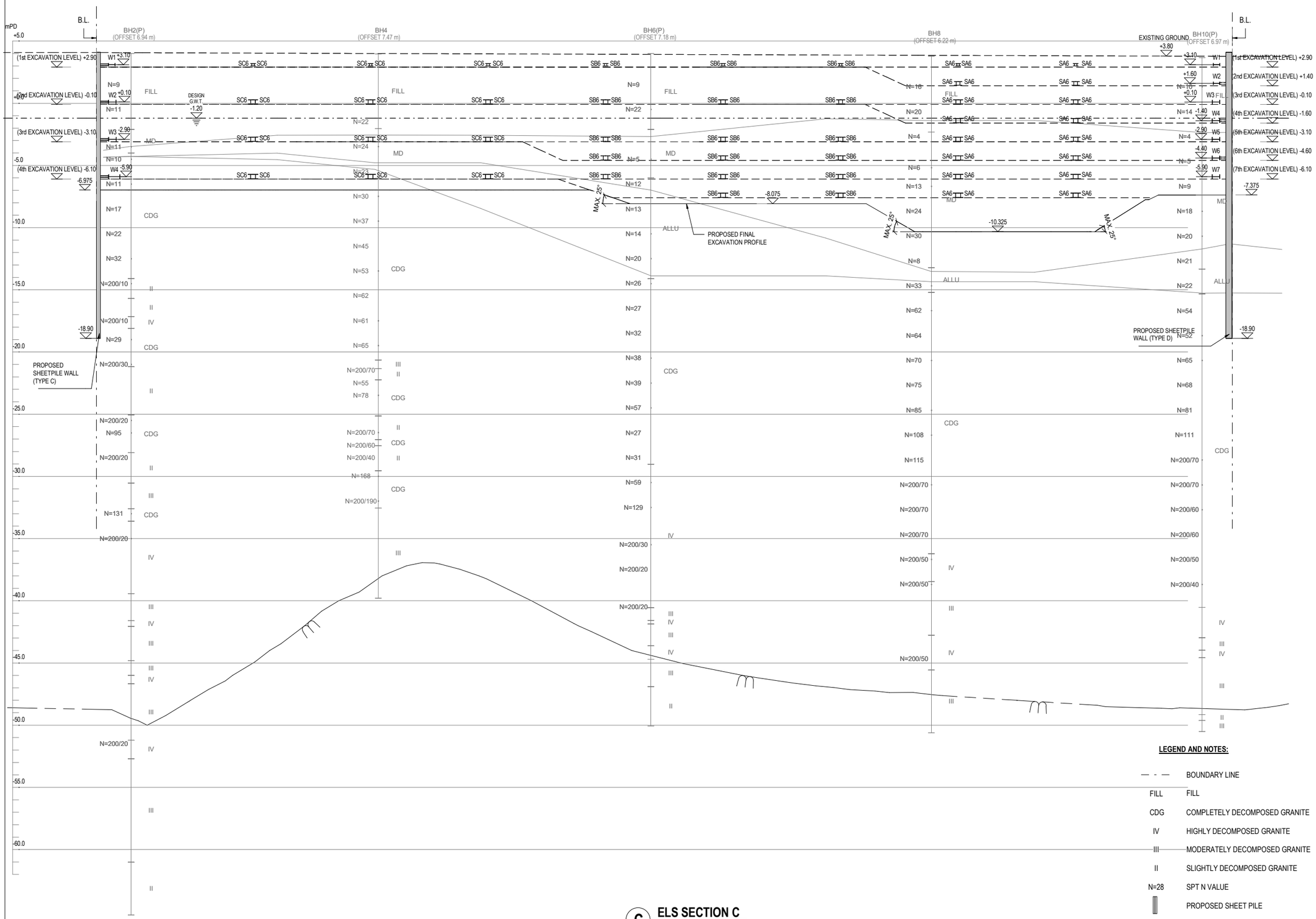
SOURCE ---

90mm (W) x 40mm (H) space for COMPANY LOGO

90mm (W) x 60mm (H) space for AP/RSE/RGE's signature/ and stamp chop

BD's OFFICAL USE

90mm (W) x 150mm (H) space for BD's approval stamp / certification of copies of approved plans (PNAP ADM-10 APP A)



C **ELS SECTION C**
1 : 150

LEGEND AND NOTES:

— - —	BOUNDARY LINE
FILL	FILL
CDG	COMPLETELY DECOMPOSED GRANITE
IV	HIGHLY DECOMPOSED GRANITE
III	MODERATELY DECOMPOSED GRANITE
II	SLIGHTLY DECOMPOSED GRANITE
N=28	SPT N VALUE
	PROPOSED SHEET PILE
	PROPOSED WALING
	PROPOSED SHORT STRUT
	PROPOSED STRUT
	PROPOSED EXCAVATION PROFILE

BD REF :

BIM REF :

REV	DATE	AMENDMENT

PROJECT
CIC SAMPLE PROJECT

DRAWING TITLE
EXCAVATION & LATERAL SUPPORT SECTIONS (2 OF 2)

SCALE AS SHOWN@A1

DRAWING NO. E004

REV. NO.

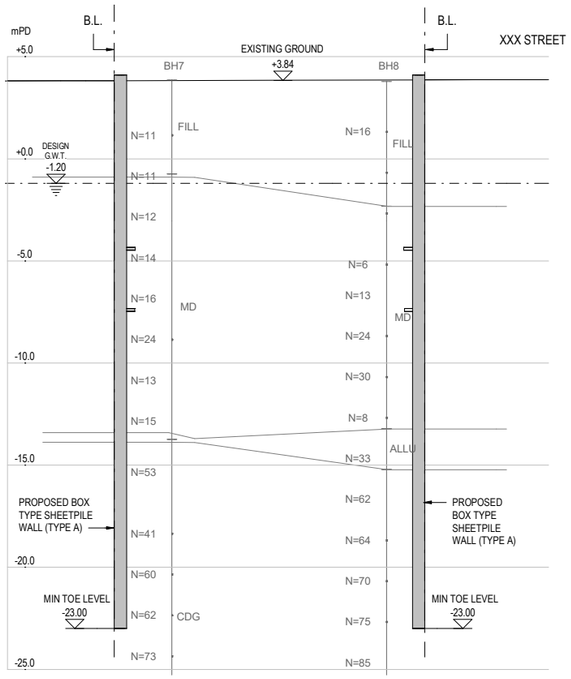
SOURCE ---

90mm (W) x 40mm (H) space for COMPANY LOGO

90mm (W) x 60mm (H) space for AP/RSE/RGE's signature/ and stamp chop

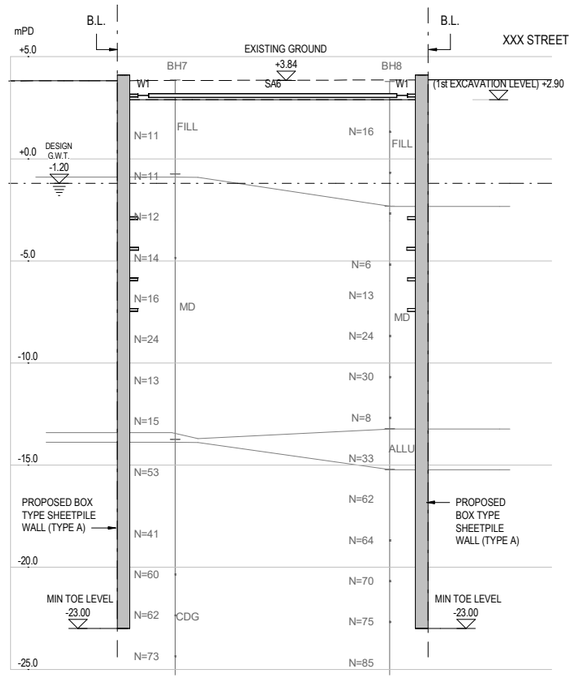
BD's OFFICAL USE

90mm (W) x 150mm (H) space for BD's approval stamp / certification of copies of approved plans (PNAP ADM-10 APP A)



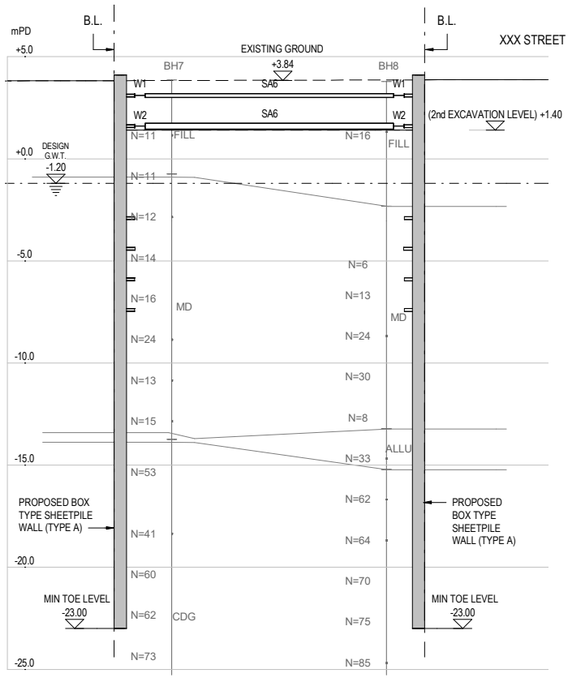
STAGE 0

1. INSTALL MONITORING CHECKPOINTS AS SHOWN ON DRAWING NO. E008 AND TAKE INITIAL READING
2. CARRY OUT INSTALLATION OF SHEET PILES AS SHOWN ON PLAN TO REQUIRED LEVEL.
3. CARRY OUT PUMPING TEST AS SHOWN ON DWG NO.: E009.



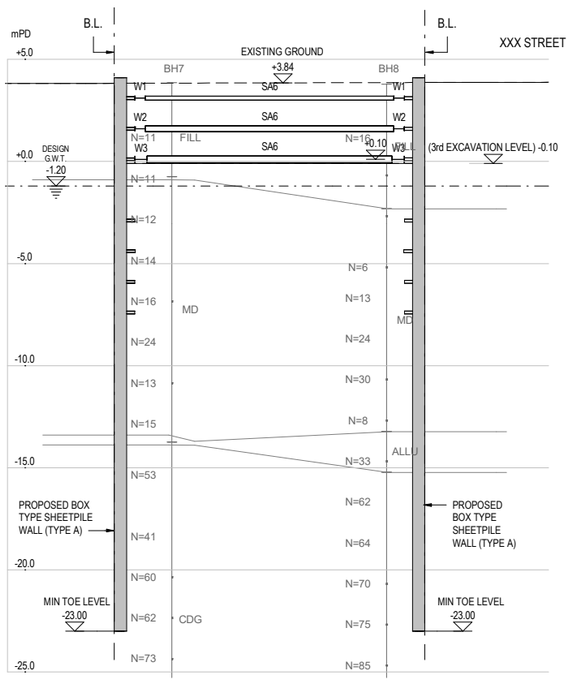
STAGE 1

1. DEWATER AND EXCAVATE TO +2.90mPD.
2. INSTALLATION OF THE 1st LAYER WAILINGS, STRUTS & TIES
3. CARRY OUT PRELOADING FOR MAIN STRUTS OF TYPE AA, A, B & C (REFER TO STRUT PRELOAD SCHEDULE IN DWG. NO.: E001.)



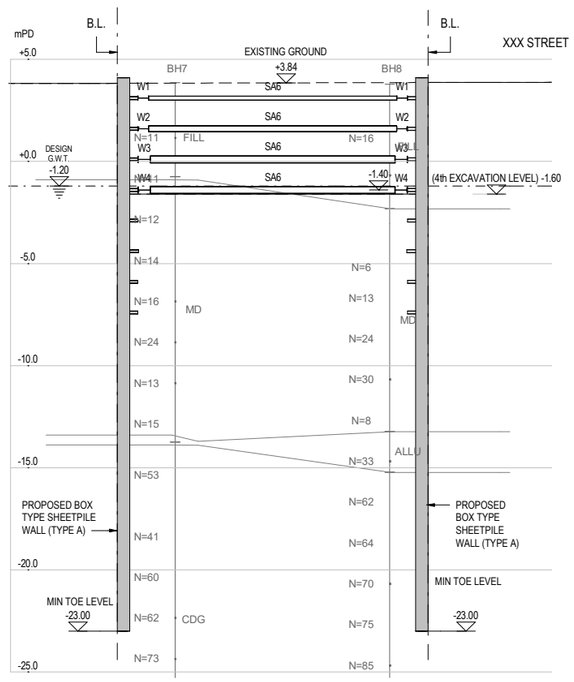
STAGE 2

1. DEWATER AND EXCAVATE TO +1.4mPD.
2. INSTALLATION OF THE 2nd LAYER WAILINGS, STRUTS & TIES
3. CARRY OUT PRELOADING FOR MAIN STRUTS OF TYPE A & AA (REFER TO STRUT PRELOAD SCHEDULE IN DWG. NO.: E001)



STAGE 3

1. DEWATER AND EXCAVATE TO -0.10mPD.
2. INSTALLATION OF THE 3rd LAYER WAILINGS, STRUTS & TIES
3. CARRY OUT PRELOADING FOR MAIN STRUTS OF TYPE AA, A, B & C (REFER TO STRUT PRELOAD SCHEDULE IN DWG. NO.: E001)



STAGE 4

1. DEWATER AND EXCAVATE TO -1.60mPD.
2. INSTALLATION OF THE 4th LAYER WAILINGS, STRUTS & TIES
3. CARRY OUT PRELOADING FOR MAIN STRUTS OF TYPE A & AA (REFER TO STRUT PRELOAD SCHEDULE IN DWG. NO.: E001)

LEGEND AND NOTES:

— - —	BOUNDARY LINE
FILL	FILL
CDG	COMPLETELY DECOMPOSED GRANITE
IV	HIGHLY DECOMPOSED GRANITE
III	MODERATELY DECOMPOSED GRANITE
II	SLIGHTLY DECOMPOSED GRANITE
N=28	SPT N VALUE
	PROPOSED SHEET PILE
	PROPOSED WALING
	PROPOSED SHORT STRUT
	PROPOSED STRUT
	PROPOSED EXCAVATION PROFILE

BD REF :

BIM REF :

REV	DATE	AMENDMENT

PROJECT
CIC SAMPLE PROJECT

DRAWING TITLE
EXCAVATION & LATERAL SUPPORT CONSTRUCTION SEQUENCE (1 OF 2)

SCALE AS SHOWN@A1

DRAWING NO. E005

REV. NO.

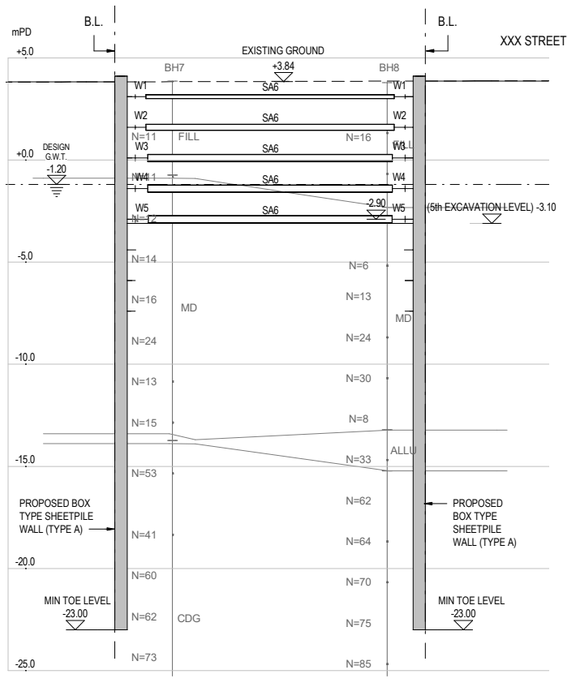
SOURCE ---

90mm (W) x 40mm (H) space for COMPANY LOGO

90mm (W) x 60mm (H) space for AP/RSE/RGE's signature/ and stamp chop

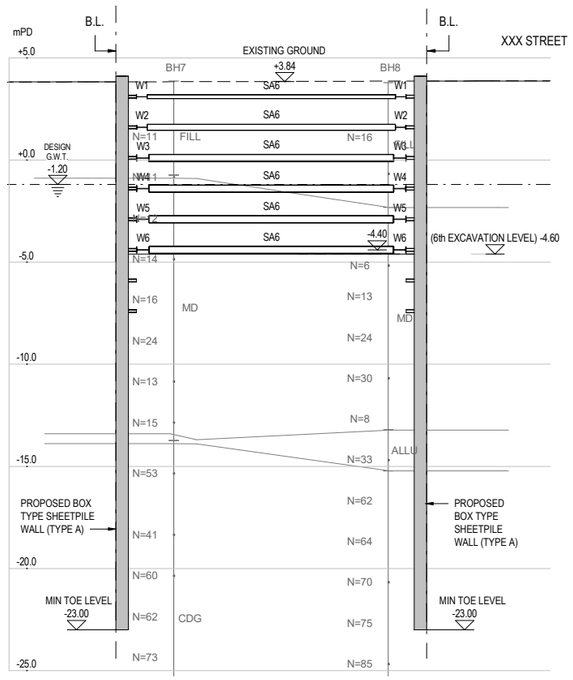
BD's OFFICAL USE

90mm (W) x 150mm (H) space for BD's approval stamp / certification of copies of approved plans (PNAP ADM-10 APP A)



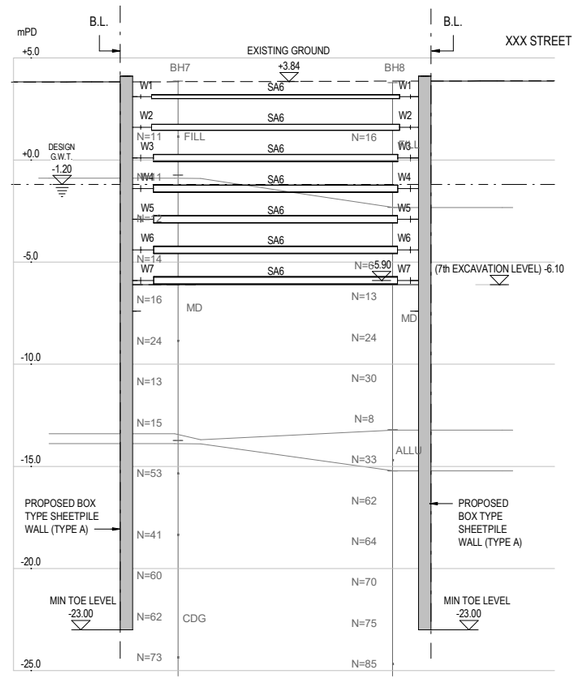
STAGE 5

1. DEWATER AND EXCAVATE TO -3.10mPD.
2. INSTALLATION OF THE 5th LAYER WAILINGS, STRUTS & TIES
3. CARRY OUT PRELOADING FOR MAIN STRUTS OF TYPE AA, A, B & C (REFER TO STRUT PRELOAD SCHEDULE IN DWG. NO.: E001)



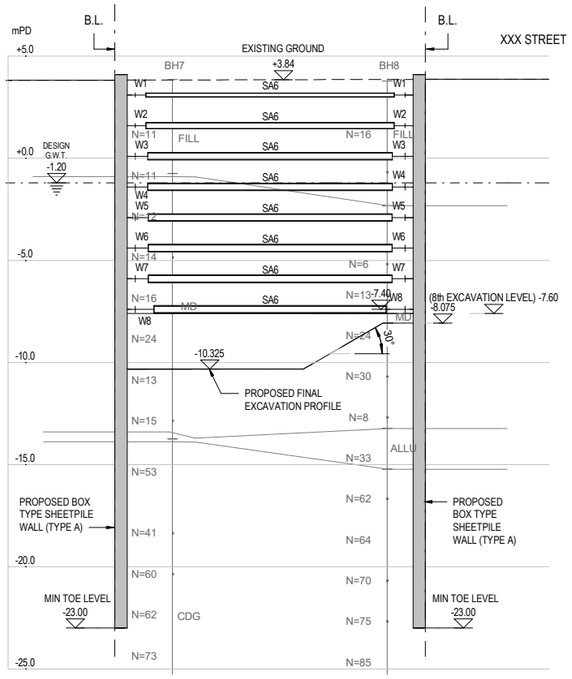
STAGE 6

1. DEWATER AND EXCAVATE TO -4.60mPD.
2. INSTALLATION OF THE 6th LAYER WAILINGS, STRUTS & TIES
3. CARRY OUT PRELOADING FOR MAIN STRUTS OF TYPE AA, A & B (REFER TO STRUT PRELOAD SCHEDULE IN DWG. NO.: E001)



STAGE 7

1. DEWATER AND EXCAVATE TO -6.10mPD.
2. INSTALLATION OF THE 7th LAYER WAILINGS, STRUTS & TIES
3. CARRY OUT PRELOADING FOR MAIN STRUTS OF TYPE AA, A, B & C (REFER TO STRUT PRELOAD SCHEDULE IN DWG. NO.: E001)



STAGE 8

1. DEWATER AND EXCAVATE TO -7.60mPD.
2. INSTALLATION OF THE 8th LAYER WAILINGS, STRUTS & TIES
3. CARRY OUT PRELOADING FOR MAIN STRUTS OF TYPE A & B (REFER TO STRUT PRELOAD SCHEDULE IN DWG. NO.: E001)
4. DEWATER AND EXCAVATE TO FINAL EXCAVATE PROFILE (i.e.: -8.075/-10.325mPD) WITH TEMPORARY CUT SLOPE(25° MAX). (REFER TO ELS LAYOUT PLAN IN DWG. NO.: E002).
5. CARRY OUT REMAINING PILE CAP CONSTRUCTION (UNDER SEPARATE SUBMISSION) AND BACKFILL TO PILE CAP TOP
6. CARRY OUT BASEMENT CONSTRUCTION (UNDER SEPARATE SUBMISSION)
7. ALL STRUT SHALL NOT BE REMOVED UNTIL CONSTRUCTION UP TO G/F.

LEGEND AND NOTES:

— - —	BOUNDARY LINE
FILL	FILL
CDG	COMPLETELY DECOMPOSED GRANITE
IV	HIGHLY DECOMPOSED GRANITE
III	MODERATELY DECOMPOSED GRANITE
II	SLIGHTLY DECOMPOSED GRANITE
N=28	SPT N VALUE
	PROPOSED SHEET PILE
	PROPOSED WALING
	PROPOSED SHORT STRUT
	PROPOSED STRUT
	PROPOSED EXCAVATION PROFILE

BD REF :

BIM REF :

REV	DATE	AMENDMENT

PROJECT
CIC SAMPLE PROJECT

DRAWING TITLE
EXCAVATION & LATERAL SUPPORT CONSTRUCTION SEQUENCE (2 OF 2)

SCALE AS SHOWN@A1

DRAWING NO. E006

REV. NO.

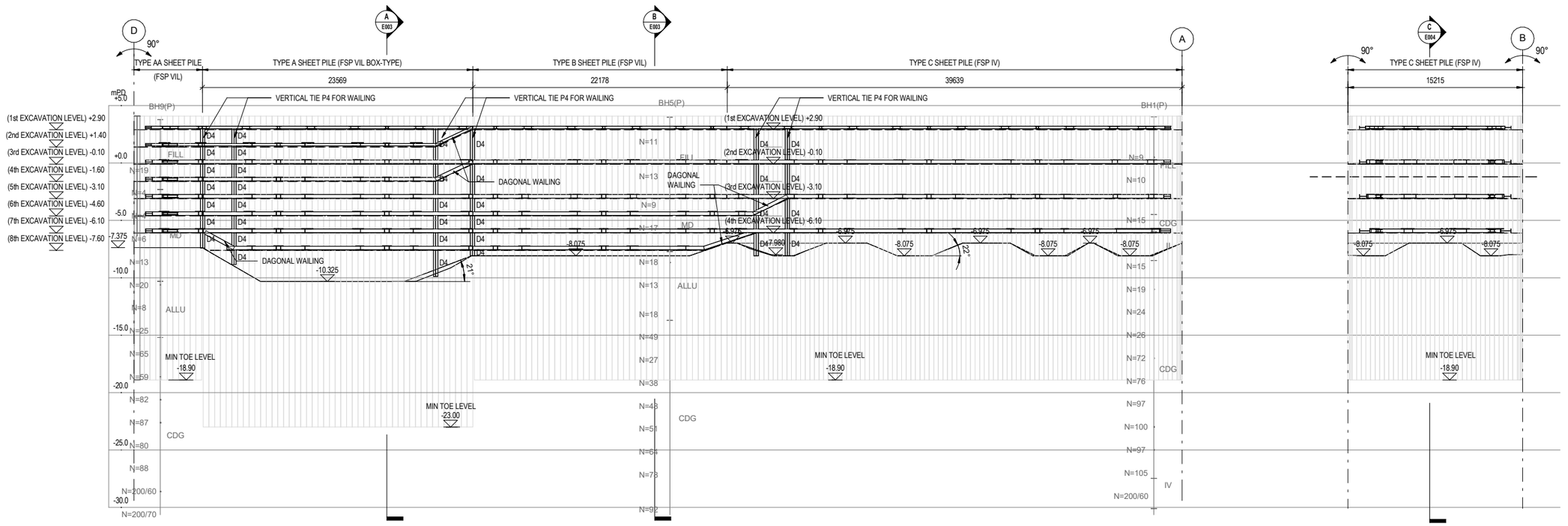
SOURCE ---

90mm (W) x 40mm (H) space for COMPANY LOGO

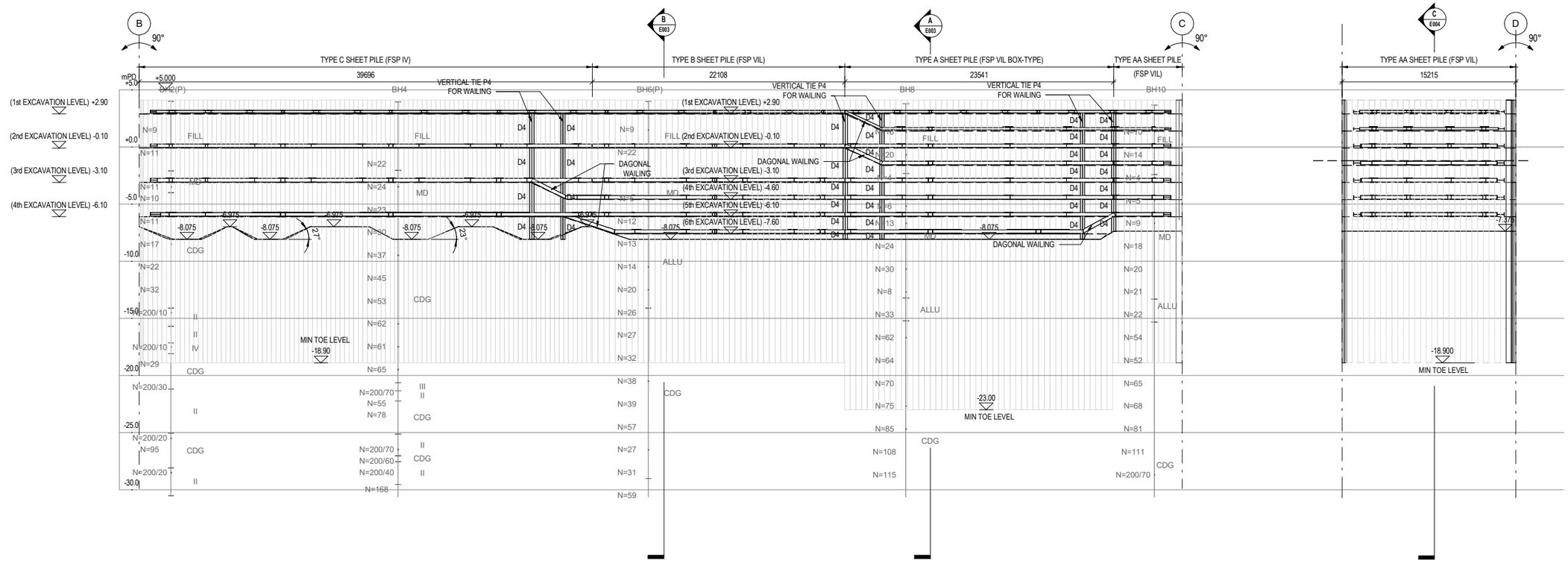
90mm (W) x 60mm (H) space for AP/RSE/RGE's signature/ and stamp chop

BD's OFFICAL USE

90mm (W) x 150mm (H) space for BD's approval stamp / certification of copies of approved plans (PNAP ADM-10 APP A)



1 ELS ELEVATION D-A-B
1 : 200



3 ELS ELEVATION B-C-D
1 : 200

REV	DATE	AMENDMENT

BD REF :

BIM REF :

PROJECT
CIC SAMPLE PROJECT

DRAWING TITLE
EXCAVATION & LATERAL SUPPORT ELEVATION

SCALE 1 : 200@A1

DRAWING NO. E007

REV. NO.

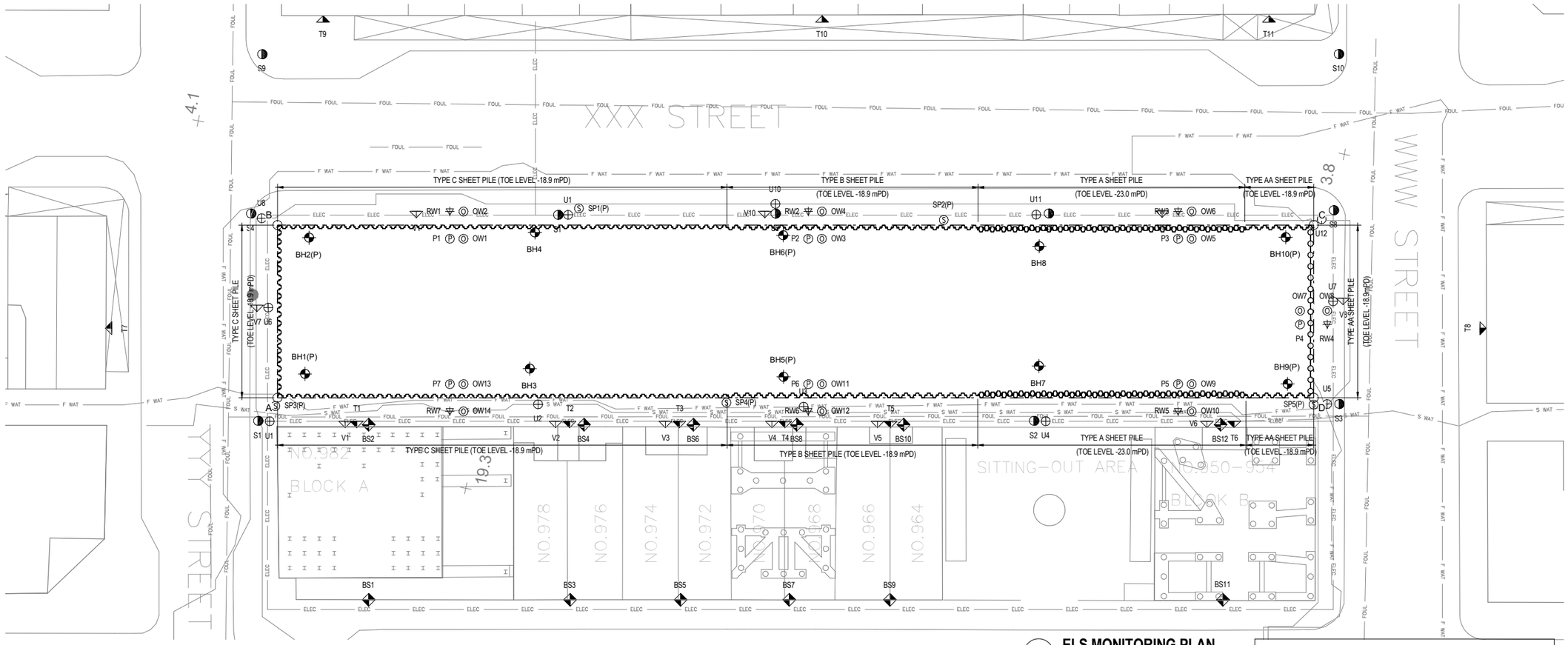
SOURCE ---

90mm (W) x 40mm (H) space for COMPANY LOGO

90mm (W) x 60mm (H) space for AP/RSE/RGE's signature/ and stamp chop

BD's OFFICAL USE

90mm (W) x 150mm (H) space for BD's approval stamp / certification of copies of approved plans (PNAP ADM-10 APP A)



NOTES ON EXISTING UTILITIES

1. THE POSITION OF EXISTING UTILITIES SHOWN ON THIS DRAWING IS APPROXIMATE ONLY.EXACT LOCATION AND DEPTH OF THE UTILITIES MUST BE ASCERTAINED BY TRIAL PITS ON SITE. EXTREME CARE MUST BE TAKEN DURING EXCAVATIONS IN THE PROXIMITY OF THE UTILITIES. PRECAUTIONS SHALL BE TAKEN TO PREVENT DAMAGE TO ANY OF THE UTILITIES.
2. THE INFORMATION INDICATED IS GIVEN IN GOOD FAITH AND NO GUARANTEE IS GIVEN AS TO ITS ACCURACY OR COMPLETENESS. THE USE OF THIS INFORMATION BY THE CONTRACTOR OR ANY OTHER PARTY SHALL NOT RELIEVE HIM OF ANY OF HIS OBLIGATIONS OR RESPONSIBILITY UNDER THE CONTRACT.
3. THE CONTRACTOR SHALL ARRANGE FOR ANY REALIGNMENT OF THE EXISTING UTILITIES AT THE WORKING LOCATION PRIOR TO THE CONSTRUCTION OF WORKS, IF REQUIRED.
4. THE CONTRACTOR SHALL PROVIDE TEMPORARY SUPPORT TO THE EXISTING UTILITIES DURING THE CONSTRUCTION WORKS, IF REQUIRED.
5. THE CONTRACTOR'S PARTICULAR ATTENTION IS DRAWN TO THE EXISTENCE OF UNDERGROUND SERVICE WITHIN AND AROUND THE SITE. HE SHALL PROTECT AND MAINTAIN ALL THOSE WORKS DURING THE ENTIRE CONTRACT PERIOD. NECESSARY PRECAUTIONS AND MONITORING SHALL BE TAKEN TO PREVENT DAMAGE TO THE EXISTING UPPER GROUND SERVICE.
6. THE CONTRACTOR SHALL IDENTIFY AND ESTABLISH HIMSELF THE TYPES AND EXACT LAYOUT/LOCATION OF THE EXISTING SERVICES BEFORE CARRYING OUT ANY CONSTRUCTION WORKS ON SITE. HE SHALL ALSO PLAN AND ARRANGE HIS WORKS TAKING INTO ACCOUNT THE EXISTENCE OF ALL SUCH WORKS THAT MAY AFFECT THE CONSTRUCTION SEQUENCE OF HIS WORKS. SHALL ANY SERVICES FALL WITHIN THE SITE, THE CONTRACTOR SHALL PROPOSE AND SUBMIT A METHOD STATEMENT ON PROTECTING OR DIVERTING THE EXISTING UTILITIES FOR ARCHITECT'S APPROVAL AT NO EXTRA COST. IF NECESSARY, THE CONTRACTOR SHALL MODIFY THE DESIGN OF ELS WORKS AND/OR PROVIDE TEMPORARY SUPPORTS FOR THE SERVICES AND SUBMIT THE METHOD STATEMENT FOR THE SERVICES AND SUBMIT THE METHOD STATEMENT FOR ARCHITECT'S APPROVAL. SHOULD ANY DAMAGE OCCUR, NOTIFY THE ARCHITECT'S AND RELEVANT AUTHORITIES CONCERNED IMMEDIATELY AND MAKE GOOD BY THE CONTRACTOR AT NO EXTRA COST.

NOTES ON MONITORING

1. INSTALL ALL CHECK POINTS AS SHOWN ON PLAN.
2. INITIAL READINGS OF CHECK POINTS AND BENCH MARKS SHALL BE SUBMITTED TO BUILDINGS DEPT. BEFORE COMMENCEMENT OF THE WORK.
3. ALL CHECK POINTS SHALL BE PROPERLY MAINTAINED AND MONITORED ON DAILY INTERVAL AND THE READINGS SHALL BE SUBMITTED TO THE AP/RSE/RGE AND BUILDING AUTHORITY BI-WEEKLY. ANY DEFECTIVE MONITORING DEVICES SHALL BE REPLACED ASAP.
4. THE LEVEL SHALL BE REPORTED IN mPD AND THE CHECK POINTS SHALL BE SURVEYED ACCORDING TO HONG KONG METRIC GRID.
5. EXISTING PIEZOMETERS/STANDPIPES INSTALLED ON SITE PREVIOUSLY SHOULD BE MONITORED ON DAILY BASIS CONTINUOUSLY THROUGHOUT THE CONSTRUCTION. THE READINGS SHOULD BE SUBMITTED TO RSE / RGE / BA ON BIWEEKLY BASIS. INITIAL READING SHOULD ALSO BE SUBMITTED BEFORE THE COMMENCEMENT OF WORKS.
6. CHECK POINT READINGS TO BE KEPT ON SITE FOR INSPECTION.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR APPLICATION OF EXCAVATION PERMIT FOR INSTALLATION OF MONITORING CHECK POINTS OUTSIDE SITE BOUNDARY. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR SEEKING CONSENT FROM THE ADJACENT LOT OWNERS FOR INSTALLATION OF MONITORING CHECK POINT AT ADJACENT LOTS / BUILDINGS.

ALERT LEVEL

RESPONSE ACTION:

a. RC TO NOTIFY AND SUBMIT WRITTEN REPORT TO AP/RSE/RGE.
b. AP/RSE/RGE TO ASSESS EFFECT OF MOVEMENTS AND PREDICT FUTURE MOVEMENTS.
c. AP/RSE/RGE TO AGREE WITH RC ON THE SUITABLE ACTION PLAN WHICH MAY INCLUDE THE INSTALLATION OF ADDITIONAL CHECK POINTS AND/OR INCREASING MONITORING FREQUENCY, AND THE REMEDIAL/MITIGATING MEASURES TO BE TAKEN UPON REACHING THE "ALARM LEVEL".

ALARM LEVEL

FOR REFERENCE ONLY

RESPONSE ACTION:

a. RC TO NOTIFY AND SUBMIT UPDATED REPORT TO AP/RSE/RGE AND NOTIFY THE BD IMMEDIATELY.
b. AP/RSE/RGE AND RC TO CONDUCT JOINT SITE INSPECTION TO DETERMINE IF ANY CONSTRUCTION ACTIVITIES SHOULD BE TEMPORARILY SUSPENDED.
c. RC TO IMPLEMENT THE NECESSARY REMEDIAL/MITIGATING MEASURES IN ACCORDANCE WITH THE AGREED ACTION PLAN.
d. AP/RSE/RGE AND RC TO DISCUSS THE INSTRUMENT RESPONSE AND REVIEW THE EFFECTIVENESS OF THE RESPONSE ACTION.
e. AP/RSE/RGE TO AGREE WITH RC ON THE EMERGENCY PLAN DETAILING THE MEASURES TO BE TAKEN UPON REACHING "ACTION LEVEL".
f. ANY CONSTRUCTION ACTIVITIES MAY BE SUSPENDED IF THE RESPONSE ACTION HAS BEEN IMPLEMENTED AND ON THE ADVICE OF THE AP/RSE/RGE AS NECESSARY.
g. AP/RSE/RGE TO REVIEW THE METHOD STATEMENTS OF PILING/ELS WORKS TO DETERMINE WHETHER MODIFICATION TO THE CONSTRUCTION METHODS IS REQUIRED TO PREVENT ACTION LEVEL FROM BEING REACHED.

ACTION LEVEL

RESPONSE ACTION:

a. ALL WORKS THAT WILL CAUSE GROUND MOVEMENT ARE TO BE CEASED.
b. RC TO NOTIFY AND CARRY OUT A JOINT SITE INSPECTION WITH THE RSE/RGE IMMEDIATELY. THE BD AND THE RELEVANT PARTIES SHOULD BE NOTIFIED IMMEDIATELY.
c. RC TO IMPLEMENT THE NECESSARY EMERGENCY MEASURES IN ACCORDANCE WITH WITH THE AGREED EMERGENCY PLAN.
d. RC TO SUBMIT AN INCIDENT REPORT TO RSE/RGE AND THE BD DETAILING THE FULL HISTORY OF THE MOVEMENTS AND REMEDIAL/EMERGENCY MEASURES IMPLEMENTED.
e. RSE/RGE TO REVIEW THE INCIDENT AND AGREE WITH RC ON FURTHER REMEDIAL AND PREVENTIVE MEASURES TO ENABLE RESUMPTION OF THE SUSPENDED WORKS.
f. CONSTRUCTION ACTIVITIES SHOULD NOT BE RESUMED UNTIL THE NECESSARY REMEDIAL AND PREVENTIVE MEASURES HAVE BEEN COMPLETED TO THE SATISFACTION OF THE BD.
g. IF THE TRIGGER VALUES AND RESPONSE ACTION ARE REVISED, THE AMENDED PLANS SHOULD BE SUBMITTED TO THE BD FOR APPROVAL. THE SUSPENDED CONSTRUCTION ACTIVITIES SHOULD NOT BE RESUMED UNTIL THE AMENDED PLANS ARE APPROVED BY

INSTRUMENT	CRITERION	ALERT	ALARM	ACTION
GROUND SETTLEMENT CHECK POINT	TOTAL SETTLEMENT	12mm	18mm	25mm
UTILITY SETTLEMENT CHECK POINT	TOTAL SETTLEMENT	12mm	18mm	25mm
TILTING CHECK POINT	ANGULAR DISTORTION	1:1000	1:750	1:500
VIBRATION CHECK POINT (VB1 TO VB3)	PEAK PARTICLE VELOCITY	7.5mm/s	10mm/s	15mm/s
BUILDING SETTLEMENT CHECK POINT	TOTAL SETTLEMENT	12mm	18mm	25mm
STANDPIPE	RISE OF GROUND WATER LEVEL	+2.00mPD	+2.50mPD	+3.10mPD
PIEZOMETER		+3.00mPD	+3.50mPD	+4.10mPD
STANDPIPE	DRAIN OF GROUND WATER LEVEL	-0.35mPD	-0.40mPD	-0.47mPD
PIEZOMETER		-0.40mPD	-0.45mPD	-0.57mPD

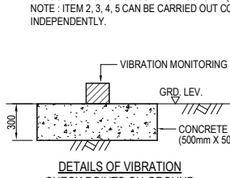
THE "ACTION LEVEL" RESPONSE ACTION SHOULD BE TAKEN IF ANY OF THE FOLLOWING SITUATION OCCURS:

1. ANY MONITORING STATION HAS A READING REACHING THE SERVICEABILITY LIMIT.
2. UNDUE SETTLEMENT AS INDICATED IN ANY CHECK POINTS (E.G. AN INCREASE OF 5mm BETWEEN TWO CONSECUTIVE DAILY READINGS).
3. SIGN OF DISTRESS OR DAMAGES OBSERVED IN ANY ADJACENT STRUCTURES AND/OR UTILITIES.

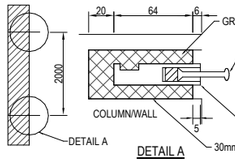
MASTER CONSTRUCTION SEQUENCE

1. INSTALL MONITORING CHECK POINTS AND TAKE INITIAL READINGS.
2. CONSTRUCT BORED PILES FOUNDATION.
3. CARRY OUT EXCAVATION AND LATERAL SUPPORT WORKS. (UNDER SEPARATE SUBMISSION)
4. CARRY OUT THE CONSTRUCTION OF PILE CAP AND FOOTING. (UNDER SEPARATE SUBMISSION)
5. CONSTRUCTION OF SUPERSTRUCTURE. (UNDER SEPARATE SUBMISSION)

NOTE : ITEM 2, 3, 4, 5 CAN BE CARRIED OUT CONCURRENTLY AND INDEPENDENTLY.



DETAILS OF VIBRATION CHECK POINTS ON GROUND
(N.T.S.)

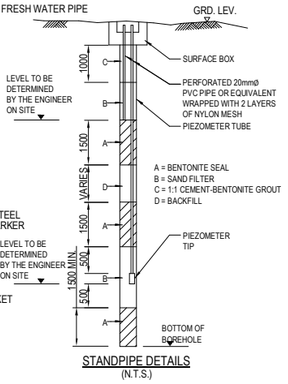


DETAILS OF TILTING CHECKPOINT
(N.T.S.)
(ALSO FUNCTION AS BUILDING SETTLEMENT CHECKPOINT)

1 ELS MONITORING PLAN
1 : 200

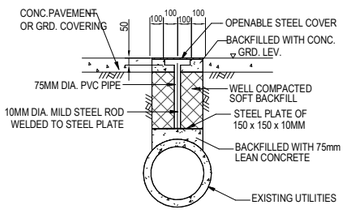
LEGEND AND NOTES:

- BOUNDARY LINE
- BH2(P) — BORED HOLE (WITH PIEZOMETER) (BH1 (P), BH2 (P) AND BH5 (P) BH6 (P), BH9 (P) AND BH10 (P) 6NOS.)
- BH2 — BORED HOLE (BH3, BH4, BH7 AND BH8 4 NOS.)
- 4.15 — EXISTING GROUND LEVEL
- GAS — GAS PIPE
- S WAT — SALT WATER PIPE
- ELEC — ELECTRIC CABLE
- FOUL — FOUL WATER PIPE
- F WAT — FRESH WATER PIPE

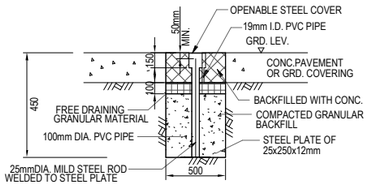


STANDPIPE DETAILS
(N.T.S.)

INSTRUMENT SCHEDULE		
SYMBOL	TYPE	NUMBER
BS1	BUILDING SETTLEMENT MARKER (BS1-BS12)	12
T1	BUILDING TILTING CHECK POINT WITH VERTICAL DISPLACEMENT (T1-T11)	11
S1	GROUND SETTLEMENT CHECK POINT (S1-S10)	10
OW1	OBSERVATION WELL (OW1-OW14)	14
P1	PUMP WELL (P1 TO P7)	7
RW1	RECHARGE WELL (RW1-RW7)	7
SP1(P)	STANDPIPE (WITH PIEZOMETER) (SP1(P) TO SP5(P))	5
U1	UTILITY SETTLEMENT MONITORING POINT ON GROUND (U1-U12)	12
V1	VIBRATION CHECK POINT (V1-V11)	11



DETAILS OF UTILITY SETTLEMENT CHECK POINT
(N.T.S.)



DETAILS OF SETTLEMENT CHECK POINTS ON GROUND
(N.T.S.)

BD REF :

BIM REF :

REV	DATE	AMENDMENT

PROJECT
CIC SAMPLE PROJECT

DRAWING TITLE
EXCAVATION & LATERAL SUPPORT WORKS MONITORING PLAN

SCALE AS SHOWN@A1

DRAWING NO. E008 REV. NO.

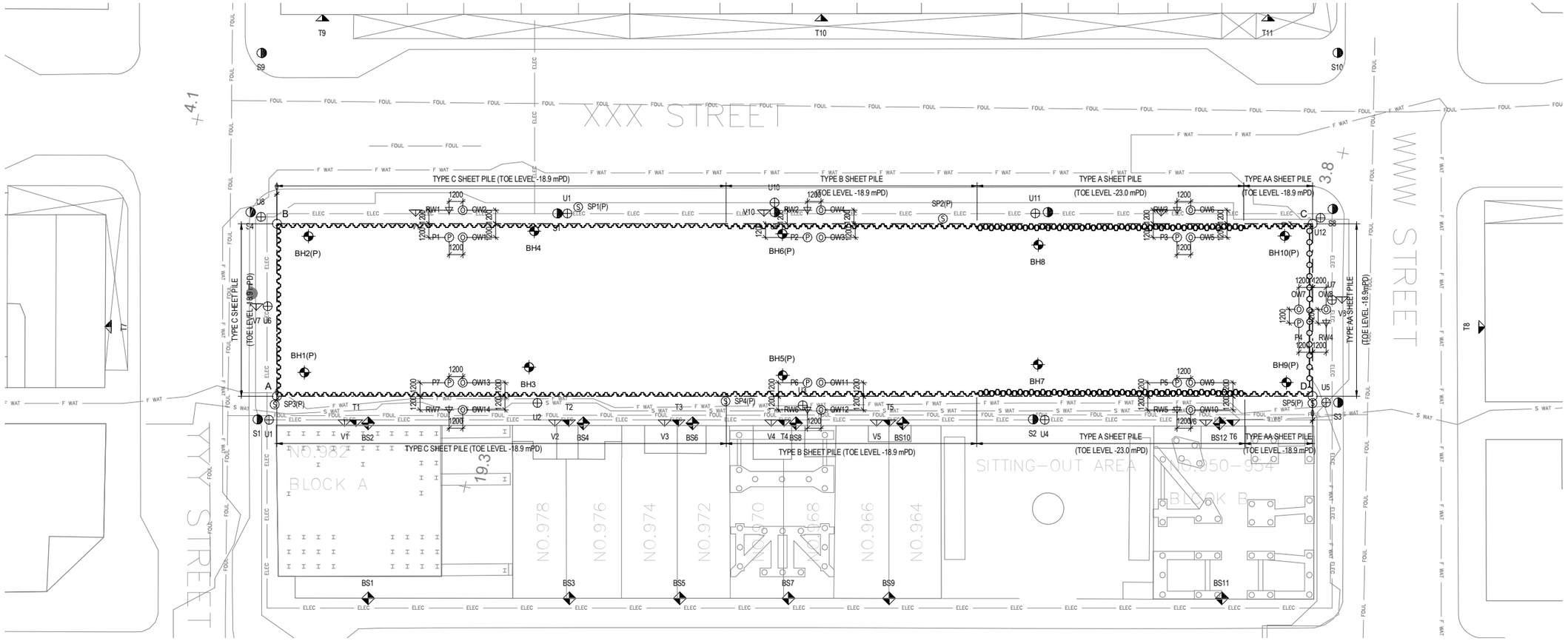
SOURCE ---

90mm (W) x 40mm (H) space for COMPANY LOGO

90mm (W) x 60mm (H) space for AP/RSE/RGE's signature/ and stamp chop

BD's OFFICAL USE

90mm (W) x 150mm (H) space for BD's approval stamp / certification of copies of approved plans (PNAP ADM-10 APP A)



1 ELS PUMPING TEST SETTING OUT PLAN
1 : 200

(I) PUMPING TEST PROCEDURES

1. INSTALL THE DEWATERING WELLS (P1-P7), STANDPIPES AND OBSERVATION WELLS (OW1-OW15) AS SHOWN IN DWG. NO. ELS-13.
2. THE PROPOSED TOE LEVEL OF THE DEWATERING WELL AND OBSERVATION WELLS ARE AS FOLLOWS:

HOLE	PROPOSED TOE LEVEL (mPD)	PROPOSED LEVEL OF WATER LEVEL CONTROL ELECTRODES	
		CUT-ON LEVEL (mPD)	CUT-OUT LEVEL (mPD)
DEWATERING WELL (P1-P7)	-15.00	-12.50	-13.50
OBSERVATION WELL (OW1-OW15)	-15.00	N/A	N/A

3. BEFORE INSERTION OF THE SUBMERSIBLE PUMP, THE DEWATERING WELLS SHALL BE CLEANED, FLUSHED AND THE DEPTH OF THE WELL SHALL BE ACCURATELY MEASURED
4. THE DEWATERING WELLS INCLUDING DISCHARGE PIPES SHALL THEN BE COMPLETED AND TESTED TO BE FUNCTIONAL
5. THE PROPOSED DEWATERING PUMP TO BE INSTALLED IS 'MASTRA' MODEL R95-S-08 WITH A MINIMUM DISCHARGE CAPACITY OF 10CU.M/HR/WELL UNDER A DELIVERY HEAD OF 46M AND BE ABLE TO LOWER WATER LEVEL WITHIN 1M ABOVE THE PUMP.
6. FLOW METER AND GATE VALVE TO CONTROL FLOW SHALL BE INCOPORATED INTO EACH DEWATERING WELL.
7. BEFORE COMMENCEMENT OF PUMP TEST, WATER LEVELS IN ALL DEWATERING WELLS, STANDPIPES, OBSERVATION WELLS SHALL BE MEASURED AT 4 HOURS INTERVALS FOR A PERIOD OF 72 HOURS. THE LOWEST MEASURED LEVELS IN THE PUMP WELL AND STANDPIPES SHALL BE USED AS INITIAL READINGS FOR THE PUMPING TEST.
8. ALL DEWATERING PUMPS SHALL BE SWITCHED ON SIMULTANEOUSLY.
9. STEADY STATE SHALL BE DEFINED AS SUCH THAT THE RATE OF GROUNDWATER DRAW DOWN BOTH INSIDE AND OUTSIDE THE SITE IS LESS THEN 0.1M OVER AN HOUR.
10. THE WATER LEVEL IN THE PUMP WELL SHALL BE MAINTAINED AT THE SPECIFIED LEVEL FOR AT LEAST 72 HOURS.
11. SHOULD THE SPECIFIED STEADY STATE IN GROUNDWATER DRAWDOWN NOT BE REACHED, PUMPING SHALL BE CONTINUED UNTIL SUCH A STATE IS REACHED OR AS DIRECTED BY THE ENGINEER.THE MINIMUM TEST PERIOD IS 7 DAYS.
12. DURING THE TEST THE WATER LEVELS IN ALL DEWATERING WELL, OBSERVATION WELLS AS SHOWN ON DWG. NO. ELS-13 SHALL BE REACHED AT REGULAR INTERVALS WHICH SHOWN BELOW (II) WATER LEVEL MEASURMENT.
13. ALL MONITORING DATA SHALL BE PRODUCED IN BOTH TABULAR AND GRAPHICAL FORM DURING THE COURSE OF THE PUMPING TEST AND SUBMIT TO ENGINEER FOR BUILDINGS DEPARTMENT'S APPROVAL.
14. WATER LEVELS SHALL BE MONITORIED AFTER CESSATION OF PUMPING UNTIL RECOVERY TO INITIAL LEVELS IS COMPLETED

(II) WATER LEVEL MEASUREMENT

DURING THE PUMPING AND RECOVERY TESTS, THE WATER LEVELS IN THE DEWATERING WELLS, OBSERVATION WELLS AND STANDPIPES SHALL BE MEASURED AT THE FOLLOWING INTERVALS:

TIME FROM COMMENCEMENT OF PUMPING TEST (mins)	INTERVAL BETWEEN READINGS (mins)
0-30	5
30-60	10
60-120	15
120-360	30
360-END OF TEST	60

DURING THE RECOVERY PHASE, THE READINGS SHALL BE TAKEN CONTINUOUSLY UNTIL THE WATER LEVEL IN ALL OBSERVATION WELLS AND STANDPIPES HAVE RECOVERED TO THEIR PRE-TEST LEVELS OR FOR A PERIOD OF TWO DAYS, WHICHEVER IS THE SOONER. PRIOR TO TERMINATING READINGS, THE ARCHITECT SHALL BE NOTIFIED.

(III) MONITORING OF CHECKPOINTS

1. DURING THIS TEST AND UNTIL ALL STANDPIPES/ OBSERVATION WELLS HAVE RECOVERED TO THEIR PRE-TEST LEVELS, ALL SETTLEMENT CHECKPOINTS TILTING CHECK POINTS AND UTILITY CHECK POINTS AS SHOWN ON THE DRAWING NO. ELS-01 SHALL BE MONITORIED ONCE PER DAY. THE RESULTS SHALL BE PRODUCED IN ACCORDANCE WITH NOTE (I) 13.

(IV) PUMP TEST CRITERIA

THE PUMPING TEST SHALL BE CONSIDERED ACCEPTABLE IF THE FOLLOWING CRITERIA ARE MET WHEN THE DESIGNATED WATER LEVEL IS ACHIEVED INSIDE THE SITE:

a. NO UNDUE SETTLEMENT OR MOVEMENT OF ANY SETTLEMENT CHECKPOINTS OR TILTING CHECKPOINTS AS STATED IN APPROVED EXCAVATION AND LATERAL SUPPORT WORKS PLAN OR NO DEFECT/DAMAGE TO ADJACENT GROUND/ STRUCTURES/ UTILITIES.
b. THE GROUND SETTLEMENT DURING DEWATERING SHOULD NOT EXCEED 5.0mm.

(V) ASSESSMENT REPORT

1. AFTER COMPLETION OF THE PUMPING TEST, THE CONTRACTOR SHALL PREPARE AN ASSESSMENT REPORT BASED ON THE TEST RESULTS DISCUSSING THE ASSUMED AND ACTUAL CONDITIONS ON SITE. INTERPERT THE RESULTS AND ASSESS THE EFFECTS TO THE SURROUNDING STRUCTURES AND UTILITIES. THIS REPORT SHALL BE SUBMITTED TO THE AP/RSE/RGE FOR VERIFICATION OF THE WATER CUT-OFF EFFECTIVENESS OF THE SHEET PILE WALL. THIS REPORT SHALL BE SUBMITTED TO BD'S SATISFACTION AFTER REVIEWED AND APPROVED BY AP/RSE/RGE.

(VI) CONTINGENCY MEASURES

1. 2 NUMBERS OF RECHARGE WELL WOULD BE PROVIDED AS CONTINGENCY MEASURES IF GROUNDWATER DRAWDOWN EXCEEDING THE LIMIT AND UNSATISFACTORY PERFORMANCE DURING RECOVERY PHASE WERE FOUND. THE LOCATION OF RECHARGE WELL ARE SHOWN AT DWG. NO. ELS-13

GENERAL NOTES ON PUMPING TEST

1. THE PUMPING WELLS SHOWN ARE MINIMUM REQUIREMENT ONLY. NOTWITHSTANDING THESE MINIMUM REQUIREMENTS, IT IS THE CONTRACTOR'S RESPONSIBILITY TO TAKE WHATEVER ADDITIONAL MEASURES THAT ARE NECESSARY TO ENSURE THE WATER LEVEL INSIDE THE SITE CAN BE LOWERED TO THE TO THE DESIGNATED LEVEL WITHOUT EXCEEDING THE DRAWDOWN AND SETTLEMENT CRITERIA STATED IN THIS DRAWING.
2. INSTALLATION RECORDS AND RESPONSE TEST RESULTS OF THE PIEZOMETERS, STANDPIPES, PUMPING WELLS AND OBSERVATION WELLS SHALL BE SUBMITTED PRIOR TO THE COMMENCEMENT OF THE PUMPING TEST.
3. THE PUMPING WELLS AND OBSERVATION WELLS FORM PART OF THE DEWATERING SYSTEM FOR THE FURTURE EXCAVATION.
4. THE TARGET GROUNDWATER TABLES TO BE LOWERED WITHIN THE SITE, AS RECORD BY OBSERVATION WELLS

	TARGET						
OBSERVATION WELL	P1	P2	P3	P4	P5	P6	P7
DRAWDOWN LEVEL (mPD)	-8.075	-8.075	-8.075	-7.375	-10.325	-8.075	-8.075

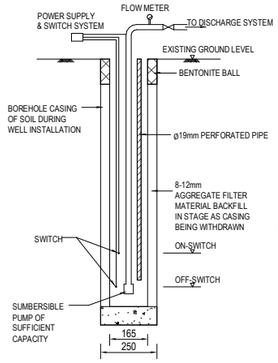
5. THE PUMPING TEST SHALL BE STOPPED IN CASE THE GROUNDWATER DRAWDOWN OUTSIDE THE SITE EXCEEDS 2.0m. THE CONTRACTOR SHALL INVESTIGATE THE CAUSE OF THE DRAWDOWN AND IMPROVEMENT MEASURES SHALL BE PROPOSED AND IMPLEMENTED. CONTINGENCY MEASURES SUCH AS INSTALLATION OF RECHARGE WELLS BEHIND SHEET PILE WALLS MAY BE REQUIRED.
6. COMPLETE PUMPING TESTS RESULT SHALL BE SUBMITTED TO BD AFTER THE SUCCESSFUL COMPLETION.
7. PUMP WELLS AND OBSERVATION WELLS SHALL BE PROTECTED FROM DAMAGE. WORKS SHALL BE CARRIED OUT WITH DUE CARE IN PROXIMITY OF THOSE WELLS.
8. IN CASE THE PUMP/OBSERVATION WELL HAS BEEN DAMAGED DURING ANY TIME OF THE CONSTRUCTION WORKS, THE CONTRACTOR SHALL INFORM AP/RSE/RGE IMMEDIATELY AND REINSTATEMENT SHALL BE CARRIED OUT WITHOUT DELAY.

NOTES FOR PARTIAL PUMPING TEST

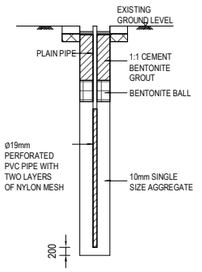
1. PARTIAL PUMPING TEST SHALL BE CARRIED OUT AFTER INSTALLATION OF PILES AND BEFORE COMMENCEMENT OF BULK EXCAVATION.
2. INSTALL PUMP WELL, OBSERVATION WELL, RECHARGING WELL AND PIEZOMETER.
3. THE PUMPING TEST PROPOSAL TO BE SUBMITTED SEPARATELY.
4. THE CRITERIA OF PUMPING TEST REFERS TO THE DWG. NO. ELS-13.
5. AFTER COMPLETION OF THE PARTIAL PUMPING TEST, AN ASSESSMENT REPORT SHALL BE PREPARED BY CONTRACTOR. THIS REPORT SHOULD BE SUBMITTED TO BUILDING AUTHORITY.

MEASURED GROUNDWATER DRAWDOWN

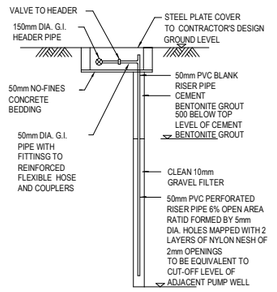
	ALERT LEVEL	ALARM LEVEL	ACTION LEVEL
OBSERVATION WELLS (OW2, OW4, OW6, OW8, OW10, OW12, OW14)	0.75m BELOW THE LOWEST MEASURED GROUND WATER TABLE (RECORDS WITHIN 72 HOURS PRIOR TO THE CARRYING OUT OF PUMPING TEST)	0.80m BELOW THE LOWEST MEASURED GROUND WATER TABLE (RECORDS WITHIN 72 HOURS PRIOR TO THE CARRYING OUT OF PUMPING TEST)	0.87m BELOW THE LOWEST MEASURED GROUND WATER TABLE (RECORDS WITHIN 72 HOURS PRIOR TO THE CARRYING OUT OF PUMPING TEST)



TYPICAL DETAILS OF PUMP WELL
(N.T.S.)



TYPICAL DETAILS OF OBSERVATION WELL
(N.T.S.)



TYPICAL DETAILS OF RECHARGE WELL
(N.T.S.)

LEGEND AND NOTES:

- BOUNDARY LINE
- BH2(P) — BORED HOLE (WITH PIEZOMETER) (BH1 (P), BH2 (P) AND BH5 (P) BH6 (P), BH9 (P) AND BH10 (P) 6NOS.)
- BH2 — BORED HOLE (BH3, BH4, BH7 AND BH8 4 NOS.)
- 4.15 — EXISTING GROUND LEVEL
- GAS — GAS PIPE
- S WAT — SALT WATER PIPE
- ELEC — ELECTRIC CABLE
- FOUL — FOUL WATER PIPE
- F WAT — FRESH WATER PIPE

INSTRUMENT SCHEDULE

SYMBOL	TYPE	NUMBER
BS1	BUILDING SETTLEMENT MARKER (BS1-BS12)	12
T1	BUILDING TILTING CHECK POINT WITH VERTICAL DISPLACEMENT (T1-T11)	11
S1	GROUND SETTLEMENT CHECK POINT (S1-S10)	10
OW1	OBSERVATION WELL (OW1-OW14)	14
P1	PUMP WELL (P1 TO P7)	7
RW1	RECHARGE WELL (RW1-RW7)	7
SP1(P)	STANDPIPE (WITH PIEZOMETER) (SP1(P) TO SP5(P))	5
U1	UTILITY SETTLEMENT MONITORING POINT ON GROUND (U1-U12)	12
V1	VIBRATION CHECK POINT (V1-V11)	11

BD REF :
BIM REF :

REV	DATE	AMENDMENT

PROJECT
CIC SAMPLE PROJECT

DRAWING TITLE
EXCAVATION & LATERAL SUPPORT WORKS PUMPING TEST SETTING OUT PLAN

SCALE AS SHOWN@A1

DRAWING NO. E009
REV. NO.

SOURCE ---

90mm (W) x 40mm (H) space for COMPANY LOGO

90mm (W) x 60mm (H) space for AP/RSE/RGE's signature/ and stamp chop

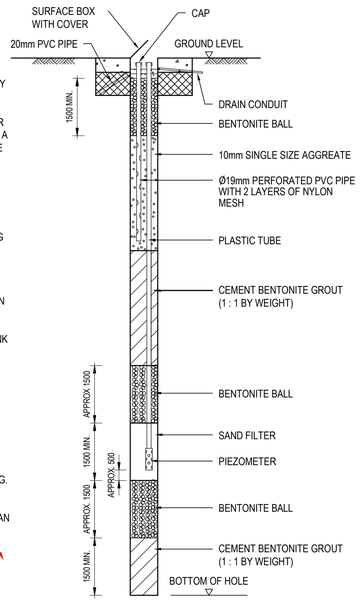
BD's OFFICAL USE

90mm (W) x 150mm (H) space for BD's approval stamp / certification of copies of approved plans (PNAP ADM-10 APP A)

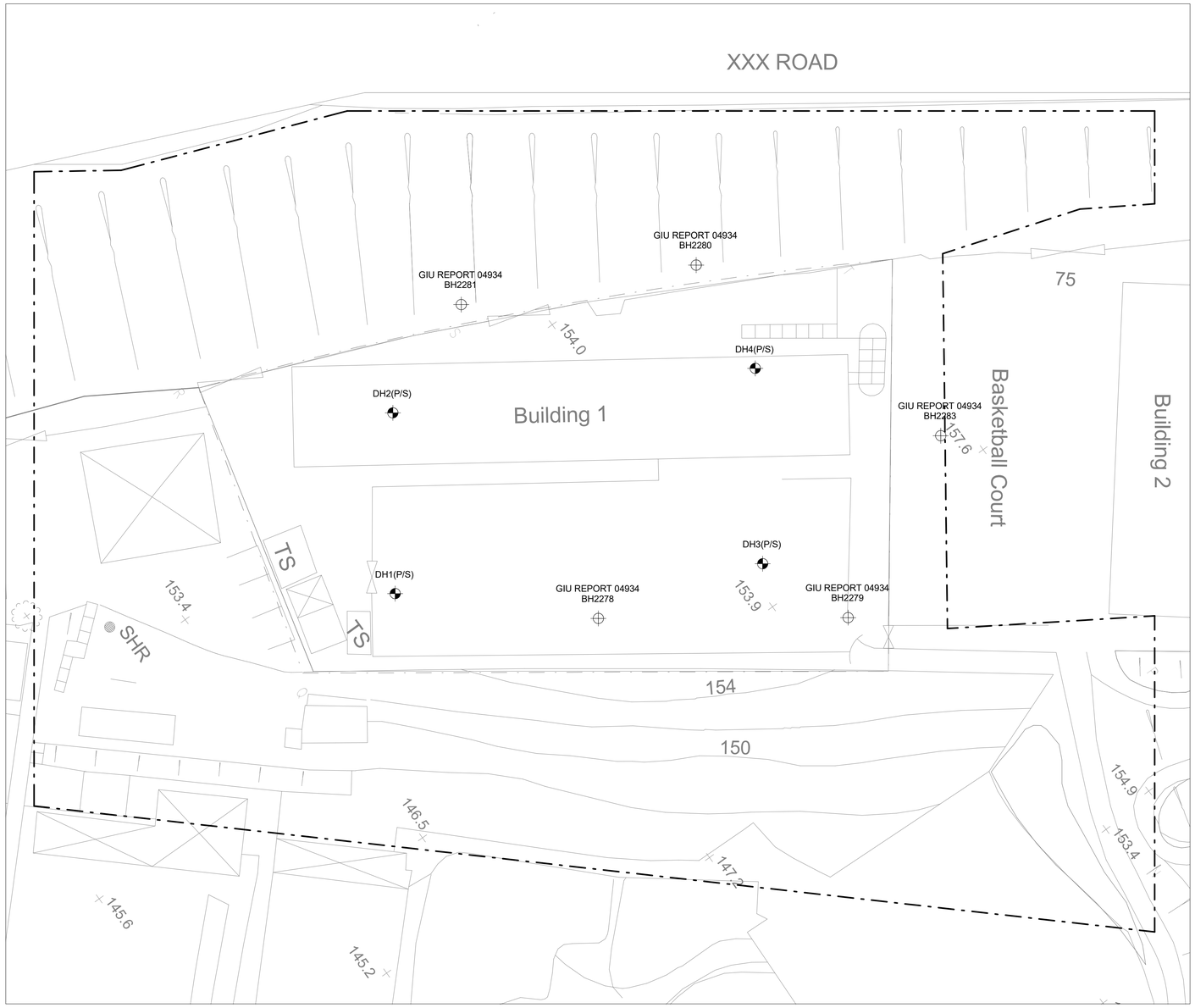
BLOCK PLAN
1 : 500

NOTES FOR GI PLAN

1. LEVEL SHALL REFER TO METERS ABOVE PRINCIPAL DATUM, HONG KONG.
2. THE CONTRACTOR SHALL SET OUT THE LOCATIONS OF GI STATIONS PRIOR TO COMMENCEMENT OF THE WORKS. EXACT LOCATIONS ARE TO BE CONFIRMED BY OF WORKS.
3. THE CONTRACTOR SHALL EXERCISE EXTREME CARE SO AS NOT TO DISTURB OR DAMAGE ANY UTILITIES PRIOR TO THE COMMENCEMENT OF ROTARY DRILLING. A HAND EXCAVATED INSPECTION PIT SHALL BE CARRIED OUT AT EACH DRILLHOLE TO LOCATE ANY UNDERGROUND UTILITIES BEFORE DRILLING.
4. ALL WORKS SHALL BE CARRIED OUT IN ACCORDANCE WITH THE RECOMMENDATIONS OF GEOGUIDE 2, CEOGUIDE 3, APP49 AS WELL AS APP24.
5. INSPECTION PIT (APPROXIMATELY 1.2m x 1.2m x 1.5m DEEP) SHALL BE HANG DUG AND ARE CARRIED OUT TO ENSURE THAT THE PROPOSED DRILLING LOCATION WILL NOT INTERECEPT THE EXISTING UNDERGROUND UTILITIES AND FOUNDATION. SHOULD EXISTING UTILITIES AND FOUNDATIONS BE ENCOUNTERED THE DRILLHOLE WILL BE RELOCATED IN THE VICINITY OF THE CONCERNED LOCATION BY THE INSTRUCTION OF THE ENGINEER
   FOR REFERENCE ONLY
6. PROPOSED BOREHOLES SHALL BE H SIZE IN SOIL AND ROCK AND SHALL BE SUNK BY ROTARY DRILLING METHOD USING WATER AS FLUSHING MEDIUM.
7. MAZIER SAMPLES SHALL BE TAKEN AT 20m INTERNALS COMMENCING AT 0.5m BELOW INSPECTION PIT OF DRILLHOLES.
8. STANDARD PENETRATION TEST (SPT) WITH LINER SAMPLES SHALL BE CARRIED OUT AT 2.0m INTERNALS. IF SPT ARE CARRIED OUT AT LEVEL SAME AS THE LEVEL FOR MAZIER SAMPLING. THE SPT SHOULD BE CARRIED OUT AFTER MAZIER SAMPLING.
9. ROCKHEAD SHAL BE DEFINED AS THE SURFACE OF CAT I(C) OR BETTER ROCK WITH TOTAL CORE RECOVERY (TCR OF THE DESIGNATED GRADE) GREATER THAN 85%. THE DEFINITION OF TOTAL CORE RECOVERY IS IN ACCORDANCE WITH CODE OF PRACTICE FOR FOUNDATIONS, 2017.



DETAILS OF PIEZOMETER
N.T.S



PROPOSED GROUND INVESTIGATION PLAN
1 : 250

- SITE BOUNDARY
- PROPOSED VERTICAL DRILLHOLE WITH STANDPIPE / PIEZOMETER
- AVAILABLE EXISTING DRILLHOLES NEARBY THE PROJECT SITE

PROPOSED DRILLHOLE SCHEDULE		
Mark	Easting	Northing
DH1(P/S)	832043740	813811230
DH2(P/S)	832029510	813821270
DH3(P/S)	832062200	813841590
DH4(P/S)	832046550	813852060

EXISTING DRILLHOLE SCHEDULE		
Mark	Easting	Northing
GIU REPORT 04934 BH2278	832057170	813825680
GIU REPORT 04934 BH2279	832071240	813845210
GIU REPORT 04934 BH2280	832035150	813853290
GIU REPORT 04934 BH2281	832024940	813832730
GIU REPORT 04934 BH2283	832062290	813862720

BD REF :

BIM REF :

REV	DATE	AMENDMENT

PROJECT
CIC SAMPLE PROJECT

DRAWING TITLE
PROPOSED GROUND INVESTIGATION PLAN

SCALE As indicated@A1

DRAWING NO. G001

REV. NO.

SOURCE ---

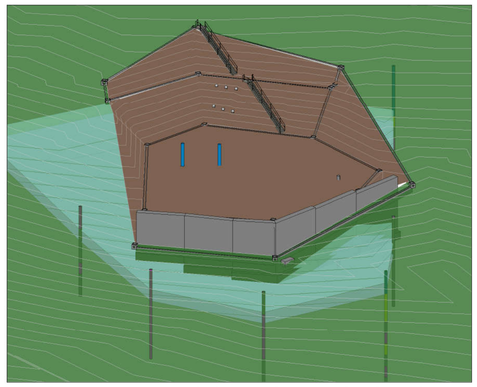
90mm (W) x 40mm (H) space for COMPANY LOGO

90mm (W) x 60mm (H) space for AP/RSE/RGE's signature/ and stamp chop

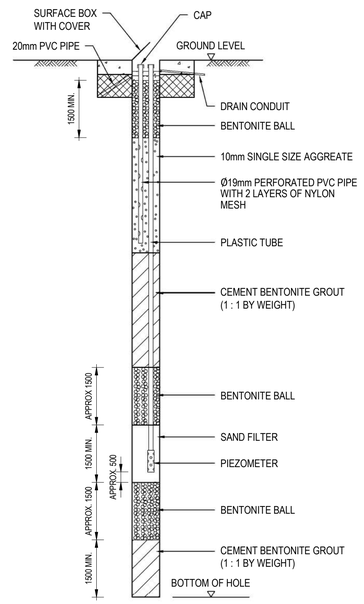
BD's OFFICAL USE

90mm (W) x 150mm (H) space for BD's approval stamp / certification of copies of approved plans (PNAP ADM-10 APP A)

SITE FORMATION BLOCK PLAN
1 : 500



OVERVIEW IN 3D (FOR INFORMATION ONLY)



STANDPIPE / PIEZOMETER
N.T.S.

NOTES

1. THE CONTRACTOR SHALL MAINTAIN AND PROTECT ALL EXISTING FACILITIES AND DRAINAGE SYSTEM WITHIN AND NEARBY THE SITE UNLESS OTHERWISE INSTRUCTED BY THE SUPERVISOR.
2. ANY UTILITIES SHOWN ON THIS PLAN ARE INDICATIVE ONLY.THE CONTRACTOR IS RESPONSIBLE FOR CONFIRMING THE EXACT LOCATIONS AND ALIGNMENT ON SITE.
3. IF THE CUT SLOPE TO BE LAST FOR MORE THAN A YEAR, SHOTCRETE OR SIMILAR SLOPE SURFACE PROTECTIVE MEASURE SHALL BE APPLIED.
4. TEMPORARY DRAINAGE REFER TO TEMPORARY DRAINAGE MANAGEMENT PLAN.
5. IF THE LOADING OR GROUNDWATER CONDITIONS ARE DEVIATED FROM THE DESIGN ASSUMPTIONS, FURTHER DESIGN OR CHECKING SHALL BE REQUIRED TO CONFIRM THE MAXIMUM CUT SLOPE ANGLE.
6. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH THE SPECIFICATIONS AND THE PARTICULAR REQUIREMENTS WHICH ARE SHOWN ON INDIVIDUAL DRAWINGS.
7. UNLESS OTHERWISE SPECIFIED, THESE GENERAL NOTES ARE APPLICABLE TO ALL GEOTECHNICAL WORKS OF SITE FORMATION.
8. ALL WORKS SHALL BE CARRIED OUT IN ACCORDANCE WITH THE GENERAL SPECIFICATION FOR CIVIL ENGINEERING WORKS 2006 OR OTHERWISE SPECIFIED.
9. THE BOTTOM OF THE EXCAVATION SHALL BE KEPT DRY. WATERFLOW INTO THE EXCAVATION SHALL BE PUMPED TO SAFE DISCHARGE POINT TO AVOID PONDING AT BASE OF EXCAVATION.
10. ALL EXCAVATION WORK SHALL NOT REDUCE THE REQUIRED STABILITY OF THE SLOPE.
11. IF DURING EXECUTION OF THE WORKS, THE GROUND CONDITIONS ARE FOUND TO BE SUBSTANTIALLY DIFFERENT FROM THE DESIGN, THE ENGINEER MAY CHANGE THE DESIGN AND THE EXTENT OF THE WORKS IN ORDER TO ADDRESS THE ACTUAL GROUND CONDITIONS.
12. DURING THE EXECUTION OF WORKS, RECORDS SHALL BE SUBMITTED TO THE ENGINEER OF THE GROUND ENCOUNTERED. THESE RECORDS SHALL INCLUDE THE LEVELS OF SOIL AND ROCK ACROSS THE SLOPE FACE, THE OCCURRENCE OF GROUNDWATER AND THE LOCATIONS OF ANY VOIDS OR WEAK OR WET GROUND.
13. REGULAR CLEAN-UP OF DIESEL AND OIL SPILLS SHALL BE CARRIED OUT TO PREVENT CONTAMINATION OF SURFACE DRAINAGE WATER.

DIMENSIONS, LEVELS & SETTING-OUT

1. COORDINATES ARE BASED ON HONG KONG METRIC GRID (1980) UNLESS OTHERWISE SPECIFIED.
2. LEVELS ARE IN METRES RELATIVE TO HONG KONG PRINCIPAL DATUM (mPD) UNLES OTHERWISE SPECIFIED.
3. DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SPECIFIED.
4. SETTING OUT DIMENSIONS, LEVELS, COORDINATES ARE TO BE CALCULATED BY THE CONTRACTOR. NO INFORMATION SHOULD BE SCALED PHYSICALLY OR ELECTRONICALLY FROM THE DRAWINGS OR FILES.
5. SETTING OUT OF ALL SLOPES SHALL BE VERIFIED BY THE CONTRACTOR AND AGREED WITH THE ENGINEER ON SITE.

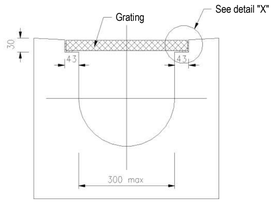
UTILITIES

1. PRIOR TO COMMENCEMENT OF THE WORKS, THE CONTRACTOR SHALL CONFIRM THE EXACT LOCATIONS OF THE EXISTING UTILITIES AFFECTING OR TO BE AFFECTED BY THE WORKS USING INSPECTION PITS OR OTHER MEANS AS RECOMMENDED BY THE RELEVANT UTILITY / SERVICES COMPANIES OR PARTIES CONCERNED.
2. THE CONTRACTOR SHALL EXERCISE EXTREME CARE NOT TO DAMAGE ANY EXISTING UTLITIES OR SERVICES WITHIN OR IN THE VICINITY OF THE WORKS SITE AND WORKS AREA AND SHALL PROVIDE NECESSARY PROTECTION AND SUPPORT TO THE EXISTING UTLITIES OR SERVICES ACCORDANCE WITH THE REQUIREMENTS OF THE RELEVANT OF UTILITY / SERVICES COMPANIES OR PARTIES CONCERNED DURING THE EXECUTION WORKS. SHOULD ANY DAMAGE OCCUR TO THE UTILITIES / SERVICES DUE TO THE THE WORKS. SHOULD ANY DAMAGE OCCUR TO THE UTILITIES / SERVICES DUE TO THE CONTRACTOR'S WORKS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY COST INCURRED FROM THE DAMAGE.

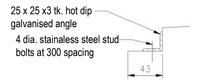
THE PROTECTION OF EARTHWORKS AGAINST HEAVY RAINFALL

1. SURFACE WATER FLOWING INTO THE SITE FROM UPHILL SHALL BE INTERCEPTED AND CONDUCTED FROM THE SITE TO SAFE DISCHARGE POINT. AT EACH INTERSECTION AND ABRUPT CHANGE IN DIRECTION OF SURFACE DRAINAGE CHANNELS AN ACCESSIBLE CATCHPIT SHALL BE PROVIDED, ALL DRAINAGE WORKS SHALL BE KEPT CLEAR OF DEBRIS.
2. WHERE PARTIALLY COMPLETED DRAINAGE WORKS DISCHARGE WITHIN THE SITE, A TEMPORARY CONDUIT SHALL BE PROVIDED TO THE DISCHARGE POINT.
3. ALL EARTHWORKS SHALL BE GRADED AND SEALED TO ENSURE RUN-OFF AND TO AVOID PONDING.
4. A METHOD OF WORKING SHALL BE ADOPTED IN WHICH THE MINIMUM OF BARE SOIL IS EXPOSED AT ANY TIME. EARTHWORK TO FORM THE FINAL FACE SHALL BE FOLLOWED UP IMMEDIATELY WITH SURFACE PROTECTION AND DRAINAGE WORKS AND THE FACE PANEL SIZE SHALL BE ENOUGH TO PERMIT THIS.
5. EXCAVATION SHALL NOT BE LEFT OPEN ON OR ADJACENT TO SLOPES.
6. IF TRENCHES ON OR ADJACENT TO SLOPE HAVE TO BE EXCAVATED DURING THE WET SEASON, THIS SHALL BE DONE WITH EXTREME CARE IN SHORT SECTIONS AT A TIME. PRECAUTIONS SHALL ALWAYS BE TAKEN TO PREVENT WATER FROM ENTERING AND COLLECTING IN THE TRENCH.
7. WHERE TEMPORARY BARE EARTH SLOPE FACES ARE UNAVOIDABLE, THEY SHALL BE PROTECTED WITH IMPERMEABLE SHEETING WELL-SECURED AGAINST THE WIND. WHERE SLOPE FACES ARE TO BE TEMPORARILY EXPOSED FOR MORE THAN TWO WEEKS TEMPORARY HARD SURFACING SHALL BE PROVIDED AND TEMPORARY DRAINS SHALL BE INSTALLED.

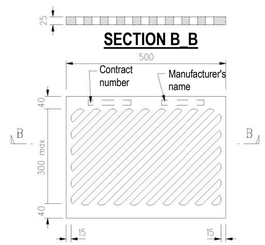
For Reference Only



TYPICAL CROSS SECTION OF CHANNEL



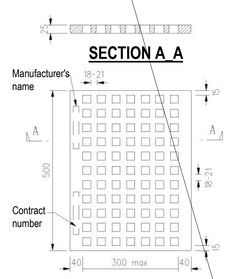
DETAIL "X"
(Scale 1:5)



SECTION B_B

GRATING - OBLIQUE BARS PATTERN

(All slots and ribs are 18 in width. Exact no. of slots and ribs to be adjusted to suit channel width)



SECTION A_A

GRATING - SQUARE HOLES PATTERN

(All hole are 25 x 25 in size and all ribs are of equal width. Exact no. of holes and ribs to be adjusteed to suit channel width)

BD REF :

BIM REF :

REV	DATE	AMENDMENT

PROJECT
CIC SAMPLE PROJECT

DRAWING TITLE
SITE FORMATION BLOCK PLAN

SCALE As indicated@A1

DRAWING NO. T001

REV. NO.

SOURCE ---

90mm (W) x 40mm (H) space for COMPANY LOGO

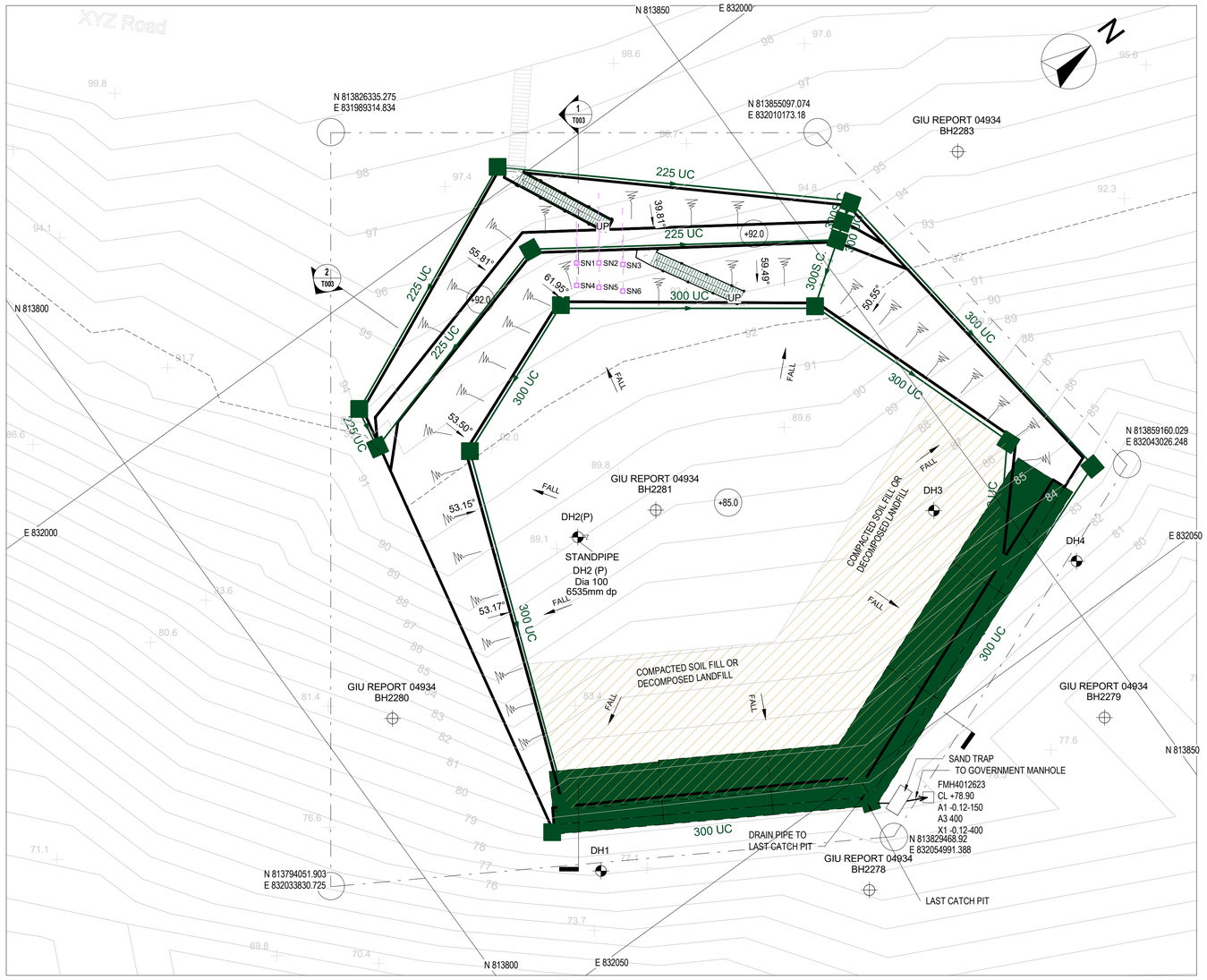
90mm (W) x 60mm (H) space for AP/RSE/RGE's signature/ and stamp chop

BD's OFFICAL USE

90mm (W) x 150mm (H) space for BD's approval stamp / certification of copies of approved plans (PNAP ADM-10 APP A)

LEGEND:

- SITE BOUNDARY
- SLOPE BERM / PLATFORM LEVEL (+5.0)
- U-CHANNEL (225UC)
- RETAINING WALL
- CATCHPIT WITHOUT COVER
- SOIL NAIL (SN)
- SOIL CUT SLOPE
- SOIL FILL SLOPE
- ROCK CUT SLOPE
- ROCK FILL SLOPE
- EXISTING GROUND PROFILE (150 / 151)
- FINAL SITE FORMATION LEVEL (150 / 151)
- DH1 — PROPOSED VERTICAL DRILLHOLE WITH STANDPIPE PIEZOMETER
- DH2 — AVAILABLE EXISTING DRILLHOLES NEARBY THE PROJECT SITE



SITE FORMATION LAYOUT PLAN

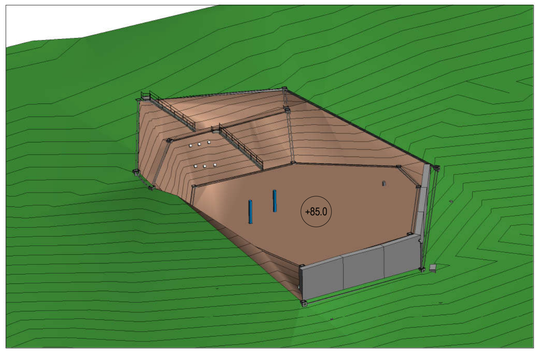
1 : 200

CATCHPIT SCHEDULE					
Catchpit Base Slab Depth	Catchpit Depth	Catchpit Length	Catchpit Width	Catchpit Material	Count
150	655	800	800	Concrete Grade 20/20	16
150	655	989.18	800	Concrete Grade 20/20	1

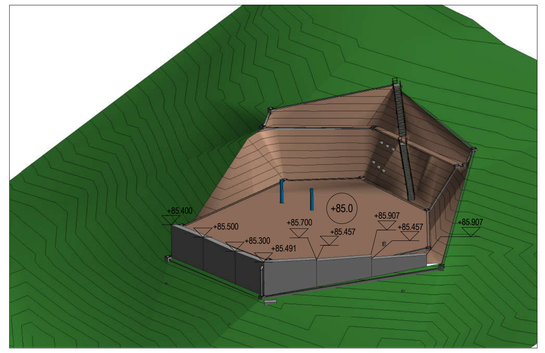
Grand total: 17

SOIL NAIL SCHEDULE						
Mark	Type	Soil Nail Dia	Northing	Easting	Soil Nail Inclination	Soil Nail Total Length
SN1	Nail Head_400x400	50	813835.295	832007.543	20.00°	4000
SN2	Nail Head_400x400	50	813836.607	832008.495	20.00°	5000
SN3	Nail Head_400x400	50	813837.956	832009.604	20.00°	4000
SN4	Nail Head_400x400	50	813834.333	832008.869	20.00°	4000
SN5	Nail Head_400x400	50	813835.564	832009.933	20.00°	5000
SN6	Nail Head_400x400	50	813836.811	832011.183	20.00°	4000

GI Schedule		
Mark	Northing	Easting
DH1	813810690.2	832044484.336
DH2(P)	813823615.425	832023778.222
DH3	813845788.059	832037467.269
DH4	813852049.716	832046564.18



3D View from South For Information Only



3D View from East For Information Only

BD REF :

BIM REF :

REV	DATE	AMENDMENT

PROJECT
CIC SAMPLE PROJECT

DRAWING TITLE
SITE FORMATION LAYOUT PLAN

SCALE As indicated@A1

DRAWING NO. T002

REV. NO.

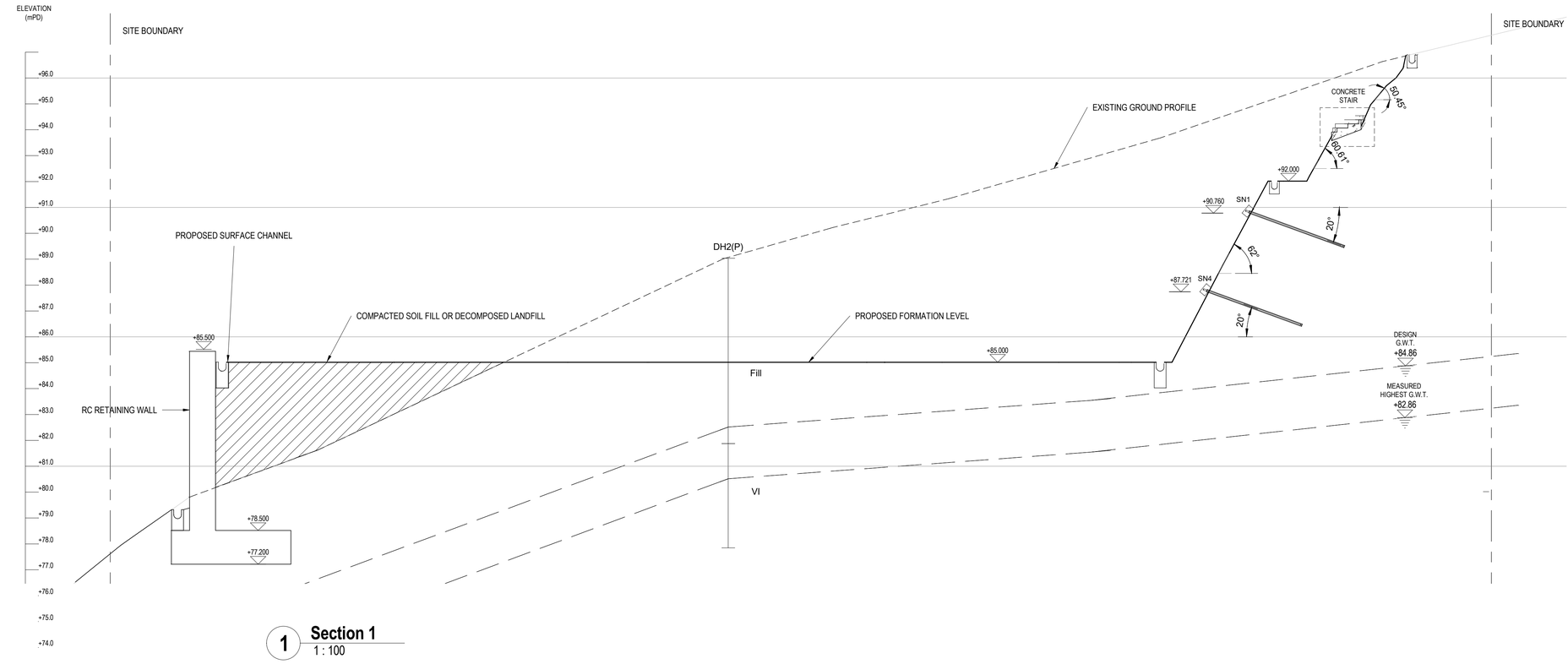
SOURCE ---

90mm (W) x 40mm (H) space
for COMPANY LOGO

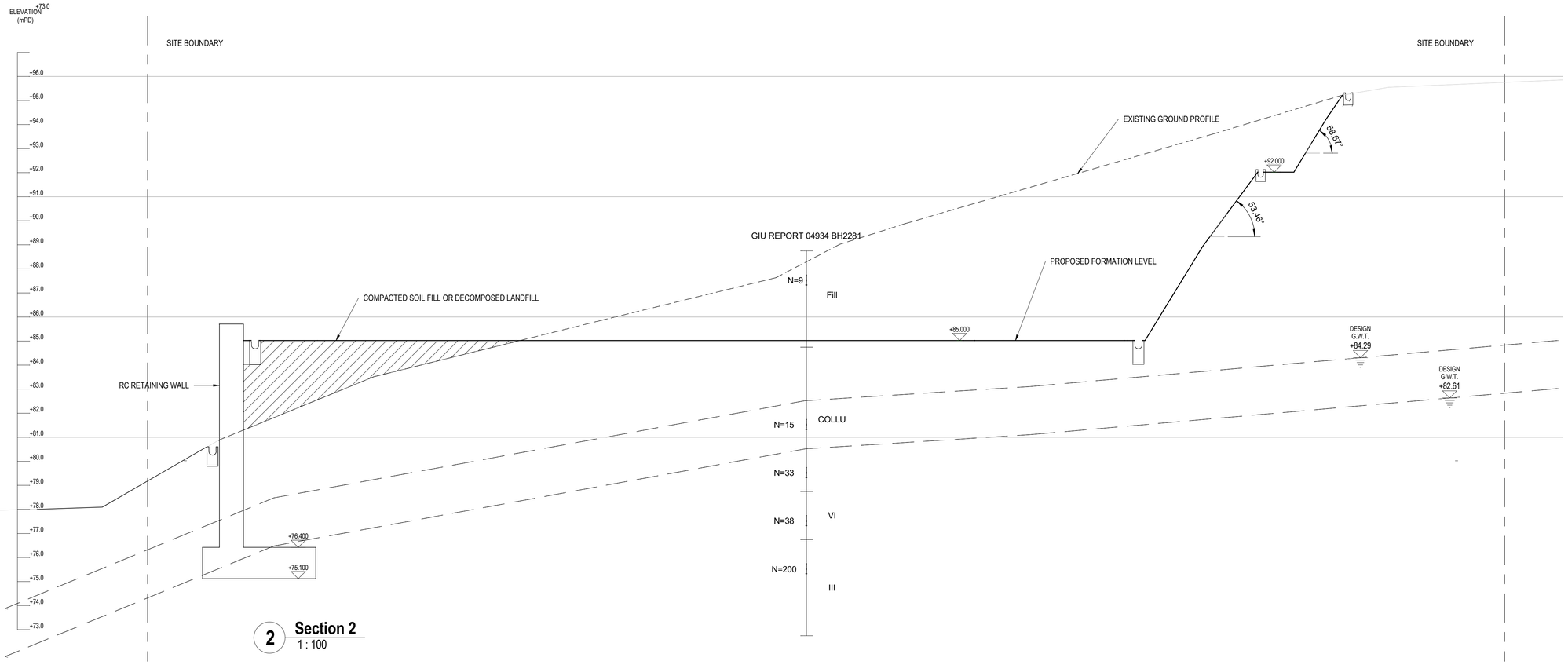
90mm (W) x 60mm (H) space
for AP/RSE/RGE's
signature/ and stamp chop

BD's OFFICIAL USE

90mm (W) x 150mm (H) space
for BD's approval stamp /
certification of copies of
approved plans
(PNAP ADM-10 APP A)



1 Section 1
1 : 100



2 Section 2
1 : 100

BD REF :

BIM REF :

REV	DATE	AMENDMENT

PROJECT
CIC SAMPLE PROJECT

DRAWING TITLE
SITE FORMATION SECTIONS

SCALE 1 : 100@A1

DRAWING NO. T003

REV. NO.

SOURCE ---

90mm (W) x 40mm (H) space for COMPANY LOGO

90mm (W) x 60mm (H) space for AP/RSE/RGE's signature/ and stamp chop

BD's OFFICAL USE

90mm (W) x 150mm (H) space for BD's approval stamp / certification of copies of approved plans (PNAP ADM-10 APP A)

GENERAL NOTES

1. THE WHOLE DRAINAGE INSTALLATION SHALL COMPLY WITH THE REQUIREMENTS OF THE BUILDINGS ORDINANCE AND BUILDING REGULATIONS AND THE CURRENT REGULATIONS OF HONG KONG ENVIRONMENTAL PROTECTION DEPARTMENT.
2. ALL DIMENSIONS AND PIPE SIZES SHOWN ON THE DRAWINGS ARE IN mm UNLESS OTHERWISE STATED.
3. WHERE THE WASTE PIPE FROM A WASTE FITMENT IS CONNECTED TO A SOIL PIPE, THE TRAP PROVIDED FOR EACH FITMENT SHALL HAVE A WATER SEAL NOT LESS THAN 80mm AND BE VENTED BY MEANS OF ANTISYPHONAGE PIPE OR ANTISYPHONAGE TRAP.
4. HORIZONTAL VENT PIPE SHALL BE INSTALLED IN A MANNER THAT THERE IS A CONTINUOUS FALL BACK AT A GRADIENT OF NOT LESS THAN 1 IN 300 INTO THE DISCHARGE PIPE SYSTEM.
5. UNLESS OTHERWISE STATED GRADIENT OF DRAIN PIPES SHALL BE AS FOLLOWS:-

ø100	FALL 1 : 40
ø150	FALL 1 : 70
ø225	FALL 1 : 100
ø300 OR ABOVE	FALL 1 : 150

6. ALL UNDERGROUND PIPES SHALL BE PROVIDED WITH PIPE HAUNCHING OR SURROUNDED BY CONCRETE AS SHOWN ON DETAILS DRAWINGS. THE DRAINAGE SUB-CONTRACTOR SHALL CHECK THE SITE BEFORE CONSTRUCTION AND RECTIFY THE PROPOSED PIPE ROUTING.
7. INSPECTION PANELS OF ADEQUATE SIZE SHALL BE PROVIDED AT PIPE DUCTS AND SHAFTS FOR INSPECTION AND MAINTENANCE OF PIPES.
8. ALL BACK INLET TRAPPED GULLIES SHALL BE VENTILATED BY MEANS OF 80mm DIA. VENT PIPE.
9. ALL SOIL WASTE AND VENT STACKS SHALL BE CARRIED UP TO THE ROOF AND TERMINATED AT NOT LESS THAN 1000mm ABOVE THE ROOF OR AS SHOWN IN DRAWINGS.
10. EVERY ANTI-SYPHONAGE PIPE SHALL BE CONNECTED WITH BRANCH SOIL PIPE OR BRANCH WASTE PIPE AT A POINT NOT MORE THAN 300mm FROM TRAP OUTLET.
11. WHETHER SHOWN ON THE DRAWINGS OR NOT, SUFFICIENT ACCESS SHALL BE PROVIDED BY MEANS OF CLEANING EYES OR OTHER APPROVED METHOD TO ENABLE ALL DRAINAGE PIPES TO BE CLEARED OF ANY OBSTRUCTION. SUCH ACCESS POINTS SHALL BE SO SITED AT TO ALLOW CLEARANCE FOR THE EASY ENTRY OF CLEANING ROD.
12. ALL BENDS IN SOIL PIPES AND WASTE PIPES SHALL HAVE AN OBTUSE ANGLE AND HAVE THE LARGEST PRACTICABLE RADIUS OF CURVATURE. THE BENDS SHALL NOT CHANGE IN ANY WAY OF THE SECTION OF THE PIPE AND A CLEANING EYE SHALL BE PROVIDED AT OR NEAR THE BEND.
13. ALL FLOOR DRAINS ARE TO BE COMPLETED WITH FLAT GRATING. THEIR SIZE ARE NOTED AS FOLLOW:

OUTLET SIZE	GRATING SIZE
ø50	ø100
ø80	ø150
ø100	ø225
ø150	ø300

FOR REFERENCE ONLY

14. THE SUB-CONTRACTOR SHOULD CHECK AND ALLOW ADEQUATE FALL FOR THE SOIL/WASTE PIPE RUNNING ON FLOOR LEVEL.
15. ALL PIPES PASSING THROUGH EXIT STAIRCASES, FIRE PROTECTED LOBBIES SHALL BE ENCLOSED IN FRR -/60/60 MATERIAL & BASEMENT IN FRR -/120/120 MATERIAL BY MAIN CONTRACTOR.
16. EXPANSION JOINTS SHALL BE PROVIDED FOR PIPEWORK PASSING THROUGH BUILDING EXPANSION JOINTS.
17. UNLESS OTHERWISE STATED, BRANCH PIPE SIZE SHALL BE AS FOLLOWS:

WASTE BRANCH FOR EACH WASH BASIN	32mm
WASTE BRANCH FOR EACH KITCHEN SINK	40mm
WASTE BRANCH FOR EACH FLOOR DRAIN IN TOILET	50mm
WASTE BRANCH FOR EACH SHOWER DRAIN IN TOILET	50mm
WASTE BRANCH FOR EACH BATH IN TOILET	40mm
WASTE BRANCH FOR EACH FLOOR DRAIN IN PLANT RM.	100mm
SOIL BRANCH FOR EACH URINAL	40mm
SOIL BRANCH FOR EACH WATER CLOSET	100mm
VENT BRANCH FOR EACH WATER CLOSET	50mm
VENT BRANCH FOR EACH URINAL	32mm

18. ALL MANHOLE AND BITG FRAMES AND COVERS (INCLUDING CAST IRON COVER AND MATCHING COVER) SHALL BE OF AN APPROVED DESIGN CONFORMING TO THE FOLLOWING REQUIREMENTS, UNLESS OTHERWISE INDICATED:
    a. INDOOR CARPARK AREA/DRIVE WAY - HEAVY DUTY TYPE DOUBLE SEAL
    b. OUTDOOR CARPARK AREA/DRIVE WAY - HEAVY DUTY TYPE SINGLE SEAL
    c.INSIDE BUILDING - MEDIUM DUTY TYPE DOUBLE SEAL
19. ALL UNDERGROUND DRAINS ARE TO BE LAID ON A CONCRETE BED NOT LESS THAN 100mm THICK AND AT LEAST 150mm WIDER THAN THE PIPE BORE AND AUNCHED UP BOTH SIDES WITH CONCRETE TO MEET THE PIPE BARREL TANGENTIALLY.
20. ALL INVERT LEVELS SHOWN ON MANHOLES ARE THE INVERT LEVEL OF THE MAIN CHANNELS IN THE CENTRE OF MANHOLES.
21. ALL UNDERGROUND DRAINS SHALL BE DULY TESTED AND COMPLIED WITH THE REQUIREMENT STATED ON PNRC 11 & PNAP APP-58 PRIOR TO THE BACKFILLING OF TRENCHES.
22. WHETHER SHOWN ON THE DRAWING OR NOT, SUFFICIENT PROTECTIVE GUARD SHALL BE SUPPLIED AND INSTALLED BY MAIN CONTRACTOR.
23. POSITION OF MANHOLES SHALL BE CO-ORDINATE WITH OTHER TRADES/SERVICES. EXACT POSITION AND SET-OUT TO BE DETERMINED ON SITE.
24. CAST IRON AIRTIGHT BOLTED COVER SHALL BE USED TO BACK INLET TRAPPED GULLIES WHICH ARE SITUATED INSIDE BUILDING AND THE AIR TIGHT TRAPPED GULLIES SHALL BE VENTILATED.
25. EVERY STORM WATER PIPE WHICH DISCHARGE TO A CHANNEL OR A TRAP SHALL DISCHARGE AT A POINT NOT MORE THAN 150MM ABOVE THE TOP OF THE CHANNEL OR DISCHARGE INTO A TRAPPED AND VENTED INSPECTION CHAMBER.
26. SIZE OF TRAPS FOR FITMENTS SHALL BE THE SAME AS THE PIPE SIZE NOTED FOR FITMENTS.
27. FACES OF EVERY MANHOLE WITHIN SITE SHALL BE RENDERED WITH CEMENT MORTAR SO AS TO PROVIDE A SMOOTH AND IMPERVIOUS SURFACE.
28. UPON THE COMPLETEION OF DRAINAGE CONNECTION WORKS BY THE SUB-CONTRACTOR. A JOINT INSPECTION WITH D.S.D SHALL BE CARRIED OUT AND THE AS BUILT SEWER AND STORMWATER DRAINS RECORDS WILL BE FURNISHED TO D.S.D.
29. ALL BENDING RADIUS OF THE UNDERGROUND PIPE SHOULD BE GREATER THAN 6 TIMES OF THE PIPE DIA..
30. ALL CONDENSATE DRAIN PIPES SHALL BE CONNECTED TO THE STORM WATER PIPE IS NOT REQUIRED TO CONNECT WITH ANTI SYPHONIC TRAP.
31. UNLESS OTHERWISE SPECIFIED, ALL FINISHED FLOOR GRADIENT SHALL BE 1 IN 100 FALL.
32. UNDERGROUND DRAIN SHALL HAVE AN INTERNAL DIAMETER OF NOT LESS THAN 100mm DIA.
33. BEFORE CONSTRUCTION OF THE DRAINAGE WORKS, THE SUB-CONTRACTOR SHOULD CHECK THE EXACT LOCATION AND INVERT LEVELS OF THE EXISITNG GOVERNMENT PIPELINES AND MANHOLES.
34. ALL PIPES SHALL BE SURROUNDED WITH 150mm CONCRETE WHEN COVER DEPTH IS LESS THAN 900mm UNDER ROAD AND 450mm UNDER FOOTWAY.
35. NO PIPE JOINTS SHALL BE PERMITTED WITHIN THE THICKNESS OF WALLS OR FLOORS.
36. FRESH AIR INLETS SHALL BE STRONG CAST IRON APPROX. 50MM(W)x115MM(H) x140(D) WITH CURVED BACK FIXING EATS CASTED ON FOR CONNECTION PIPE 100MM DIAMETER WITH POLISHED STAINLESS STEEL SKILLED FRONT SCREWED ON AND FITTED WITH THIN ALUMINIUM-FLAP VALVE FIXED AT MINIMUM 2.5M ABOVE GROUND LEVEL OR SHOWN ON THE DRAWINGS.
37. TRAPPED GULLIES SHALL BE WITH HINGED CAST IRON GRATING OR COVER WITH FRAME. CAST IRON GULLY TRAP OF APPROPRIATE SIZE SHALL MATCH WITH THE DRAIN PIPES AND PROVIDE A MIN. 75MM DEEP-WATER SEAL AND WITH MIN. 50MM DIAMETER VENT PIPE FOR SEALED COVER GULLY.
38. FLOOR DRAINS OR VERTICAL GRATINGS SHALL BE SET IN POSITIONS AND SEAL THE CLEARANCE BETWEEN THE FLOOR DRAINS AND THE FLOOR SLABS AFTER INSTALLATION.
39. DRAINAGE WORKS OUTSIDE LOT BOUNDARY ARE FOR BD REFERENCE ONLY.
40. CCTV AND MANHOLE SURVEY SHALL BE CARRIED OUT AT THE EARLY STAGE OF THE CONSTRUCTION AND THE COMPLETION OF THE WHOLE DRAINAGE SERVICES SYSTEM. THE EXTENT OF CCTV SURVEY SHALL SUBJECT TO ARCHITECT/ ENGINEER'S APPROVAL.

EARLY STAGE
- FROM GOVERNMENT MANHOLE FMH4055942 TO FMH4055943
- FROM GOVERNMENT MANHOLE SMH4074523 TO SMH4074524
- FROM GOVERNMENT MANHOLE SMH4074527 TO SMH4074529

COMPLETION OF SYSTEM
- FROM FOUL WATER TERMINAL MANHOLE T.FMH-B01 TO FMH4055942
- FROM GOVERNMENT MANHOLE FMH4055942 TO FMH4055943
- FROM STORM WATER TERMINAL MANHOLE T.SMH-101 TO SMH4074523
- FROM GOVERNMENT MANHOLE SMH4074523 TO SMH4074524
- FROM STORM WATER TERMINAL MANHOLE T.SMH-B01 TO SMH-B13
- FROM GOVERNMENT MANHOLE SMH-B13 TO SMH4074527
- FROM GOVERNMENT MANHOLE SMH4074527 TO SMH4074529

41. SUNKEN TRENCH SHALL BE BACKFILL WITH LIGHT WEIGHT CONCRETE. CLEANSING EYE SHALL BE PROVIDED FOR PIPEWORKS INSIDE SUNKEN TRENCH.

PIPEWORK MATERIAL SCHEDULE

ABOVEGROUND SOIL / WASTE / SOIL & WASTE / RAIN WATER VENT PIPE	ABOVEGROUND: ø32 - ø40 (INSIDE PIPE DUCT / PODIUM AREA)	GALVANIZED STEEL TUBE TO BS EN 10255 'MEDIUM' GRADE WITH SCREW JOINT FOR INSIDE PIPE DUCT & PODIUM AREA OR UPVC PIPE TO BS EN 465*-1 / BS 4514 FOR INTERNAL AREA.
	ø50 - ø300 (INSIDE PIPE DUCT / PODIUM AREA / WITHIN 2m FROM TRANSFER PLATE)	CAST IRON TO BS 416 / BS 437
	ALL SIZES (INSIDE SUNKEN SLAB / WITHIN SAME COMPARTMENT AREA)	UPVC PIPE TO BS 4514 / BS EN 1329-1
	ø32 TO ø65	UPVC PIPE TO BS 5255 & BS EN 1329
	ø80 - ø150 (EXTERNAL & ABOVE 2m ABOVE TRANSFER PLATE))	UPVC PIPE TO BS 4514 / BS EN 1329-1
	ø350 AND ABOVE	DUCTILE IRON TO BS EN 598 WITH INTERNAL HIGH ALUMINA CEMENT COATING
PUMPED DRAINAGE PIPE	UP TO ø65	G.I. PIPES TO BS EN 10255 MEDIUM GRADE FOR ABOVEGROUND, HEAVY GRADE FOR UNDERGROUND
	ø80 AND ABOVE	DUCTILE IRON TO BS EN 598 WITH INTERNAL HIGH ALUMINA CEMENT LINING
A/C CONDENSATE DRAIN SYSTEM	EXTERNAL AND ALL SIZES	UPVC PIPES AND FITTINGS TO BS EN 1329-1 / BS 4514
	INSIDE PIPE DUCT / PODIUM AREA / TRANSFER PLATE AND ALL SIZES	G.I. PIPE TO BS EN 10255 MEDIUM GRADE C/W 9mm ELASTOMERIC THERMAL INSULATION CLASS O
UNDERGROUND SOIL / WASTE / SOIL & WASTE / RAIN WATER VENT PIPE	ø100 - ø225	CAST IRON TO BS 437
	ø250 - ø375	CAST IRON TO BS 1211 / BS 4622
	ø400 AND ABOVE	DUCTILE IRON TO BS EN 598
UNDERGROUND SOIL AND WASTER PIPE CONNECT TO PUBLIC DRAINAGE SYSTEM	ALL SIZE	HIGH DENSITY POLYETHYLENE PIPES TO BS EN 12201-2:2011, PE 100.
UNDERGROUND RAIN WATER PIPE CONNECT TO PUBLIC DRAINAGE SYSTEM	ALL SIZE	CONCRETE PIPE TO BS EN 5911 PART 100 CLASS H

FOR REFERENCE ONLY

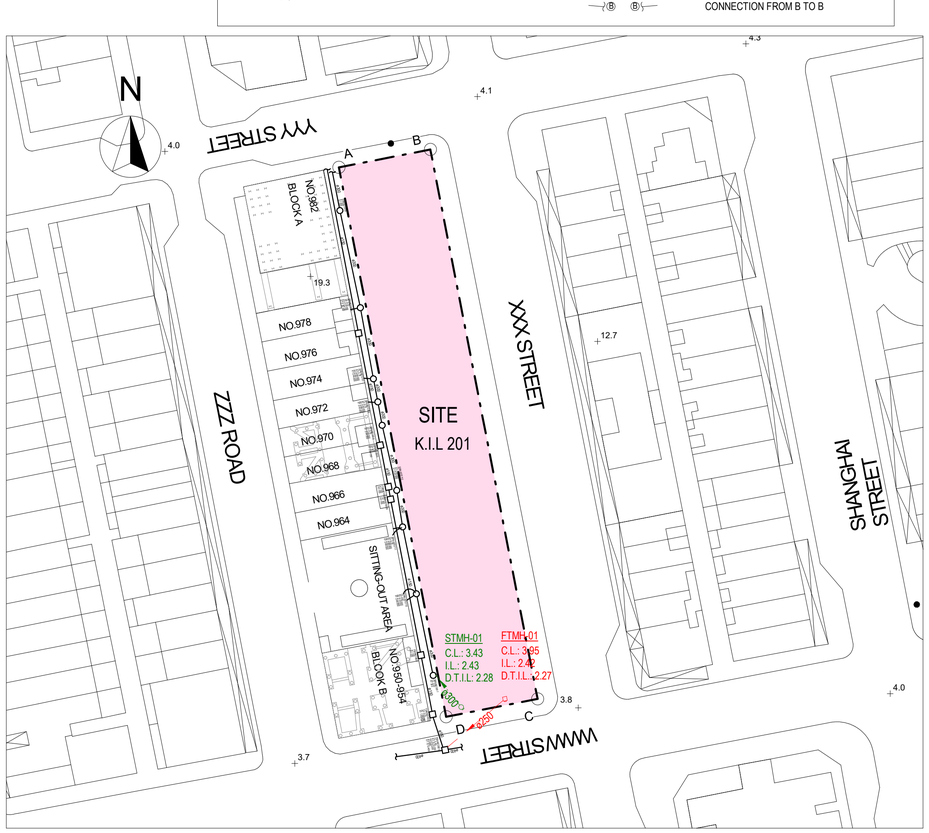
ABBREVIATION

T/A	TO ABOVE	STG	SEAL TRAPPED GULLY	P.D.	PLANTER DRAIN
T/B	TO BELOW	OTG	OPEN TRAPPED GULLY	S.S.	STAINLESS STEEL
F/A	FROM ABOVE	WP	WASTE PIPE	S.W.P.	SOIL & WASTE PIPE
F/B	FROM BELOW	SP	SOIL PIPE	R.W.P.	RAINWATER PIPE
U/S	UNDERSLAB	RW	RAIN WATER	G.S.P.	GALVANIZED STEEL PIPE
		VP	VENT PIPE	D.I.P.	DUCTILE IRON PIPE
F/L	FLOOR LEVEL	U/G	UNDERGROUND	F.D.	FLOOR DRAIN
H/L	HIGH LEVEL	AFFL	ABOVE FINISHED FLOOR LEVEL	V.G.	VERTICAL GRATING
M/L	MID LEVEL	C/W	COMPLETE WITH	C.L.	COVER LEVEL
L/L	LOW LEVEL	P.I.	PETROL INTERCEPTOR	I.L.	INVERT LEVEL
A/G	ABOVE GROUND	F.M.H.	FOUL WATER MANHOLE	A/C	AIR CONDITIONING
		S.M.H.	STORM WATER MANHOLE	C.E.	CLEANING EYE
		A1	DRAIN INLET PIPE 1	TFD	TOP ACCESS FLOOR DRAIN
		A2	DRAIN INLET PIPE 2	TSD	TOP ACCESS SHOWER DRAIN
		A3	DRAIN INLET PIPE 3	VRWO	VERTICAL RAIN WATER OUTLET
		X1	DRAIN OUTLET PIPE 1		

DN	DIAMETER(MM)	UPVC.P.	UNPLASTICIZED POLYVINYL CHLORIDE PIPE
GOVT.	GOVERNMENT	BITG	BACK INLET TRAPPED GULLY
R.W.O.	RAIN WATER OULET	M.H.	MANHOLE
C.I.P.	CAST IRON PIPE	D.T.I.L.	DISCONNECTING TRAP INVERT LEVEL
C.D.P.	CONDENSATE DRAIN PIPE		
CON. PIPE	CONCRETE PIPE		
AP	ACCESS PANEL		

LEGENDS

	DIRECTION OF FLOW	F.A.I.	FRESH AIR INLET
	WASTE PIPE		WIRE MESH BALLOON (VENT COWL)
	SOIL & WASTE PIPE / SOIL PIPE	VRWO	VERTICAL RAIN WATER OUTLET
	RAIN WATER PIPE	RWO	RAIN WATER OUTLET
	VENTILATING PIPE/ ANTI-SYPHONAGE PIPE	TFD	TOP ACCESS FLOOR DRAIN
	A/C CONDENSATION DRAIN PIPE	TSD	TOP ACCESS SHOWER DRAIN
SMH	STORMWATER MANHOLE	FD	FLOOR DRAIN
WMH	SOIL & WASTE MANHOLE	VFD	VERTICAL FLOOR DRAIN
STMH	TERMINAL STORMWATER MANHOLE	BITG	BACK INLET TRAPPED GULLY C/W VENT PIPE
FTMH	TERMINAL FOUL WATER MANHOLE	OTG	OPEN TRAPPED GULLY
	WATER CLOSET		CLEANSING EYE
	WASH BASIN		SUMP PIT WITH SUBMERSIBLE PUMPS
	SINK		GREASE TRAP
	URINAL	S.T.	SEPTIC TANK
	SHOWER		SOAKAWAY PIT
	BATH-TUB		PETROL INTERCEPTOR
	HALF ROUND / FLAT CHANNEL	A	CONNECTION FROM A TO A
	COVERED CHANNEL	B	CONNECTION FROM B TO B
	200 DEPTH SUNKEN SLAB		
	400 DEPTH SUNKEN SLAB		
	DISCONNECTING TRAP		
	ANIT-SYPHONAGE BOTTOM TRAP		



BLOCK PLAN
1 : 500

BD REF :

BIM REF :

REV	DATE	AMENDMENT

PROJECT
CIC SAMPLE PROJECT

DRAWING TITLE
GENERAL NOTES FOR DRAINAGE

SCALE

DRAWING NO. M001

REV. NO.

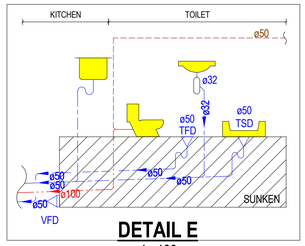
SOURCE ---

90mm (W) x 40mm (H) space for COMPANY LOGO

90mm (W) x 60mm (H) space for AP's signature/ and stamp chop

BD's OFFICAL USE

90mm (W) x 150mm (H) space for BD's approval stamp / certification of copies of approved plans (PNAP ADM-10 APP A)



DETAIL E
1 : 100

BD REF :

BIM REF :

REV	DATE	AMENDMENT

PROJECT
CIC SAMPLE PROJECT

DRAWING TITLE
SCHEMATIC DIAGRAM OF DRAINAGE SYSTEM

SCALE 1 : 100@A1

DRAWING NO. M002

REV. NO.

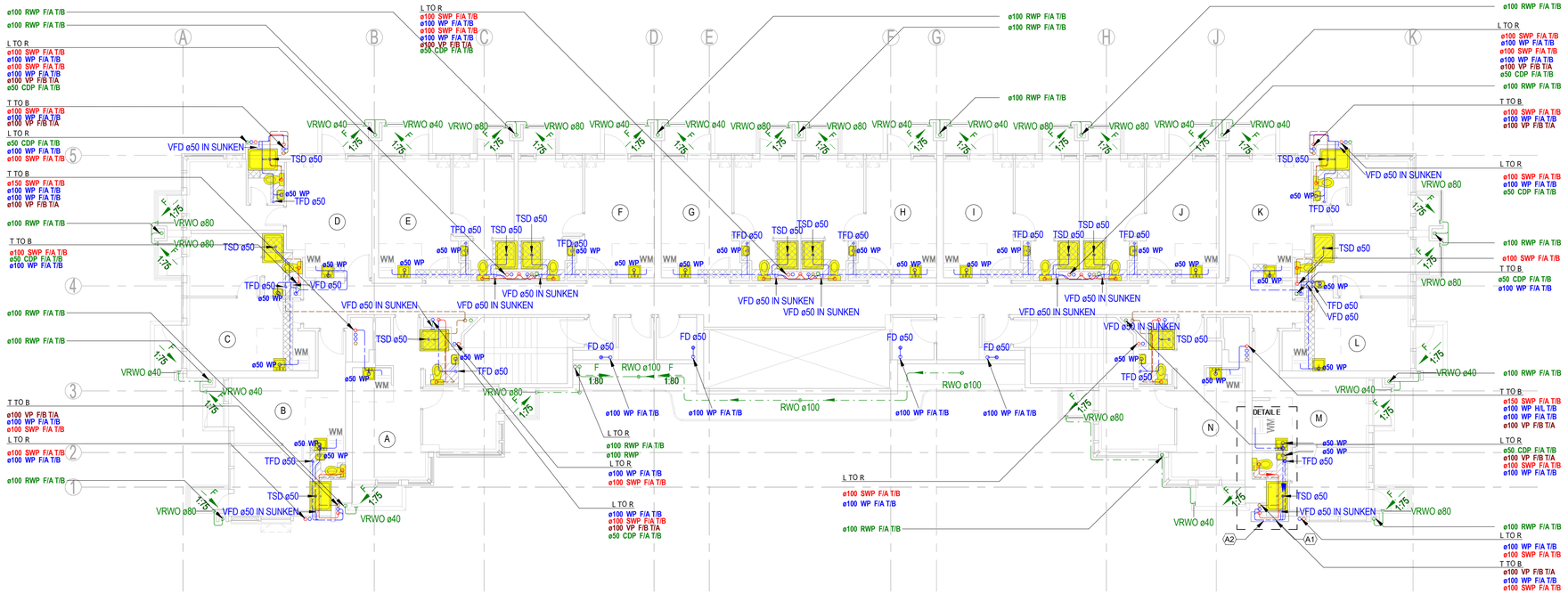
SOURCE ---

90mm (W) x 40mm (H) space
for COMPANY LOGO

90mm (W) x 60mm (H) space
for AP's signature/ and stamp chop

BD's OFFICAL USE

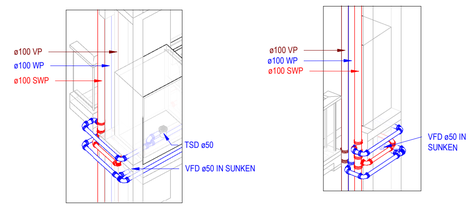
90mm (W) x 150mm (H) space
for BD's approval stamp /
certification of copies of
approved plans
(PNAP ADM-10 APP A)



1 6/F FLOOR PLAN (New Approach)

1 : 100

(2D plan generated from 3D model on proposed new approach with supplementary elevation/ 3D views)



A1 3D View-Right (for reference only)

(Not to scale)

A2 3D View-Left (for reference only)

(Not to scale)

BD REF :

BIM REF :

REV	DATE	AMENDMENT

PROJECT

CIC SAMPLE PROJECT

DRAWING TITLE

DRAINAGE LAYOUT PLAN FOR TYPICAL FLOOR (NEW APPROACH)

SCALE 1 : 100@A1

DRAWING NO. M003

REV. NO.

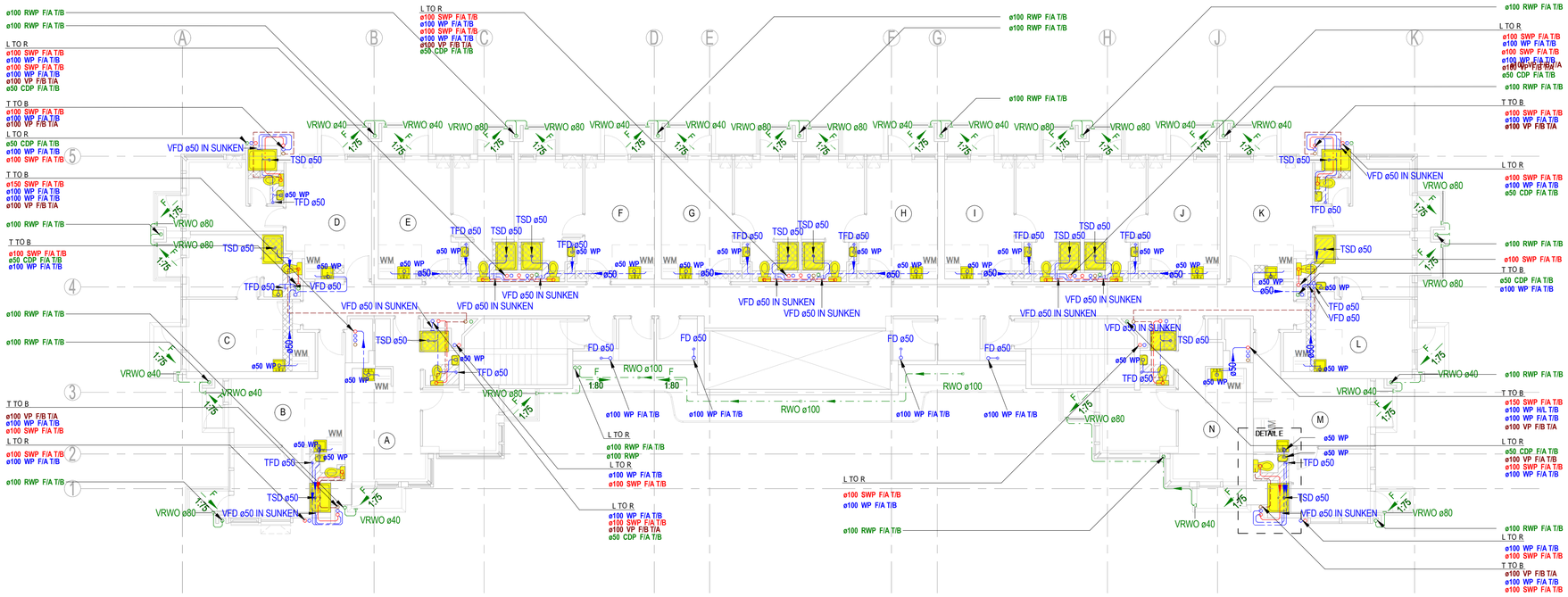
SOURCE ---

90mm (W) x 40mm (H) space for COMPANY LOGO

90mm (W) x 60mm (H) space for AP's signature/ and stamp chop

BD's OFFICAL USE

90mm (W) x 150mm (H) space for BD's approval stamp / certification of copies of approved plans (PNAP ADM-10 APP A)



1 6/F FLOOR PLAN (TRADITIONAL PRESENTATION STYLE)

1 : 100

(2D plan generated from 3D model based on traditional presentation style with manual updating)

BD REF :

BIM REF :

REV	DATE	AMENDMENT

PROJECT

CIC SAMPLE PROJECT

DRAWING TITLE

DRAINAGE LAYOUT PLAN FOR TYPICAL FLOOR (TRADITIONAL STYLE)

SCALE 1 : 100@A1

DRAWING NO. M003a

REV. NO.

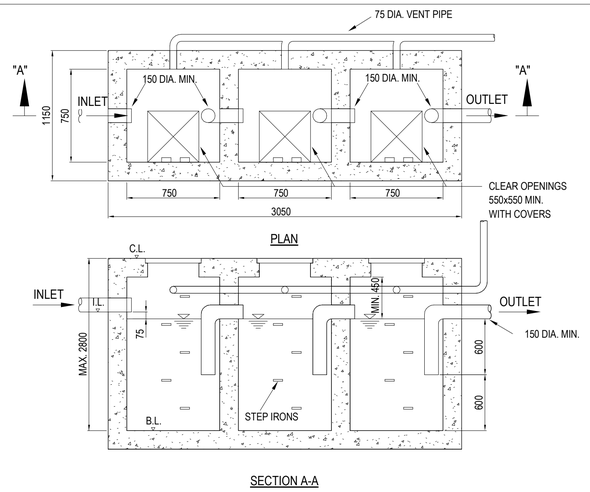
SOURCE ---

90mm (W) x 40mm (H) space for COMPANY LOGO

90mm (W) x 60mm (H) space for AP's signature/ and stamp chop

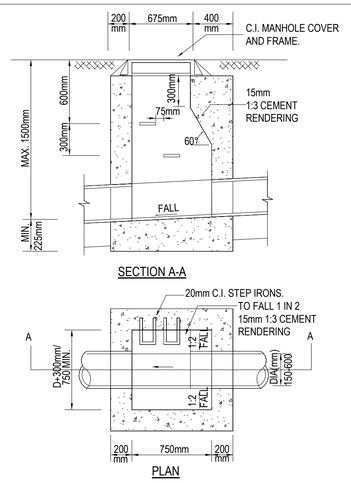
BD's OFFICAL USE

90mm (W) x 150mm (H) space for BD's approval stamp / certification of copies of approved plans (PNAP ADM-10 APP A)



SECTION A-A

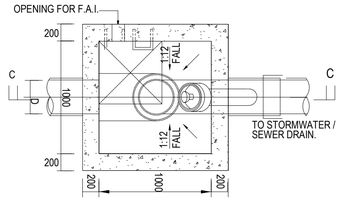
TYPICAL DETAILS OF PETROL INTERCEPTOR



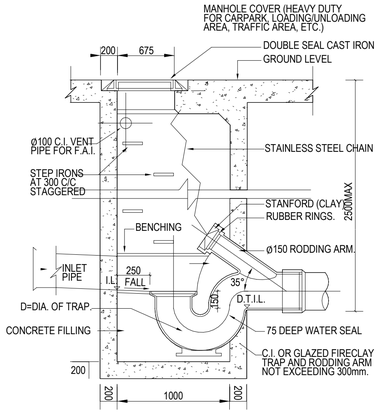
SECTION A-A

PLAN

STANDARD DETAILS OF MANHOLE TYPE D1

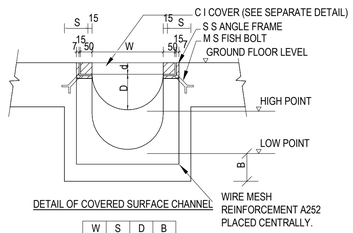


PLAN



SECTION C-C

TERMINAL MANHOLE (TYPE T1_1)



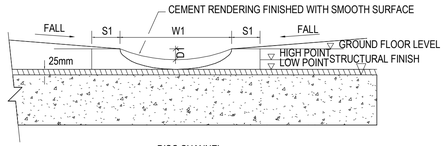
DETAIL OF COVERED SURFACE CHANNEL

W	S	D	B
200	100	100	100
225	100	115	100
250	100	125	100
300	100	150	100
350	100	170	100
400	100	200	100
450	100	225	100

SURFACE CHANNEL SCHEDULE

NOTES :
1. ALL SURFACE CHANNELS SHALL BE FINISHED SMOOTH WITH 1 : 2 CEMENT AND SAND RENDERING
2. GRADIENT OF CHANNEL SHALL BE NOT LESS THAN 1 IN 100
3. DEPTH OF LOW POINT DEPEND ON THE LENGTH OF CHANNELS
4. ALL CHANNEL SHALL BE CONSTRUCTED IN GRADE 30D/20 CONCRETE

DETAIL OF SURFACE CHANNEL

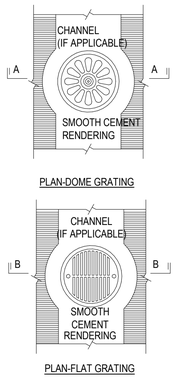


DISC CHANNEL

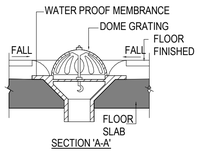
W1	S1	D1 MIN.	D1 MAX
200	100	25	
225	100	25	
250	100	25	
300	100	25	
350	100	25	
400	100	25	
450	100	25	

CHANNEL SCHEDULE
(NOTE: MAX., DEPEND ON FALL)

DETAIL OF DISC CHANNEL

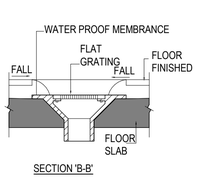


PLAN-DOME GRATING



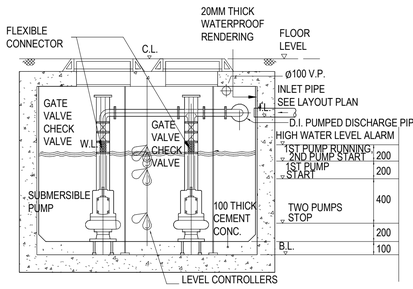
SECTION 'A-A'

PLAN-FLAT GRATING

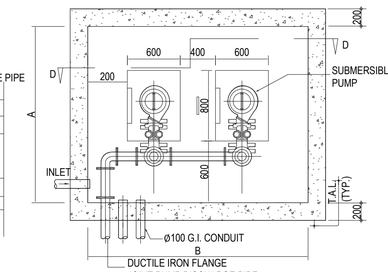


SECTION 'B-B'

VERTICAL GRATING DETAIL



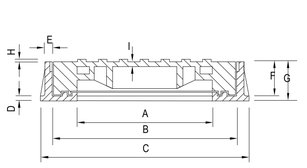
SECTION D-D



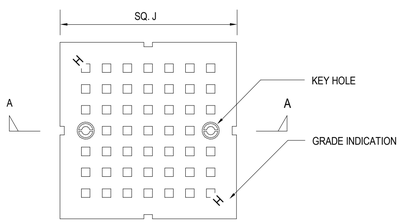
SECTIONAL PLAN

NOTES:
1. THE SUMP PUMPS SHALL BE AUTOMATIC START AND STOP WHEN WATER LEVEL REACH THE PUMPS START LEVEL AND THE PUMP CUT-OFF LEVEL
2. START/STOP CONTROL OF THE SUMP PUMPS SHALL BE PROVIDED ON THE CONTROL PANEL.
3. SUMP PUMPS CONTROL CIRCUIT DIAGRAM SHALL BE FRAMED AND DISPLAYED NEXT TO THE SUMP PUMPS CONTROL PANEL.

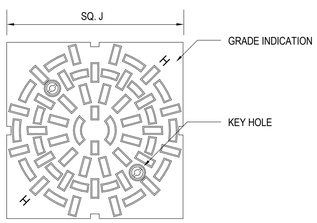
DETAILS OF SUMP PIT



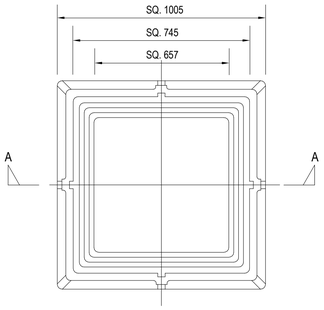
SECTION A - A



PLAN OF COVER
(FOR FOUL WATER MANHOLE)



PLAN OF COVER
(FOR STORM WATER MANHOLE)



PLAN OF FRAME

DIMENSION LETTER		A	B	C	D	E	F	G	H	I	J
DIMENSIONS	H	675	815	1005	16	22	134	150	5	32	811
	M	675	720	1005	16	22	109	125	5	22	811

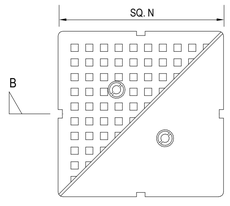
NOTES

H INDICATES HEAVY DUTY

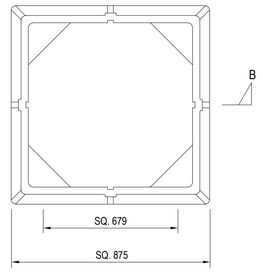
M INDICATES MEDIUM DUTY

DETAIL OF MANHOLE COVER AND FRAME (DOUBLE SEAL)

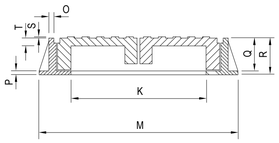
(N. T. S.)



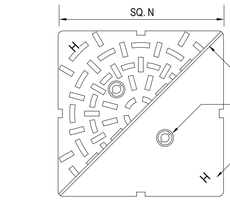
PLAN OF COVER
(FOR SEWER MANHOLE)



PLAN OF FRAME



SECTION B - B



PLAN OF COVER
(FOR STORM WATER MANHOLE)

DIMENSION LETTER		K	M	N	O	P	Q	R	S	T
DIMENSIONS	H	679	875	675	22	16	134	150	5	32
	M	679	875	675	22	16	109	125	5	22

NOTES

H INDICATES HEAVY DUTY

M INDICATES MEDIUM DUTY

DETAIL OF MANHOLE COVER AND FRAME (DOUBLE TRIANGULAR)

(N. T. S.)

BD REF :

BIM REF :

REV	DATE	AMENDMENT

PROJECT
CIC SAMPLE PROJECT

DRAWING TITLE
DRAINAGE INSTALLATION DETAILS

SCALE AS SHOWN@A1

DRAWING NO. M004

REV. NO.

SOURCE ---

90mm (W) x 40mm (H) space
for COMPANY LOGO

90mm (W) x 60mm (H) space
for AP's signature/ and stamp chop

BD's OFFICAL USE

90mm (W) x 150mm (H) space
for BD's approval stamp /
certification of copies of
approved plans
(PNAP ADM-10 APP A)

STORM WATER MANHOLE SCHEDULE					
MANHOLE NO.	DRAIN DIAMETER (mm)	C.L.	I.L.	DEPTH (mm)	TYPE
SMH-01	150	-6.15	-7.9	1750	D1

Grand total: 1

FOUL WATER MANHOLE SCHEDULE					
MANHOLE NO.	DRAIN DIAMETER (mm)	C.L.	I.L.	DEPTH (mm)	TYPE
WMH-01	150	-6.1	-7.85	1750	D1
WMH-02	150	-6.1	-7.85	1750	D1

Grand total: 2

FOUL WATER TERMINAL MANHOLE SCHEDULE						
MANHOLE NO.	DRAIN DIAMETER (mm)	C.L.	I.L.	D.T.I.L.	DEPTH (mm)	TYPE
FTMH-01	225	+3.95	+2.42	+2.27	1680	T1_1

Grand total: 1

STORM WATER TERMINAL MANHOLE SCHEDULE						
MANHOLE NO.	DRAIN DIAMETER (mm)	C.L.	I.L.	D.T.I.L.	DEPTH (mm)	TYPE
STMH-01	225	+3.43	+2.43	+2.28	1150	T1_1

Grand total: 1

PETROL INTERCEPTOR SCHEDULE				
PETROL INTERCEPTOR NO.	C.L.	I.L.	B.L.	DEPTH (mm)
PI-01	-5.9	-6.9	-8.4	2500

Grand total: 1

SUMP PIT SCHEDULE							
						PUMP DUTY (EACH)	
SUMP PIT NO.	SUMP PIT SIZE (LxWxD)	C.L.	I.L.	B.L.	PUMP NO.	FLOW (l/s)	HEAD (m)
RWPP-01	2000(L) x 1500(W) x 1000(D)	-5.85	-6.5	-8	RSP01-01,02	30.0	20
SWPP-02	2000(L) x 1500(W) x 600(D)	-5.85	-6.5	-7.5	SSP02-01,02	6.0	20
SWPP-03	2000(L) x 1500(W) x 600(D)	-5.85	-6.5	-7.5	SSP03-01,02	3.0	20
SWPP-04	2000(L) x 1450(W) x 600(D)	-5.85	-6.5	-7.5	SSP04-01,02	3.0	20

Grand total: 4

GREASE TRAP SCHEDULE			
GREASE TRAP NO.	C.L.	B.L.	DEPTH (mm)
GT-01	-5.9	-7.2	1300
GT-02	-5.9	-6.9	1000

Grand total: 2

BD REF :

BIM REF :

REV	DATE	AMENDMENT

PROJECT
CIC SAMPLE PROJECT

DRAWING TITLE
DRAINAGE SCHEDULES

SCALE AS SHOWN@A1

DRAWING NO. M005

REV. NO.

SOURCE ---

90mm (W) x 40mm (H) space
for COMPANY LOGO

90mm (W) x 60mm (H) space
for AP's signature/ and stamp chop

BD's OFFICAL USE

90mm (W) x 150mm (H) space
for BD's approval stamp /
certification of copies of
approved plans
(PNAP ADM-10 APP A)

Software 2

GENERAL NOTES FOR REINFORCED CONCRETE STRUCTURE:

1. DESIGN TO COMPLY WITH :
   a. HONG KONG BUILDING (CONSTRUCTION) REGULATION, 1990
   b. THE STRUCTURAL USE OF CONCRETE, 2013
   c. CODE OF PRACTICE ON WIND EFFECTS, HONG KONG, 2004
   d. CODE OF PRACTICE FOR FIRE SAFETY IN BUILDINGS, 2011
   e. CODE OF PRACTICE FOR DEAD AND IMPOSED LOADS, 2011
2. ALL STRUCTURAL DRAWINGS MUST BE READ IN CONJUNCTION WITH ARCHITECTURAL DRAWINGS AND OTHER RELEVANT DRAWINGS.
3. STEEL REINFORCEMENTS FOR CONCRETE SHALL COMPLY WITH THE CONSTRUCTION STANDARD CS2 : 2012 MINIMUM CHARACTERISTIC STRENGTH OF : 500MPa FOR HIGH YIELD STEEL BAR GRADE 500B, 250MPa FOR MILD STEEL BAR GRADE 250.
4. MINIMUM BOND/LAP LENGTH OF REINFORCEMENT FOR ALL STRUCTURAL ELEMENTS SHALL BE AS SPECIFIED IN THE FOLLOWING SCHEDULE:

SCHEDULE OF LAP & ANCHORAGE LENGTH FOR DESIGN TO COP 2013

DIAMETER OF BAR	FOR HIGH YIELD BARS	
	GRADE 45D	
	ANCHORAGE	
	TL 33 x Dia.	CL 26 x Dia.
10	330	260
12	400	320
16	530	420
20	660	520
25	830	650
32	1060	840
40	1320	1040

LEGEND :

1. TL = LAP OR ANCHORAGE LENGTH UNDER TENSION OR LAP LENGTH UNDER COMPRESSION
2. CL = ANCHORAGE LENGTH UNDER COMPRESSION
3. NO SPLICING OF REINFORCEMENT OTHER THAN THOSE SHOWN ON THE DRAWING IS ALLOWED UNLESS OTHERWISE APPROVED BY THE ENGINEER AND TL SHALL BE PROVIDED.
4. NOMINAL LAP AND ANCHORAGE FOR DISTRIBUTION BARS TO BE 300 OR NL WHICHEVER THE GREATER. LAP LENGTH FOR UNEQUAL SIZE BARS SHALL BE BASED UPON THE SMALLER BAR. FOR THE FOLLOWING PROVISIONS a) OR b) APPLY, THE LAP LENGTH SHOULD BE INCREASED BY A FACTOR OF 1.4.

a) WHERE A LAP OCCURS AT THE TOP OF A SECTION AS CAST AND THE MINIMUM COVER IS LESS THAN TWICE THE SIZE OF THE LAPPED REINFORCEMENT.

b) WHERE A LAP OCCURS AT THE CORNER OF A SECTION AND THE MINIMUM COVER TO EITHER FACE IS LESS THAN TWICE THE SIZE OF THE LAPPED REINFORCEMENT, OR WHERE THE CLEAR DISTANCE BETWEEN ADJACENT LAPS IS LESS THAN 75mm OR SIX TIMES THE SIZE OF THE LAPPED REINFORCEMENT, WHICHEVER IS THE GREATER.

IF BOTH PART a) & b) CONDITION APPLY, THE LAP LENGTH SHOULD BE INCREASED BY A FACTOR OF 2.0.

5. ALL NOMINAL LAPS OF DISTRIBUTION BAR FOR SLABS AND WALLS SHALL BE 300 MINIMUM UNLESS OTHERWISE SPECIFIED.
6. FOR DETAILS OF STRUCTURAL FALLS, SEE APPROPRIATE STRUCTURAL AND ARCHITECTURAL DRAWINGS.

7. CONCRETE TO BE DESIGNED MIX CONCRETE AS SPECIFIED IN THE FOLLOWING SCHEDULE TO CS1:2010 AND THE GRADE DESIGNATIONS GIVEN ARE THE CHARACTERISTIC CUBE STRENGTH AT 28 DAYS AND THE MAXIMUM AGGREGATE SIZE 20mm. UNLESS OTHERWISE STARTED ON THE DRAWINGS.

MEMBER	GRADE
BEAM, SLABS AND WALLS	C45/20
COLUMNS	C45/20
WATER TANKS	C45/20

8. THE EQUIVALENT SODIUM OXIDE IN CONCRETE MIX SHALL NOT EXCEED 3.0 KG PER CUBIC METER OF CONCRETE. CORRESPONDING TEST CERTIFICATES ON ALKALI CONTENT IN CEMENT, ADMIXTURES, AGGREGATE ETC., ISSUED BY A HOKLAS LABORATORY AND CALCULATION OF THE EQUIVALENT SODIUM OXIDE SHOULD BE SUBMITTED TO THE RSE QUARTERLY.
9. CONCRETE CUBES SHALL BE MADE AND TESTED WITH TEST REPORT IN ACCORDANCE WITH THE PROVISIONS OF THE HONG KONG BUILDING (CONSTRUCTION) REGULATIONS : 1990 AND THE CONSTRUCTION STANDARD CS1 : 2010, EXCEPT SECTION 7.1 .
10. UNLESS OTHERWISE STATED, CONCRETE COVER TO ALL REINFORCEMENT SHALL BE AS SPECIFIED IN THE FOLLOWING SCHEDULE OR EQUAL TO THE DIAMETER OF THAT REINFORCEMENT, WHICHEVER IS THE GREATER :

IN CONTACT WITH EARTH	SLAB	STAIR	BEAM	COLUMN	WALL
1.1 CAST ON BLINDING	50	50	50	50	50
1.2 CAST AGAINST SOIL	75	75	75	75	75

11. CONCRETE COVER SHALL ALSO FULFIL THE REQUIREMENT FOR APPROPRIATE FIRE RESISTANCE RATING AS SPECIFIED IN THE CODE OF PRACTICE FOR FIRE RESISTING CONSTRUCTION OR NOMINAL COVER FOR DURABILITY WHICHEVER IS GREATER.

	CONCRETE COVER TO MAIN REINFORCEMENT			NOMINAL COVER FOR DURABILITY
	120 MINS. F.R.P.	60 MINS. F.R.P.	240 MINS. F.R.P.	
SLAB, SIMPLY SUPPORTED	35	25	55*	35
SLAB, CONTINUOUS	25	25	45*	35
STAIR	35	25	55*	35
BEAM, SIMPLY SUPPORTED	50*	30	80*	40
BEAM CONTINUOUS	50	30	60*	40
COLUMN	35	25	35	35
WALL	25	25	25	35
WALL SLAB FOR WATER TANK	40	40	40	40

*REINFORCEMENT CONSISTING OF EXPANDED METAL LATH OR A WIRE FABRIC NOT LIGHTER THAN 0.5 kg/m2 WITH 2mm DIAMETER WIRE AT NOT MORE THAN 100mm CENTRES OR A CONTINUOUS ARRANGEMENT OF LINKS AT NOT MORE THAN 200mm CENTRES SHALL BE INCORPORATED IN THE CONCRETE COVER AT A DISTANCE NOT EXCEEDING 20mm FROM THE FACE OF THE STRUCTURAL MEMBERS SURROUNDING THE PLANT/MACHINE ROOMS AND AT OTHER AREAS REQUIRING 120 MINS. F.R.P. AS SPECIFIED IN THE GENERAL BUILDING PLANS.

12. CONSTRUCTION JOINTS TO BE POSITIONED AS FOLLOWS :-
   a. THE JOINT IN A BEAM TO BE VERTICAL AND AT ONE-THIRD OF THE SPAN.
   b. THE JOINT IN A SLAB TO BE VERTICAL AT ONE-THIRD OF THE PANEL AND PARALLEL TO THE REINFORCEMENT.
   c. THE JOINT IN COLUMNS TO BE AT THE UNDERSIDE OF THE LOWEST BEAM OVER THE COLUMNS OR AT 75mm ABOVE FLOOR LEVEL.
13. CONSTRUCTION JOINTS WHERE NOT SHOWN SHOULD BE LOCATED TO THE APPROVAL OF THE ENGINEER.
14. DURING CONSTRUCTION THE STRUCTURE SHOULD BE MAINTAINED IN A STABLE CONDITION AND NO PART SHALL BE OVERSTRESSED.
15. SIZE OF CONCRETE ELEMENTS DOES NOT INCLUDE THICKNESS OF APPLIED FINISHES.
16. NO HOLES OR CHASES OTHER THAN THOSE SHOWN ON THE STRUCTURAL DRAWINGS SHALL BE MADE.
17. PIPES OR CONDUITS SHALL NOT BE PLACED WITHIN THE CONCRETE COVER TO REINFORCEMENT WITHOUT THE APPROVAL OF THE ENGINEER. THE MAXIMUM OUTSIDE DIAMETER OF CONDUITS SHALL BE A MINIMUM OF 20mm.
18. WATER BORNE PIPES SHALL NOT BE PLACED WITHIN R.C. CONCRETE WITHOUT THE APPROVAL OF THE BUILDINGS DEPARTMENT, AP AND RSE.
19. SPACER BARS SHALL BE OF DIAMETER = 25mm OR DIAMETER OF MAIN BAR WHICHEVER IS GREATER @1.5m c/c.
20. ALL ROOF SCREEDING TO BE LIGHT WEIGHT CONCRETE OF DENSITY BETWEEN 1600 TO 1700kg/m3 AND MINIMUM CUBE STRENGTH Uw=21N/mm2 AT 28 DAYS.
21. ALL BEAM SIZE TO BE READ AS BREADTH x DEPTH
22. ALL LEVELS SHOWN IN FRAMING PLANS TO BE STRUCTURAL FLOOR LEVEL. (LEGEND : 108.7 SFL STRUCTURAL FLOOR LEVEL AT 108.7 mPD.)
23. ALL DIMENSION ARE IN MILLIMETRE & LEVEL IN mPD EXCEPT OTHERWISE STATED.
24. ALL EARTH BACKFILLING TO BE COMPACTED TO 95% OF MAX. DRY DENSITY TO BS 1377-TEST 12.
25. ALL BENT TO STEEL REINFORCEMENT SHALL COMPLY WITH BS 8666:2000

NOTES FOR ANNOTATION OF BARS :

1. ALL DIMENSIONS SHOWN ARE IN mm.
2. ANY DISCREPANCY FOUND BETWEEN THE DETAILS SHOWN IN THIS DRAWING AND THAT SHOWN IN DETAILED DRAWINGS SHALL BE REPORTED TO THE ENGINEER FOR DIRECTION.
3. BAR REFERENCING :

EXAMPLE : 16T32-200

NUMBER OF BARS: 16
TYPE OF STEEL: T (HIGH YIELD STEEL BAR GRADE 500B)
DIAMETER OF BARS: 32mm
PITCH OF BARS (IF APPLICABLE): 200 mm

NOTES FOR ANNOTATION OF BARS :

1. ALL DIMENSIONS SHOWN ARE IN mm.
2. ANY DISCREPANCY FOUND BETWEEN THE DETAILS SHOWN IN THIS DRAWING AND THAT SHOWN IN DETAILED DRAWINGS SHALL BE REPORTED TO THE ENGINEER FOR DIRECTION.
3. BAR REFERENCING :

EXAMPLE : 16T32-200

NUMBER OF BARS: 16
TYPE OF STEEL: T (HIGH YIELD STEEL BAR GRADE 500B)
DIAMETER OF BARS: 32mm
PITCH OF BARS (IF APPLICABLE): 200 mm

NOTES FOR CONSTRUCTION OF CANTILEVERED BEAM & SLAB :

1. ALL CANTILEVERED PROJECTIONS SHOULD BE CAST MONOLITHICALLY WITH AND AT THE SAME TIME AS THE DIRECTLY SUPPORTING MEMBERS. CONSTRUCTION JOINTS MUST NOT BE LOCATED ALONG THE EXTERNAL EDGE OF THE SUPPORTING MEMBERS.
2. ADEQUATE BAR SPACERS SHOULD BE PROVIDED TO MAINTAIN THE POSITION AND ALIGNMENT OF THE STEEL REINFORCEMENT.

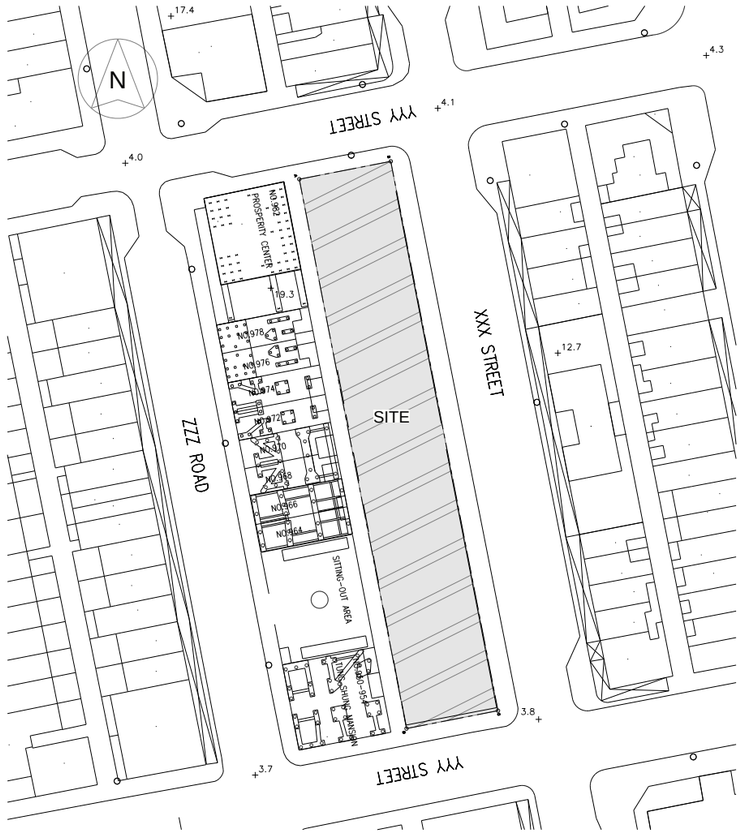
3. DURING CONCRETING, ADEQUATE COMPACTION SHOULD BE GIVEN TO ENSURE GOOD QUALITY CONCRETE. EVERY ENDEAVOUR SHOULD ALSO BE MADE TO AVOID STEEL REINFORCEMENT FROM BEING DISPLACED OR DEPRESSED.
4. ALL PROPPING TO THE SOFFIT OF THE FORMWORK FOR THE CANTILEVERED PROJECTIONS SHOULD BE MAINTAINED FOR AT LEAST 14 DAYS.

NOTES FOR WATERPROOFING CONSTRUCTION :

1. WATERSTOP :
   a) FOR LOCATIONS AND DETAILS OF WATERSTOP AT EXPANSION JOINTS, CONSTRUCTION JOINTS ETC. REFER TO ALL RELEVANT DRAWINGS. JOINT NOT SPECIFIED SHALL RECEIVE THE PRIOR APPROVAL BY THE ENGINEER.

   b) TYPE OF WATERSTOPS SHALL BE AS SPECIFIED IN THE CONTRACT OR TO THE APPROVAL OF THE ENGINEER.
   c) DETAIL OF FIXING OF WATERSTOPS SHALL BE IN ACCORDANCE WITH THE RECOMMENDATION OF THE MANUFACTURER.

   d) PRIOR TO CONCRETING, THE WATERSTOP SHALL BE NAILED, CLIPPED OR TIED WITH WIRE TO ITS CORRECT POSITION SECURELY AND ADEQUATELY. DETAIL AND SPACING OF SUCH NAILING, CLIPS AND TIES SHALL BE IN ACCORDANCE WITH THE RECOMMENDATION OF THE MANUFACTURER AND TO THE APPROVAL OF THE ENGINEER.
   e) CARE SHALL BE TAKEN TO AVOID ANY AIR VOIDS BEING TRAPPED BETWEEN THE WATERSTOP AND THE SURROUNDING CONCRETE.
   f) SURROUNDING STEEL REINFORCEMENT SHALL NOT BE PLACED IN CONTACT WITH THE WATERSTOP, MINIMUM SPACING TO BE 40mm.
2. ALL CONCRETE USED IN WATER RETAINING STRUCTURE SHALL BE WATERPROOFING CONCRETE AND COMPLY WITH BS8007.



BLOCK PLAN
1:500

BD REF :

BIM REF :

REV	DATE	AMENDMENT

PROJECT

CIC SAMPLE PROJECT

DRAWING TITLE
GENERAL NOTES FOR SUPERSTRUCTURE

SCALE

DRAWING NO. S001

REV. NO.

SOURCE ---

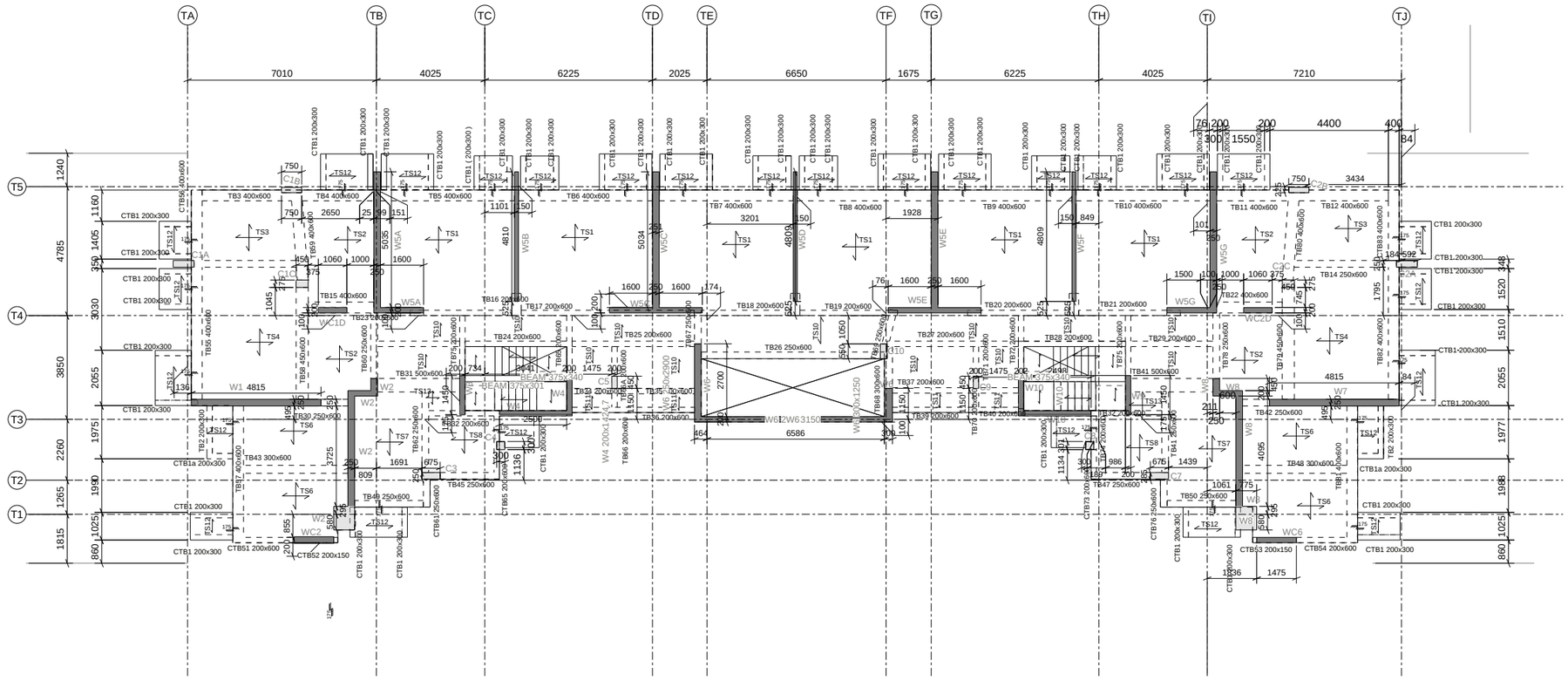
90mm (W) x 40mm (H) space
for COMPANY LOGO

90mm (W) x 60mm (H) space
for AP/RSE/RGE's
signature/ and stamp chop

BD's OFFICAL USE

90mm (W) x 150mm (H) space
for BD's approval stamp /
certification of copies of
approved plans
(PNAP ADM-10 APP A)

Tata Structures



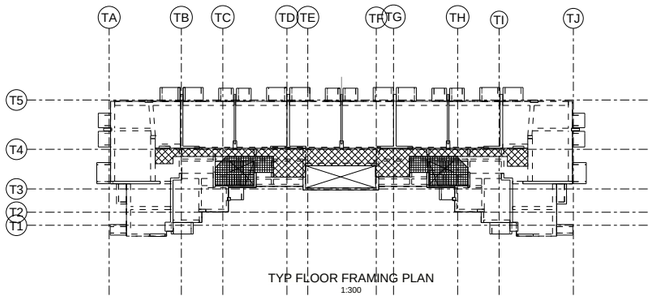
TYP FLOOR FRAMING PLAN

NOTES

1. ALL BEAM SIZE TO BE 400(B)x600(D), UNLESS OTHERWISE STATED.
2. ALL SLAB SIZE TO BE 150mm THK, UNLESS OTHERWISE STATED.

WALL SCHEDULE	
MARK	THICKNESS (mm)
W1	250
W2	200
W2	250
W2	875
W3	200
W4	150
W4	200
W5A	200
W5A	250
W5B	150
W5C	200
W5C	250
W5D	150
W5E	200
W5E	250
W5F	150
W5G	200
W5G	250
W6	200
W6	250
W6	300
W7	250
W8	200
W8	250
W8	875
W9	200
W10	150
W10	200
WC1D	200
WC2	250
WC2D	200
WC6	200

COLUMN SCHEDULE	
MARK	SIZE (mm)
C1A	775x250
C1B	750x200
C1C	450x275
C2A	775x250
C2B	750x200
C2C	450x275
C3	675x250
C4	300x300
C5	200x450
C7	675x250
C8	300x300
C9	200x450
C10	250x550



TYP FLOOR FRAMING PLAN
1:300

LOADING KEY PLAN

USAGE	LEGEND	LL (kPa)	FIN. (kPa)	F.R.R. (Min)
STAIRCASE		3.0	1.25	60/60/60
LOBBY		3.0	1.25	60/60/60
DOMESTIC		2.0	0.5	60/60/60
PLANT ROOM		7.5	1.25	60/60/60
FLAT ROOF		5.0	5.60	60/60/60

BD REF :

BIM REF :

REV	DATE	AMENDMENT

PROJECT

CIC SAMPLE PROJECT

DRAWING TITLE

TYP Floor Framming

SCALE

DRAWING NO. S002

REV. NO.

SOURCE ---

90mm (W) x 40mm (H) space
for COMPANY LOGO

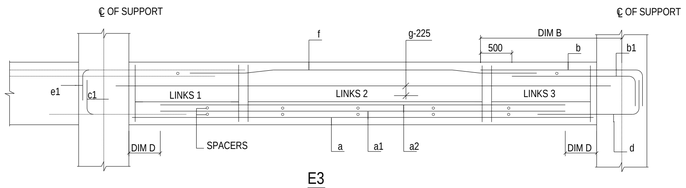
90mm (W) x 60mm (H) space
for AP/RSE/RGE's
signature/ and stamp chop

BD's OFFICAL USE

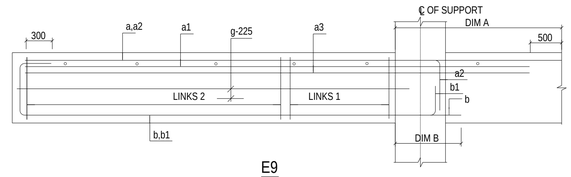
90mm (W) x 150mm (H) space
for BD's approval stamp /
certification of copies of
approved plans
(PNAP ADM-10 APP A)

R.C. BEAM SCHEDULE

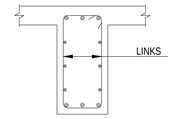
BEAM MARK	BEAM SIZE (DxB)	ELEV. REFER	REINFORCEMENT										REINFORCEMENT			DIMENSION			
			a	a1	a2	b	b1	c	d	e	f	g	LINKS 1	LINKS 2	LINKS 3	A	B	C	D
TB1	300x200	E9	2T20	-	-	-	2T16	-	-	-	-	-	<----------	T10-150(2 LEGS)	---------->	2550	-	-	-
TB1a	300x200	E9	2T20	-	-	-	2T16	-	-	-	-	-	<----------	T10-150(2 LEGS)	---------->	2550	-	-	-
TB2	300x200	E10	2T16	-	-	2T16	-	-	-	-	-	-	<----------	T10-200(2 LEGS)	---------->	0	-	-	-
TB3	600x400	E5	4T25	-	-	4T25	-	4T25	4T25	4T25	4T20	-	<----------	T10-200(4 LEGS)	---------->	0	1300	1000	-
TB4	600x400	E4	4T25	-	-	4T25	-	-	4T25	-	4T20	-	<----------	T10-200(2 LEGS) TORSIONAL_LINKS+T10	---------->	0	1000	1800	-
TB5	600x400	E4	4T25	-	-	4T25	-	-	4T25	-	4T20	-	<----------	T10-200(2 LEGS) TORSIONAL_LINKS+T10	---------->	0	1000	1800	-
TB6	600x400	E4	4T25	-	-	4T25	-	-	4T25	-	4T20	-	<----------	T10-200(2 LEGS) TORSIONAL_LINKS+T10	---------->	0	1800	1800	-
TB7	600x400	E4	4T25	-	-	4T25	-	-	4T25	-	4T20	-	<----------	T10-200(2 LEGS) TORSIONAL_LINKS+T10	---------->	0	1800	1800	-
TB8	600x400	E4	4T25	-	-	4T25	-	-	4T25	-	4T20	-	<----------	T10-200(2 LEGS) TORSIONAL_LINKS+T10	---------->	0	1800	1800	-
TB9	600x400	E4	4T25	-	-	4T25	-	-	4T25	-	4T20	-	<----------	T10-200(2 LEGS) TORSIONAL_LINKS+T10	---------->	0	1800	1800	-
TB10	600x400	E4	4T25	-	-	4T25	-	-	4T25	-	4T20	-	<----------	T10-200(2 LEGS) TORSIONAL_LINKS+T10	---------->	0	1800	1800	-
TB11	600x400	E4	4T25	-	-	4T25	-	-	4T25	-	4T20	-	<----------	T10-200(2 LEGS) TORSIONAL_LINKS+T10	---------->	0	1800	1000	-
TB12	600x400	E3	4T25	-	-	4T25	-	-	4T25	-	4T20	-	<----------	T10-200(4 LEGS)	---------->	0	1000	1300	-
TB13	600x250	E10	2T25	-	-	2T25	-	-	-	-	-	-	<----------	T10-200(2 LEGS)	8T16-200(2 LEGS)	0	-	-	-
TB14	600x250	E10	2T25	-	-	2T25	-	-	-	-	-	-	<----------	T10-200(2 LEGS)	8T16-200(2 LEGS)	0	-	-	-
TB51	600x200	E9a	2T20	2T20	2T20	2T20	-	-	-	-	-	T10-225 E.F.	<----------	T10-150(2 LEGS)	---------->	1000	-	-	-
TB54	600x200	E9a	2T20	2T20	2T20	2T20	-	-	-	-	-	T10-225 E.F.	<----------	T10-150(2 LEGS)	---------->	1000	-	-	-



E3

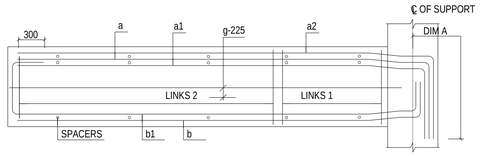


E9

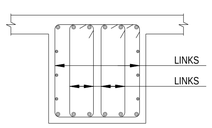


2 LEGS

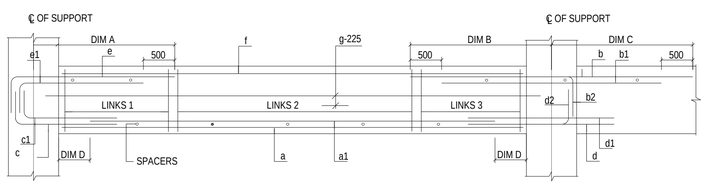
E4



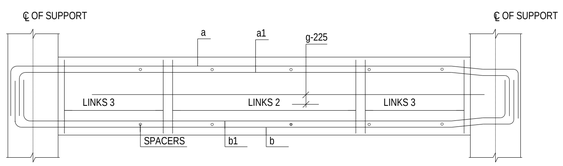
E9a



6 LEGS



E5



E10

BD REF :

BIM REF :

REV	DATE	AMENDMENT

PROJECT

CIC SAMPLE PROJECT

DRAWING TITLE

BEAM R.C. SCHEDULE

SCALE AS SHOWN@A1

DRAWING NO. S003

REV. NO.

SOURCE ---

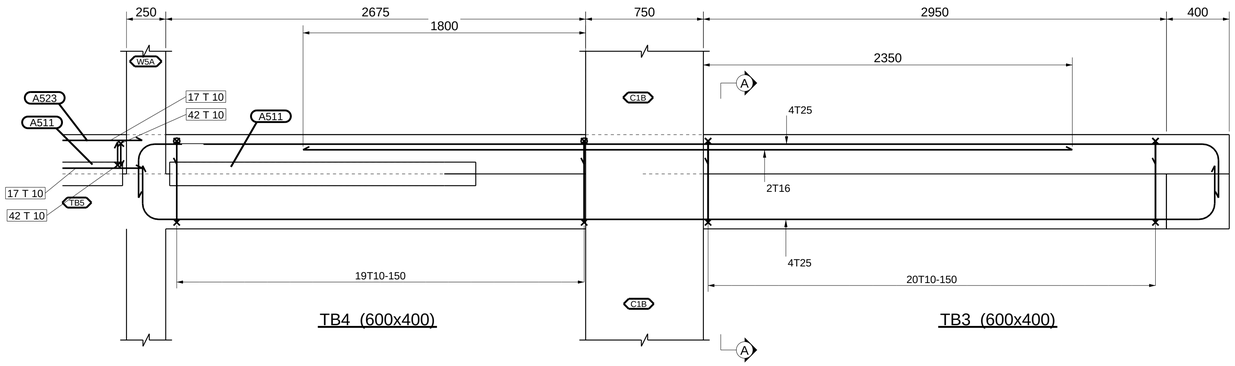
90mm (W) x 40mm (H) space for COMPANY LOGO

90mm (W) x 60mm (H) space for AP/RSE/RGE's signature/ and stamp chop

BD's OFFICAL USE

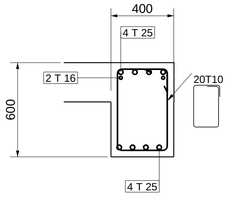
90mm (W) x 150mm (H) space for BD's approval stamp / certification of copies of approved plans (PNAP ADM-10 APP A)

Tekla Structures

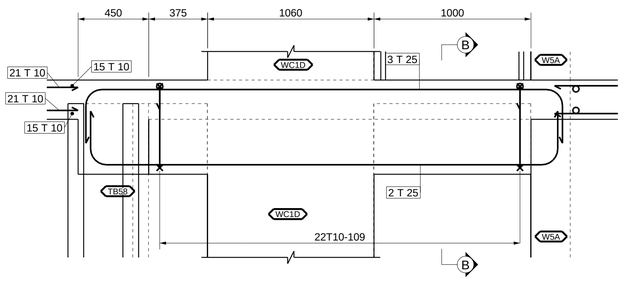


TB4 (600x400)

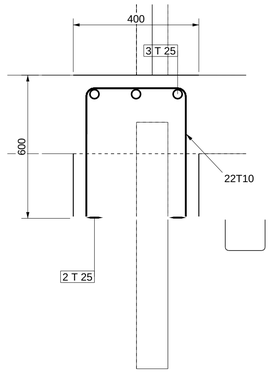
TB3 (600x400)



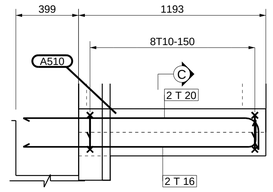
A - A (1:20)



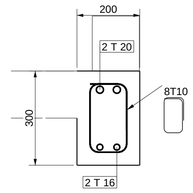
TB15 (600x400)



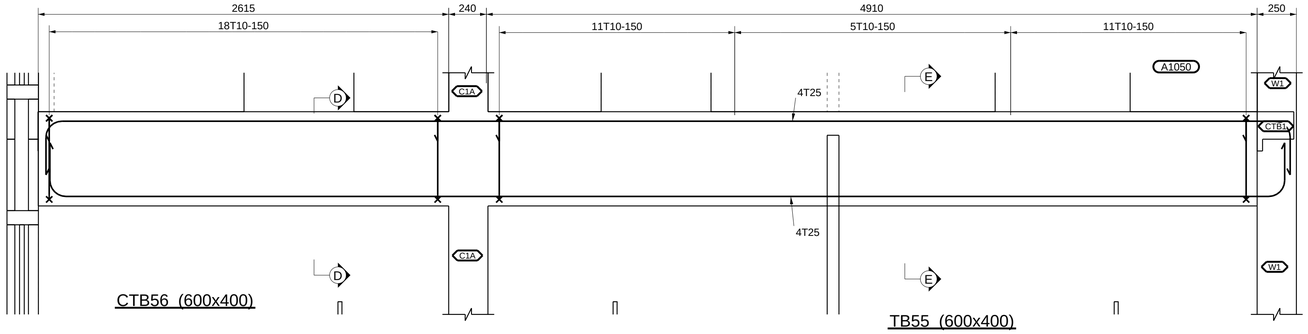
B - B (1:10)



CTB1 (300x200)

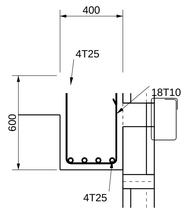


C - C (1:10)

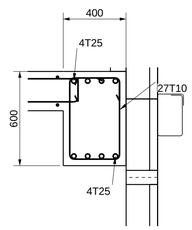


CTB56 (600x400)

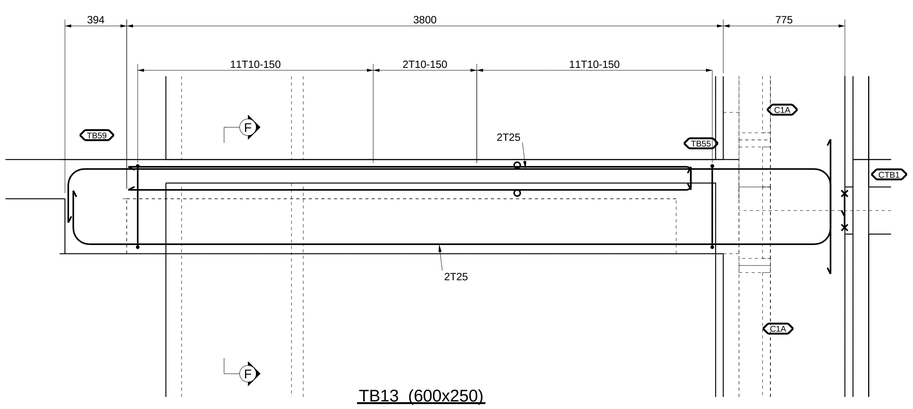
TB55 (600x400)



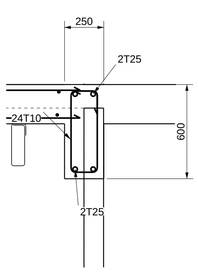
D - D (1:20)



E - E (1:20)



TB13 (600x250)



F - F (1:20)

Tekla Structures

BD REF :

BIM REF :

REV	DATE	AMENDMENT

PROJECT

CIC SAMPLE PROJECT

DRAWING TITLE

BEAM RC DETAIL

SCALE AS SHOWN@A1

DRAWING NO. S004

REV. NO.

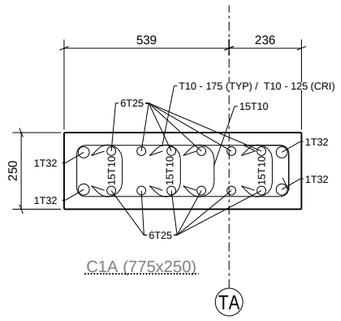
SOURCE ---

90mm (W) x 40mm (H) space
for COMPANY LOGO

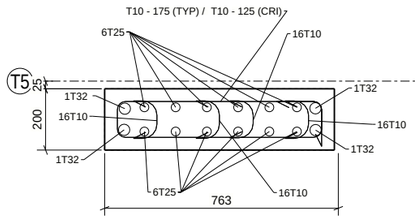
90mm (W) x 60mm (H) space
for AP/RSE/RGE's
signature/ and stamp chop

BD's OFFICAL USE

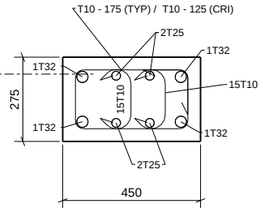
90mm (W) x 150mm (H) space
for BD's approval stamp /
certification of copies of
approved plans
(PNAP ADM-10 APP A)



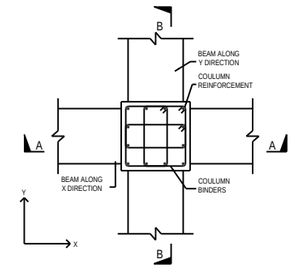
C1A (775x250)



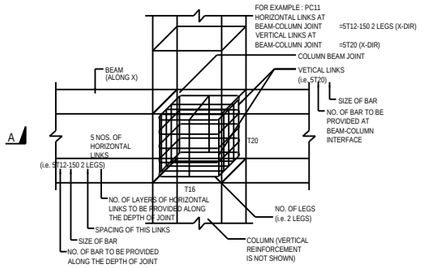
C1B (750x200)



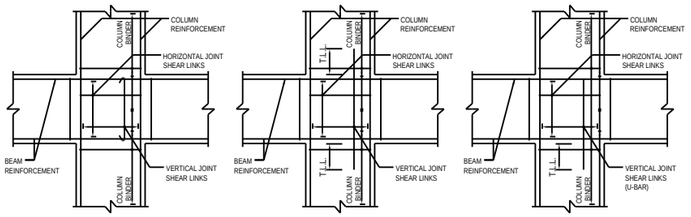
C1C (450x275)



TYPICAL DETAIL FOR COLUMN-BEAM JOINT (PLAN VIEW)

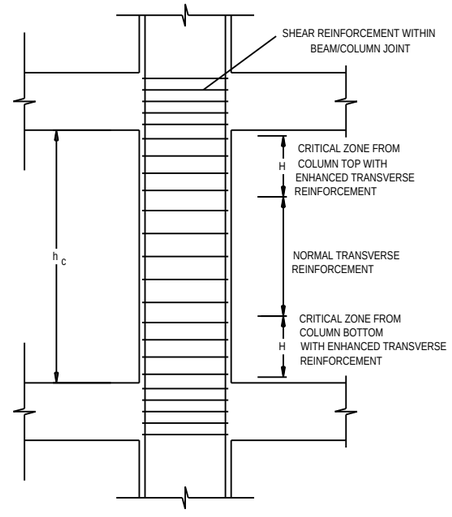


COLUMN BEAM JOINT DETAIL (3D VIEW)



NOTES:
VERTICAL JOINT SHEAR REINFORCEMENT SHOULD CONSIST OF INTERMEDIATE COLUMN BARS ADEQUATELY ANCHORED IN THE COLUMN AND PLACED BETWEEN THE CORNER BARS AND WITH IN THE EFFECTIVE JOINT AREA AS DEFINED IN CLAUSE 8.8.1.3 OF THE CODE OF PRACTICE FOR STRUCTURAL USE OF CONCRETE 2013.

IF H > $\frac{1}{2}$ h_c
COLUMN BINDERS SHOULD BE ACCORDING TO CRITICAL ZONE
h_c = CLEAR HEIGHT OF STOREY



CRITICAL ZONE IN COLUMN

BD REF :

BIM REF :

REV	DATE	AMENDMENT

PROJECT

CIC SAMPLE PROJECT

DRAWING TITLE

COLUMN R.C. DETAIL

SCALE

DRAWING NO. S005

REV. NO.

SOURCE ---

90mm (W) x 40mm (H) space for COMPANY LOGO

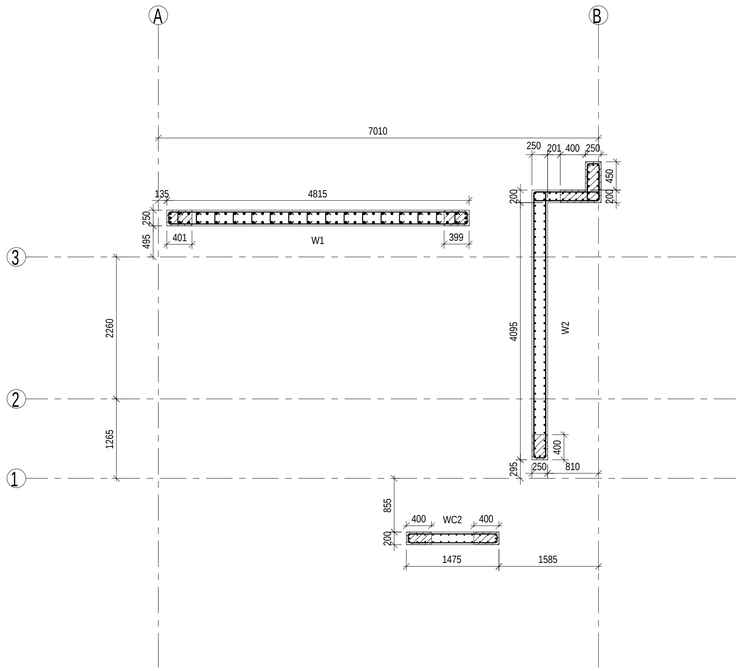
90mm (W) x 60mm (H) space for AP/RSE/RGE's signature/ and stamp chop

BD's OFFICAL USE

90mm (W) x 150mm (H) space for BD's approval stamp / certification of copies of approved plans (PNAP ADM-10 APP A)

R.C. WALL SCHEDULE

FLOOR	WALL MARK	CONCRETE GRADE	THICKNESS (mm)	VERTICAL BARS	HORIZONTAL BARS	BINDER		STEEL RATIO (%)
						HORIZONTAL	VERTICAL	
4/F	W1	C60	250	T40-150	T10-150	T12-300	150	3.4
4/F	W2	C60	250	T25-125	T12-125			1.3
4/F	W3	C60	200	T20-125	T10-100			1.3
4/F	W4	C60	150	T20-150	T10-150			1.4
4/F	W4	C60	200	T20-125	T10-100			1.3
4/F	W5A	C60	200	T20-125	T10-100			1.3
4/F	W5A	C60	250	T25-125	T12-125			1.6
4/F	W5B	C60	150	T20-100	T10-150	T12-200	150	2.1
4/F	W5C	C60	200	T20-125	T10-100			1.3
4/F	W5C	C60	250	T25-125	T12-125			1.6
4/F	W5D	C60	150	T20-125	T10-150			1.7
4/F	W5E	C60	200	T20-125	T10-100			1.3
4/F	W5E	C60	250	T25-125	T12-125			1.6
4/F	W5F	C60	150	T20-100	T10-150	T12-200	150	2.1
4/F	W5G	C60	200	T20-125	T10-100			1.3
4/F	W5G	C60	250	T32-175	T12-125			1.8
4/F	W6	C60	200	T25-150	T10-100			1.6
4/F	W6	C60	250	T20-125	T12-125			1.0
4/F	W6	C60	300	T32-100	T10-150			2.7
4/F	W7	C60	250	T25-150	T12-125			1.3
4/F	W8	C60	250	T32-175	T12-125			1.8
4/F	W9	C60	200	T20-125	T10-100			1.3
4/F	W10	C60	150	T20-150	T10-150			1.4
4/F	WC1D	C60	200	T20-125	T10-100			1.3
4/F	WC2	C60	200	T20-125	T10-100			1.3
4/F	WC2D	C60	200	T20-125	T10-100			1.3
4/F	WC6	C60	200	T20-125	T10-100			1.3



LEGEND:

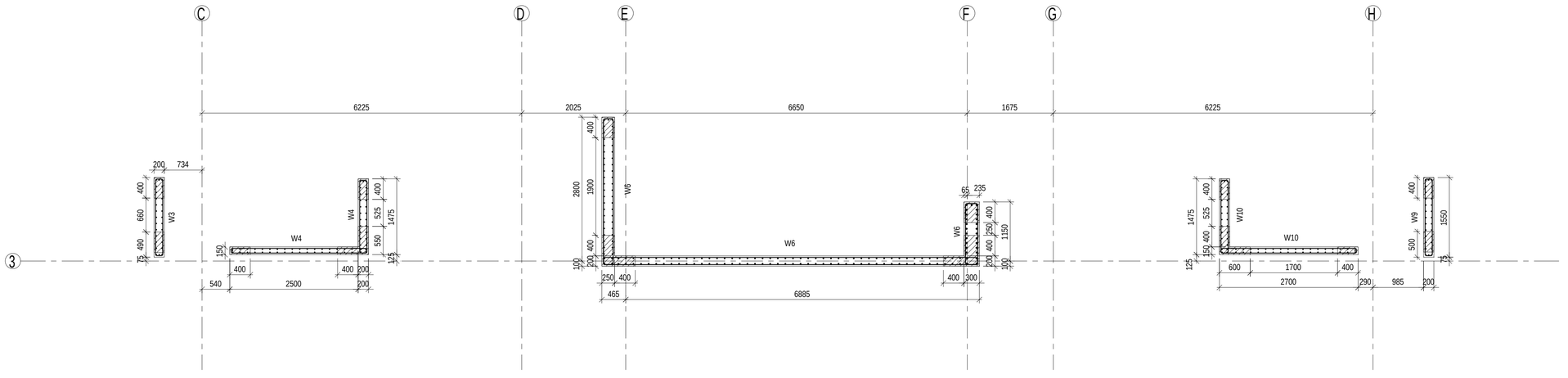
CONFINED AREA

VERTICAL BAR
HORIZONTAL BAR
BINDER

BINDERS:

HORIZONTAL SPACING
T10-200

TYPICAL DETAIL OF WALL
(N.T.S.)



BD REF :

BIM REF :

REV	DATE	AMENDMENT

PROJECT

CIC SAMPLE PROJECT

DRAWING TITLE

WALL R.C. DETAIL (1 OF 2)

SCALE AS SHOWN@A1

DRAWING NO. S006

REV. NO.

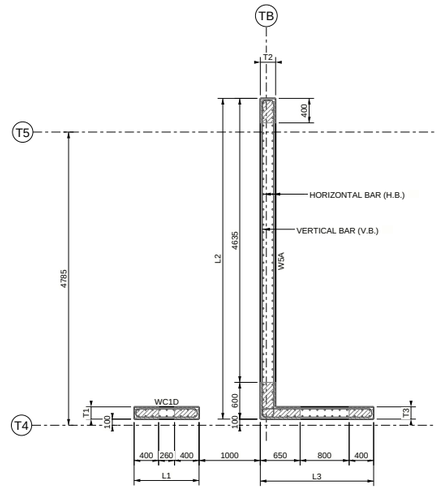
SOURCE ---

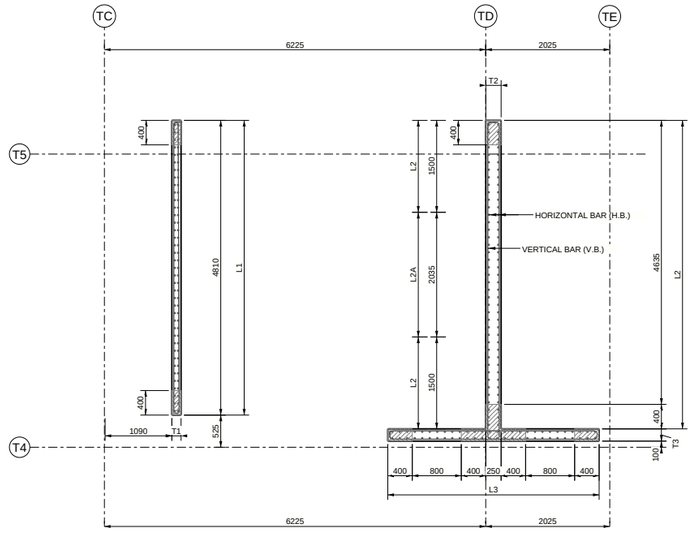
90mm (W) x 40mm (H) space
for COMPANY LOGO

90mm (W) x 60mm (H) space
for AP/RSE/RGE's
signature/ and stamp chop

BD's OFFICAL USE

90mm (W) x 150mm (H) space
for BD's approval stamp /
certification of copies of
approved plans
(PNAP ADM-10 APP A)





FL. MARK	THINKNESS (mm)										FL. MARK	THINKNESS (mm)									
	T1	T2	T3		L1	%	L2	%	L3	%		T1	T2	T3		L1	%	L2	%	L3	%
27/F to 18/F	200	250	200	V.B. (E.F.)	T16-150	0.48	T16-200	0.45	T16-180	0.9	27/F to 18/F	200	250	200	V.B. (E.F.)						
				H.B. (CRI.)											H.B. (CRI.)						
				H.B. (TYP.)											H.B. (TYP.)						
18/F to 11/F	200	250	200	V.B. (E.F.)							18/F to 11/F	200	250	200	V.B. (E.F.)						
				H.B. (CRI.)											H.B. (CRI.)						
				H.B. (TYP.)											H.B. (TYP.)						
11/F to 4/F	200	250	200	V.B. (E.F.)							11/F to 4/F	200	250	200	V.B. (E.F.)						
				H.B. (CRI.)											H.B. (CRI.)						
				H.B. (TYP.)											H.B. (TYP.)						

FL. MARK	THINKNESS (mm)										FL. MARK	THINKNESS (mm)									
	T1	T2	T3		L1	%	L2	%	L3	%		T1	T2	T3		L1	%	L2	%	L3	%
27/F to 18/F	200	250	200	V.B. (E.F.)	T16-150	0.48	T16-200	0.45	T16-180	0.9	27/F to 18/F	200	250	200	V.B. (E.F.)						
				H.B. (CRI.)											H.B. (CRI.)						
				H.B. (TYP.)											H.B. (TYP.)						
18/F to 11/F	200	250	200	V.B. (E.F.)							18/F to 11/F	200	250	200	V.B. (E.F.)						
				H.B. (CRI.)											H.B. (CRI.)						
				H.B. (TYP.)											H.B. (TYP.)						
11/F to 4/F	200	250	200	V.B. (E.F.)							11/F to 4/F	200	250	200	V.B. (E.F.)						
				H.B. (CRI.)											H.B. (CRI.)						
				H.B. (TYP.)											H.B. (TYP.)						

BD REF :

BIM REF :

REV	DATE	AMENDMENT

PROJECT

CIC SAMPLE PROJECT

DRAWING TITLE

WALL R.C. DETAIL (Schedule)

SCALE

DRAWING NO. REV. NO.

S007

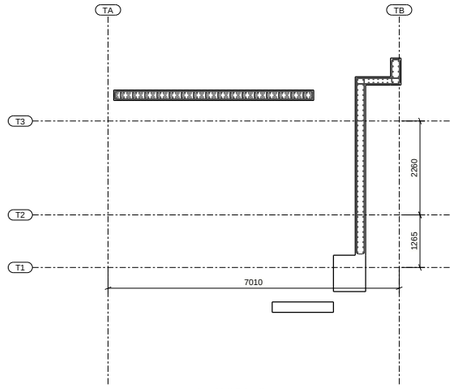
SOURCE ---

90mm (W) x 40mm (H) space
for COMPANY LOGO

90mm (W) x 60mm (H) space
for AP/RSE/RGE's
signature/ and stamp chop

BD's OFFICAL USE

90mm (W) x 150mm (H) space
for BD's approval stamp /
certification of copies of
approved plans
(PNAP ADM-10 APP A)



View_02 (3d) (1:50)

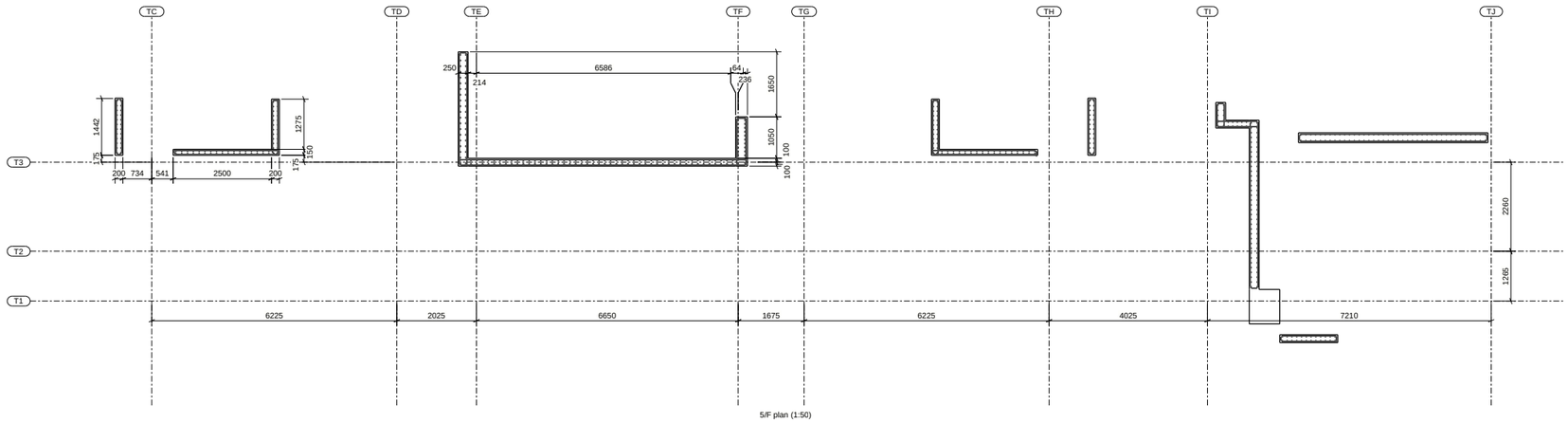
LEGEND :

CONFINED AREA

BINDERS

Vertical Bar
Horizontal Bar
Binder
Horizontal Spacing
T10-200

TYPICAL DETAIL OF WALL
(N.T.S.)



5/F plan (1:50)

BD REF :

BIM REF :

REV	DATE	AMENDMENT

PROJECT

CIC SAMPLE PROJECT

DRAWING TITLE
WALL RC DETAIL

SCALE

DRAWING NO. S008

REV. NO.

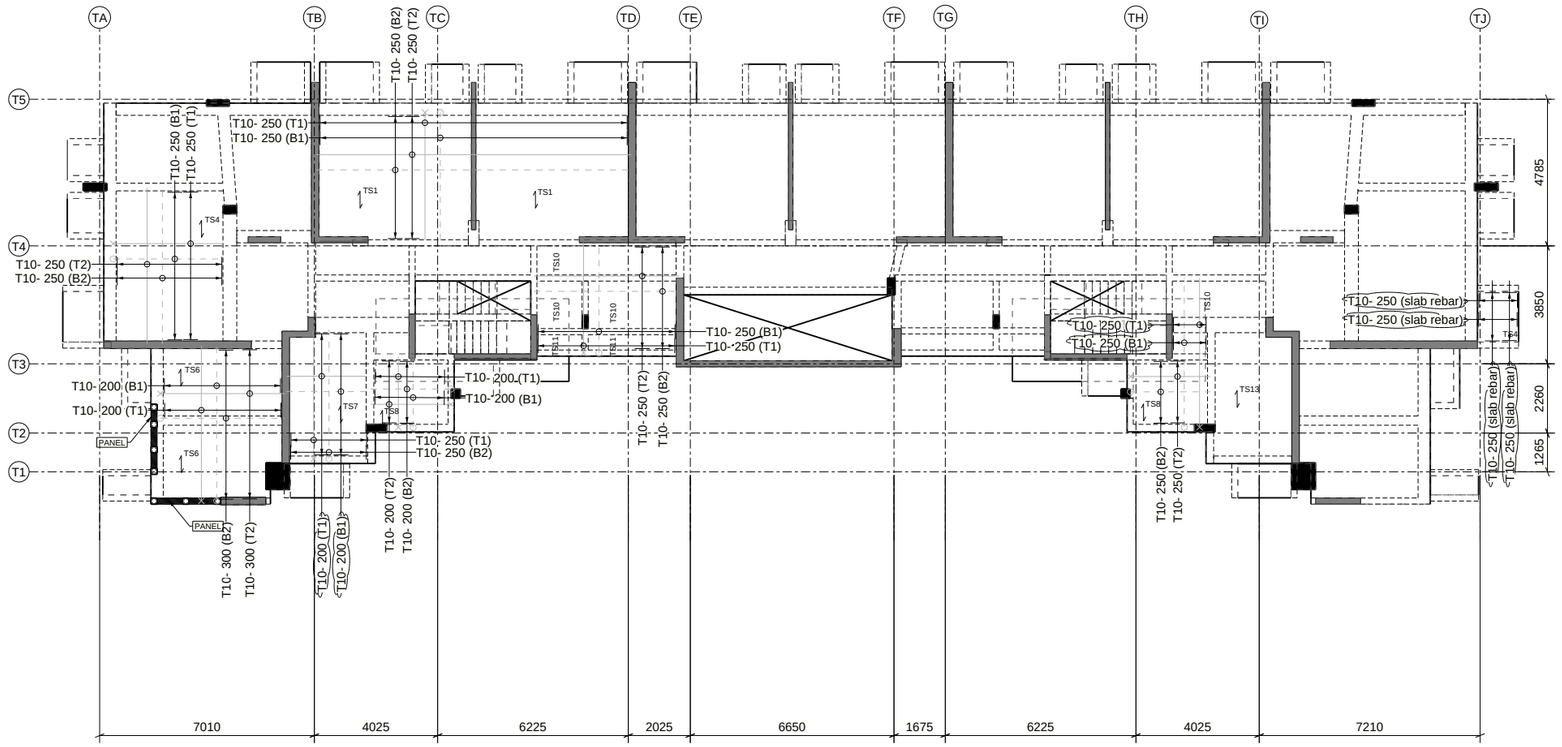
SOURCE ---

90mm (W) x 40mm (H) space
for COMPANY LOGO

90mm (W) x 60mm (H) space
for AP/RSE/RGE's
signature/ and stamp chop

BD's OFFICAL USE

90mm (W) x 150mm (H) space
for BD's approval stamp /
certification of copies of
approved plans
(PNAP ADM-10 APP A)



5/F plan (1:100)

BD REF :

BIM REF :

REV	DATE	AMENDMENT

PROJECT

CIC SAMPLE PROJECT

DRAWING TITLE

SLAB R.C. DETAIL

SCALE

DRAWING NO. S009

REV. NO.

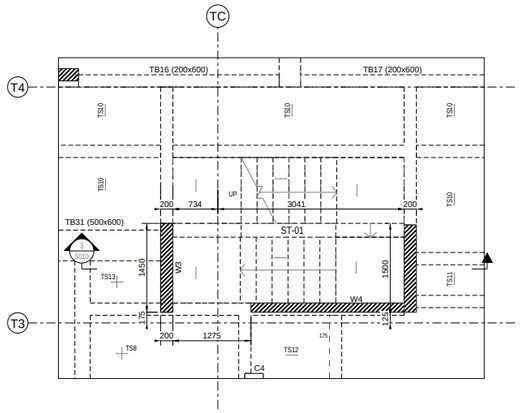
SOURCE ---

90mm (W) x 40mm (H) space
for COMPANY LOGO

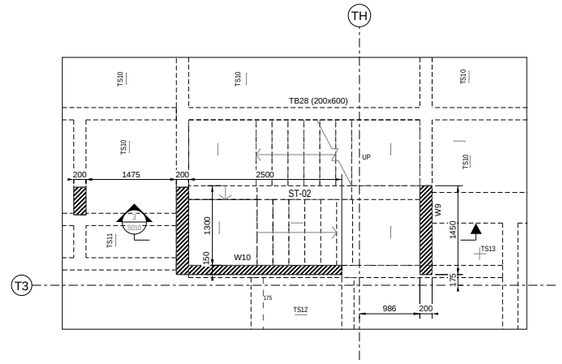
90mm (W) x 60mm (H) space
for AP/RSE/RGE's
signature/ and stamp chop

BD's OFFICAL USE

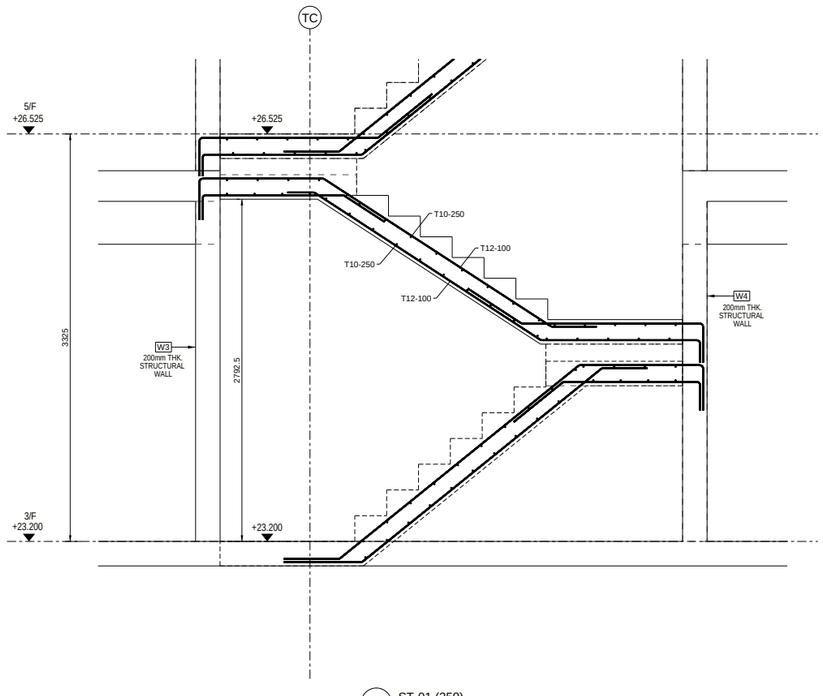
90mm (W) x 150mm (H) space
for BD's approval stamp /
certification of copies of
approved plans
(PNAP ADM-10 APP A)



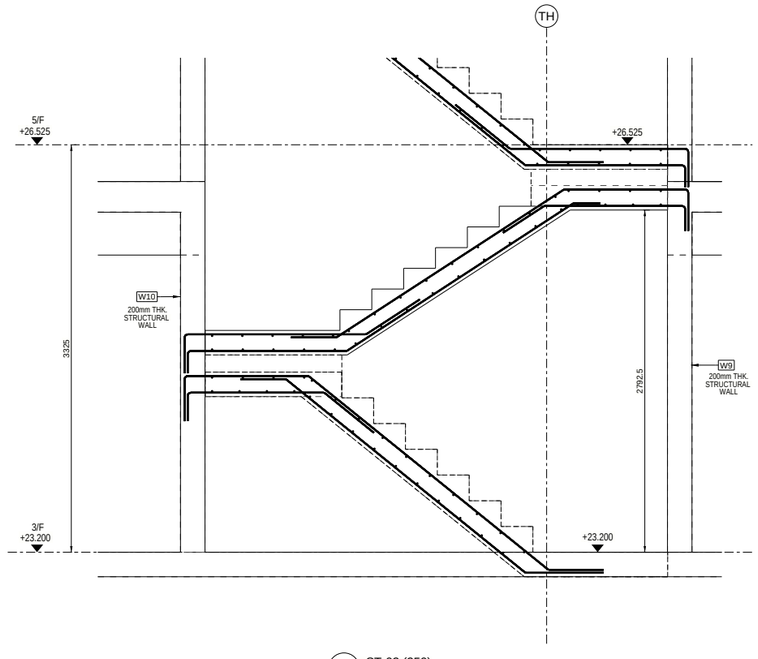
1 TYPICAL FLOOR PART PLAN OF STAIRCASE ST-01
1:50



2 TYPICAL FLOOR PART PLAN OF STAIRCASE ST-02
1:50



3 ST-01 (250)
1:25



3 ST-02 (250)
1:25

BD REF :

BIM REF :

REV	DATE	AMENDMENT

PROJECT

CIC SAMPLE PROJECT

DRAWING TITLE

STAIRCASE R.C. DETAIL

SCALE

DRAWING NO. S010

REV. NO.

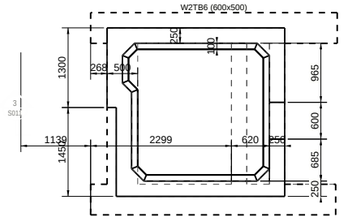
SOURCE ---

90mm (W) x 40mm (H) space for COMPANY LOGO

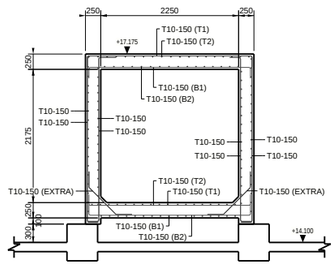
90mm (W) x 60mm (H) space for AP/RSE/RGE's signature/ and stamp chop

BD's OFFICAL USE

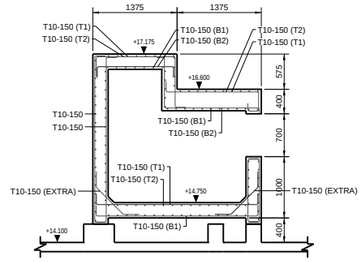
90mm (W) x 150mm (H) space for BD's approval stamp / certification of copies of approved plans (PNAP ADM-10 APP A)



1 6.6m3 FLUSHING WATER TANK AT 2/ F
1:50



2 WATER TANK SECTION 1
1:50



3 WATER TANK SECTION 2
1:50

BD REF :

BIM REF :

REV	DATE	AMENDMENT

PROJECT

CIC SAMPLE PROJECT

DRAWING TITLE

WATER TANK R.C. DETAIL

SCALE

DRAWING NO. S011

REV. NO.

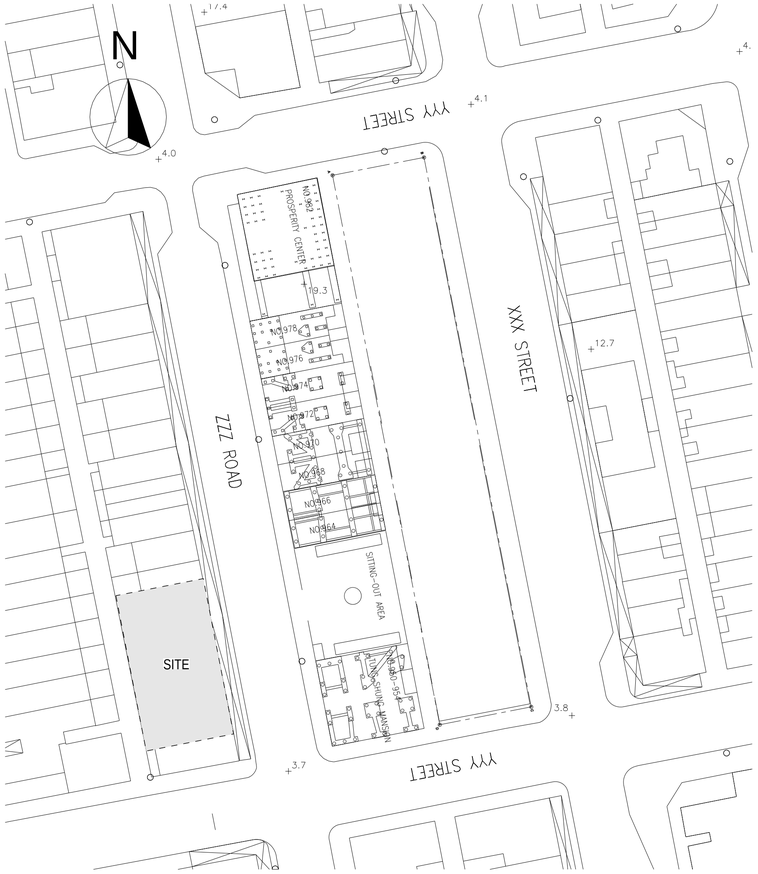
SOURCE ---

90mm (W) x 40mm (H) space
for COMPANY LOGO

90mm (W) x 60mm (H) space
for AP/RSE/RGE's
signature/ and stamp chop

BD's OFFICAL USE

90mm (W) x 150mm (H) space
for BD's approval stamp /
certification of copies of
approved plans
(PNAP ADM-10 APP A)



BLOCK PLAN
1:500

GENERAL NOTES FOR STRUCTURAL STEEL WORKS

1. UNLESS NOTED OTHERWISE, ALL STRUCTURAL STEEL WORKS SHALL BE GRADE S355 J0 COMPLYING WITH BS EN 10025:2004 (Py = 355 MPa) EXCEPT HOLLOW SECTION TO BS EN 20210 AND CLASS 1 COMPLYING WITH CODE OF PRACTICE FOR THE STRUCTURAL USE OF STEEL 2011.

2. ALL STEELWORK SHALL BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH CODE OF PRACTICE FOR THE STRUCTURAL USE OF STEEL 2011. STRUCTURAL USE OF STEEL MATERIALS PROPERTIES SHALL COMPLY WITH BS EN 10025:2004, FOR PERMANENT STRUCTURES. MINIMUM DESIGN STRENGTH ARE AS FOLLOWS:

GRADE	THICKNESS LESS THAN OR EQUAL TO (mm)	DESIGN STRENGTH N/mm2
S355	16	355

* THE STRUCTURAL STEEL ARE CLASSIFIED AS CLASS 1 IN ACCORDANCE WITH CODE OF PRACTICE FOR THE STRUCTURAL USE OF STEEL 2011.

3. THE STEELWORK CONTRACTOR IS RESPONSIBLE FOR ENSURING THE STEEL HAS ADEQUATE THROUGH THICKNESS PROPERTIES TO SATISFY THE REQUIREMENTS OF HIS WELDING PROCEDURES AND WELDING SEQUENCE AND THAT THE MATERIAL AT OR ADJACENT TO WELDED LOCATIONS IS FREE OF LAMINATIONS, CENTRELINE SEGREGATION, OR OTHER CRACK LIKE INDICATIONS ON COMPLETION OF WELDING. THE STEELWORK CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE QUALITY CLASS OF STEEL WITH ENHANCED THROUGH THICKNESS PROPERTIES WHICH MAY BE REQUIRED TO BE COMPATIBLE WITH HIS CHOSEN METHOD OF WORKING.

4. ANY DAMAGED SURFACES OF GALVANISED STEEL SHALL BE COATED WITH ANTI-CORROSIVE COLD GALVANISED PRIMER PRIOR TO PAINTING.

5. PRIOR TO ERECTION ALL STEELWORK SHALL BE SPRAY WASHED WITH WATER AND DETERGENT THEN SPRAY RINSED WITH CLEAN WATER. THEY SHOULD BE FREE FROM RUST, GREASE AND LOOSING SCALES BEFORE APPLICATION OF SURFACE PROTECTION.

6. THE CONTRACTOR SHOULD EMPLOY QUALIFIED WELDERS WITH VALID WELDING CERTIFICATE.

7. ALL WELDING WORK SHALL BE CARRIED OUT BY CERTIFIED WELDERS TESTED BY A HOKLAS APPROVED LABORATORY TO BS EN 15614-8:2002 ALL WELDING WORK TO COMPLY WITH BS EN 1011 SITE WELDING SHALL ONLY BE CARRIED OUT WITH PRIOR WRITTEN CONSENT OF THE ARCHITECT.

8. ALL WELD AND BLOT CONNECTIONS SHALL BE INSPECTED BY THE ENGINEER BEFORE BEING COVERED UP AND REPRESENTATIVELY TESTED TO THE SATISFACTORY OF THE ENGINEER.

9. THE WELDING STANDARDS SHALL BE IN ACCORDANCE WITH BS EN 1011 PART 1:2009 AND PART 2:2001.

10. THE WELDING PROCEDURES SHALL BE IN ACCORDANCE WITH BS EN ISO 15614 PART 1: 2004 AND PART 8:2002.

11. THE WELDERS SHALL BE APPROVED IN ACCORDANCE WITH BS EN 287 PART 1:2004.

12. THE WELDING TESTS SHALL BE IN ACCORDANCE WITH BS EN 1714:1998 AND BS EN ISO 9934 PART 1:2001.

13. UNLESS NOTED OTHERWISE, ALL WELDING SHALL BE 6mm CONTINUOUS FILLET WELD ALL ROUND.

14. ABBREVIATIONS FOR WELDING :-
FW -FILLET WELD
FPBW -FULL PENETRATION BUTT FILLET WELD
PPBW -PARTIAL PENETRATION BUTT FILLET WELD

15. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROVISION OF ALL SHIMMING/PACKING REQUIRED TO ACHIEVE ADEQUATE TOLERANCE AT THE CONNECTIONS.

16. THE CONTRACTOR SHOULD VERIFY THE SETTING OUT DIMENSIONS ON STRUCTURAL AND BUILDING PLANS ON SITE. ANY DISCREPANCIES SHALL BE REPORTED TO THE ARCHITECT/ENGINEER BEFORE CONSTRUCTION WORK IS PROCEEDED.

17. THE CONTRACTOR SHOULD SUBMIT THE FABRICATION AND SHOP DRAWING TO THE ENGINEER FOR CHECKING.

18. ALL STEEL WORKS SHALL BE GALVANIZED TO BS EN ISO 1461:2009 WITH MIN. ZINC COATING THICKNESS OF 85 MICRONS AND WITH 2 COATS OF ZINC PRIMER.

19. THE CONTRACTOR SHALL PROVIDE TEMPORARY BRACING TO STABILIZE THE STEEL WORKS DURING ERECTION.

20. ALL EXISTING FINISHES SHALL BE REMOVED PRIOR TO FIXING END PLATES AND ANCHOR BARS.

21. ALL ORDINARY BOLTS SHALL BE ISO GRADE 8.8 BLACK BOLT TO BS 3692:1967, UNLESS NOTED OTHERWISE.

22. ALL EXISTING REINFORCEMENT IN THE EXISTING CONCRETE STRUCTURES SHALL BE LOCATED WITH COVERMETER PRIOR TO DRILLING FOR ANCHOR BAR INSTALLATION. NO STEEL BAR SHALL BE CUT FOR DRILLING.

BD REF :

BIM REF :

REV	DATE	AMENDMENT

PROJECT
CIC SAMPLE PROJECT

DRAWING TITLE
STEEL STRUCTURE BLOCK PLAN AND GENERAL NOTES

SCALE AS SHOWN@A1

DRAWING NO. R001

REV. NO.

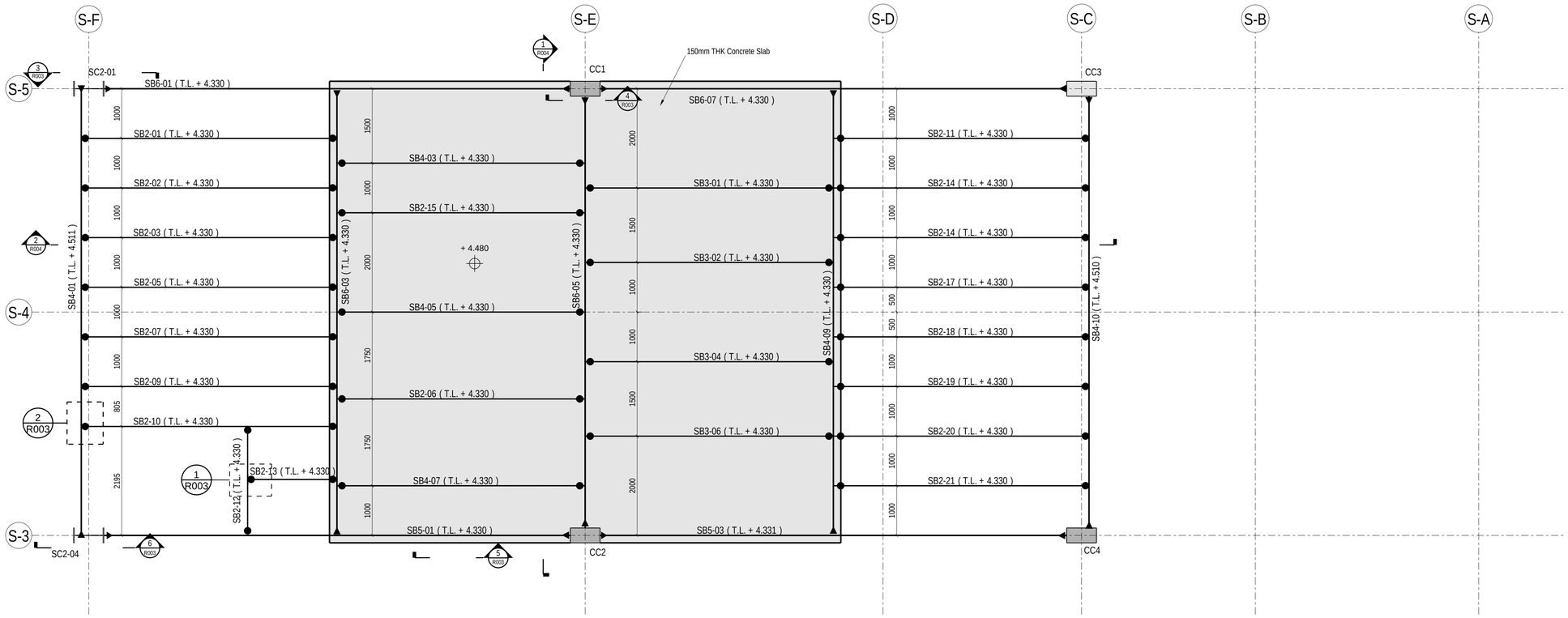
SOURCE ---

90mm (W) x 40mm (H) space for COMPANY LOGO

90mm (W) x 60mm (H) space for AP/RSE/RGE's signature/ and stamp chop

BD's OFFICAL USE

90mm (W) x 150mm (H) space for BD's approval stamp / certification of copies of approved plans (PNAP ADM-10 APP A)



1 Level 2 Framing Plan
1:50

LEGEND

PINNED JOINT

MOMENT JOINT

CONCRETE GRADE OF ALL CONCRETE COLUMNS TO BE C40

STEEL COLUMN SCHEDULE		
MARK	PROFILE	GRADE
SC2-01	UB610*305*179	S355
SC2-04	UB610*305*179	S355

CONCRETE COLUMN SCHEDULE	
MARK	PROFILE
CC1	600x300
CC2	600x300
CC3	600x300
CC4	600x300

STEEL BEAM SCHEDULE		
MARK	PROFILE	GRADE
SB2	UB152*89*16	S355
SB3	UB203*102*23	S355
SB4	UB356*171*57	S355
SB5	UB457*191*74	S355
SB6	UB533*210*101	S355

BD REF :

BIM REF :

REV	DATE	AMENDMENT

PROJECT
CIC SAMPLE PROJECT

DRAWING TITLE
STEEL STRUCTURE FLOOR PLAN

SCALE AS SHOWN@A1

DRAWING NO. R002

REV. NO.

SOURCE ---

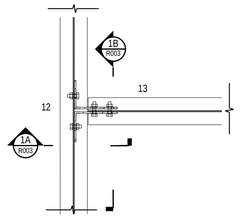
90mm (W) x 40mm (H) space
for COMPANY LOGO

90mm (W) x 60mm (H) space
for AP/RSE/RGE's
signature/ and stamp chop

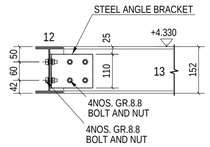
BD's OFFICAL USE

90mm (W) x 150mm (H) space
for BD's approval stamp /
certification of copies of
approved plans
(PNAP ADM-10 APP A)

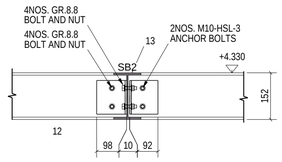
Tekla Structures



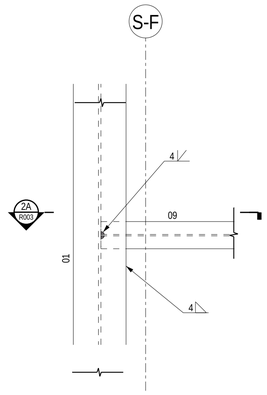
1 CONNECTION DETAIL FOR STEEL BEAM
1:10



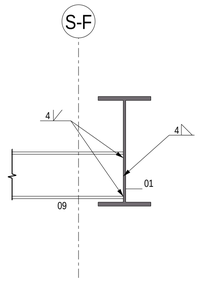
1A SECTION 1A
1:10



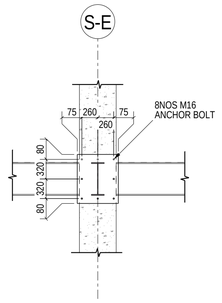
1B SECTION 1B
1:10



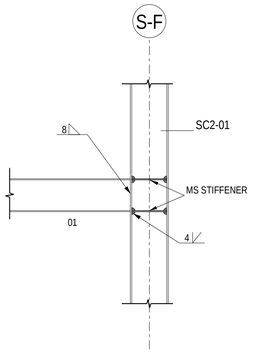
2 CONNECTION DETAIL FOR STEEL BEAM (WELDING)
1:10



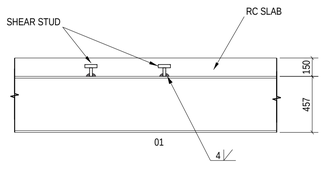
2A SECTION 2A
1:10



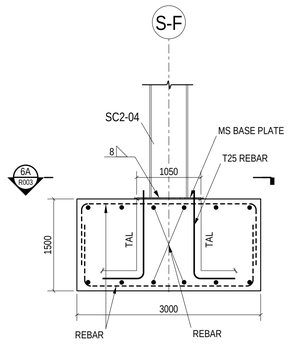
4 CONNECTION DETAIL FOR CONCRETE COLUMN AND STEEL BEAM
1:50



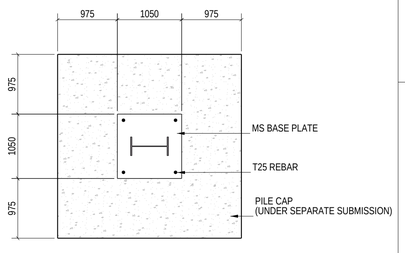
3 CONNECTION DETAIL FOR STEEL COLUMN AND STEEL BEAM
1:50



5 CONNECTION DETAIL FOR CONCRETE SLAB AND STEEL BEAM
1:25



6 CONNECTION DETAIL FOR STEEL COLUMN AND PILE CAP
1:50



6A Section 6A
1:50

BD REF :

BIM REF :

REV	DATE	AMENDMENT

PROJECT
CIC SAMPLE PROJECT

DRAWING TITLE
STEEL STRUCTURE DETAIL

SCALE AS SHOWN@A1

DRAWING NO. R003

REV. NO.

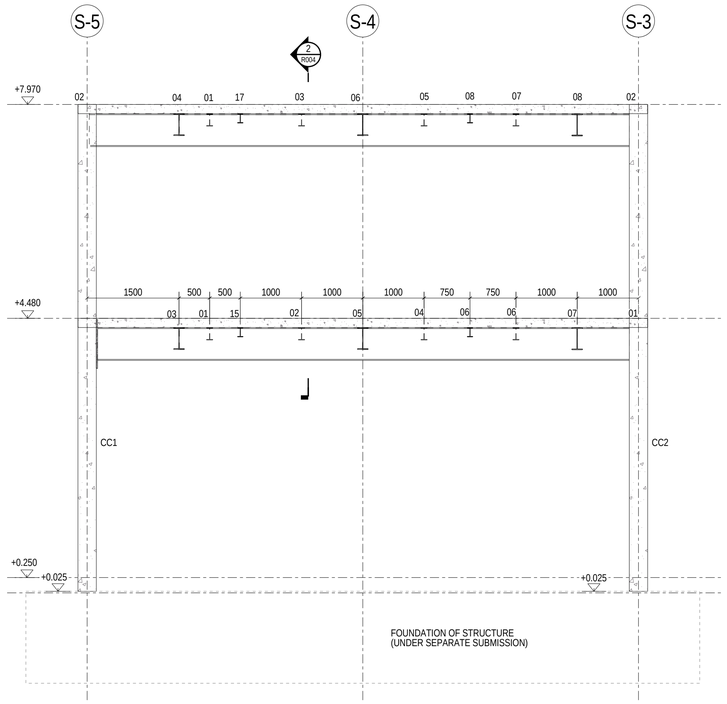
SOURCE ---

90mm (W) x 40mm (H) space
for COMPANY LOGO

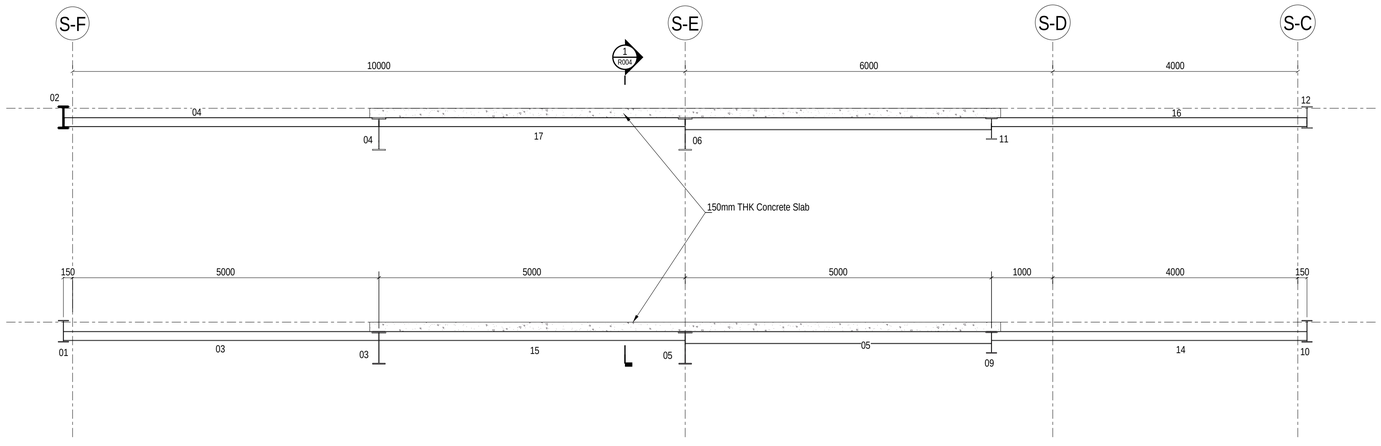
90mm (W) x 60mm (H) space
for AP/RSE/RGE's
signature/ and stamp chop

BD's OFFICAL USE

90mm (W) x 150mm (H) space
for BD's approval stamp /
certification of copies of
approved plans
(PNAP ADM-10 APP A)



1 Section 1
1:50



2 Section 2
1:50

BD REF :

BIM REF :

REV	DATE	AMENDMENT

PROJECT
CIC SAMPLE PROJECT

DRAWING TITLE
STEEL STRUCTURE SECTIONS

SCALE AS SHOWN@A1

DRAWING NO. R004

REV. NO.

SOURCE ---

90mm (W) x 40mm (H) space
for COMPANY LOGO

90mm (W) x 60mm (H) space
for AP/RSE/RGE's
signature/ and stamp chop

BD's OFFICAL USE

90mm (W) x 150mm (H) space
for BD's approval stamp /
certification of copies of
approved plans
(PNAP ADM-10 APP A)

Tekla Structures

1. DESIGN REFERENCE

a. CODE OF PRACTICE FOR STRUCTURAL USE OF STEEL, 2011, B.D. H.K.
b. CODE OF PRACTICE FOR STRUCTURAL USE OF GLASS, 2018, B.D. H.K.
c. CODE OF PRACTICE ON WIND EFFECTS IN HONG KONG 2019, B.D. H.K.
d. CODE OF PRACTICE FOR STRUCTURAL USE OF CONCRETE 2013, B.D. H.K.
f. BRITISH STANDARD - STRUCTURAL USE OF ALUMINIUM BS8118:1991
g. BUILDING (CONSTRUCTION) REGULATIONS
h. STRUCTURAL DESIGN OF STAINLESS STEEL (SCI PUBLICATION 291)

2. GLASS:

a. TP10+12A+TP10mm SILVER GREY GLASS PANEL GLASS WITH LOW-E COATING ON SURFACE (GL-01)

b. DEFLECTION LIMIT : SPAN/60
PERMISSIBLE STRESS OF TEMPERED GLASS = 50 N/mm2
YOUNG'S MODULUS, E = 73 kN/mm2
DENSITY OF GLASS = 2600 kg/m3

c. GASKETS: DENSE : NEOPRENE - 60 : 5 DURO - FOR SOLD PROFILES
- 75 : 5 DURO - FOR HOLLOW PROFILES

d. SETTING BLOCKS : NEOPRENE (DURO)
150mm LONG AT QUARTER POINT OF GLASS

e. 100% HEAT SOAK TESTING FOR ALL TEMPERED GLASS
THE QUALITY CONTROL ON THE FABRICATION OF INSULATED GLASS UNIT SHOULD STRICTLY FOLLOW TAE RECOMMENDATION OF ASTM E773.

f. ALL GLASS PANEL COMPLY TO B.S. 952

3. DESIGN CRITERIA

a. -WIND LOAD
THE BASIC DESIGN PRESSURE : 2.37 kPa
TOPOGRAPPY FACTOR, Sa = 1.3
2.37 x 1.0 x 1.3 = 3.08 kPa (COMPRESSION)
2.37 x 1.4 x 1.3 = 4.31 kPa (SUCTION)
- IMPACT LOAD
- 3kN/m AT 1.1m ABOVE FFL.
- UDL LOAD = 1.5 kN/m2
- POINT LOAD = 1.5kN

b. CONCRETE
MINIMUM COMPRESSIVE fc' = 60 MPa AT 28 DAYS STRENGTH

4. STRUCTURAL STEEL

FOR REFERENCE ONLY

a. B.S. EN. 10210 FOR STEEL HOLLOW GRADE S275 J0 CLASS 1.

b. B.S. EN. 10025 FOR OTHER STRUCTURAL STEEL GRADE S275 J0 CLASS 1.

c. ALL MILD STEEL BRACKETS TO BE SECURED BY WELDING TO B.S. EN. 1011
ALL FILLET WELD TO BE 4mm THK, UNLESS OTHERWISE STATED.

d. MAKE GOOD DAMAGE TO ZINC COATINGS AND GALVANISING, TREAT CUT ENDS OF GALVANISED SECTIONS WITH TWO COATS OF METALLIC ZINC-RICH PRIMING

e. ALL STRUCTURAL MILD STEEL WORKS AND BRACKETS, ETC, FOR FIXING SHALL BE HOT-DIP GALVANIZING OF ZNC PAINT TO B.S. 4652.1995
COMPLYING WITH B.S. E.N. ISO 1461 WITH 85 MICRONS THICKNESS.

5. ANCHOR BOLT

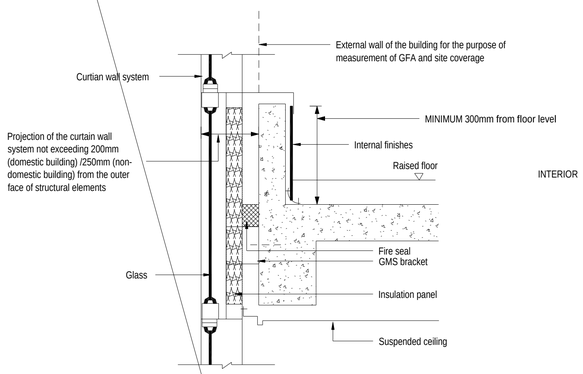
1) THE INSTALLATION OF ANCHOR BOLTS SHALL STRICTLY IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS

2) THE MINIMUM EMBEDMENT, SPACING & EDGE DISTANCE FOR THE VARIOUS TYPES OF ANCHOR BOLTS USED ARE AS FOLLOWS:

BD REFERENCE NO.	'HILTI' 'HST30R'	MIN. SPACING	MIN. EDGE DISTANCE	EFFECTIVE EMBEDMENT LENGTH	BASE MATERIAL THICKNESS	TENSILE (kN)	SHEAR (kN)	TEST LOAD (kN) TENSILEx1.5

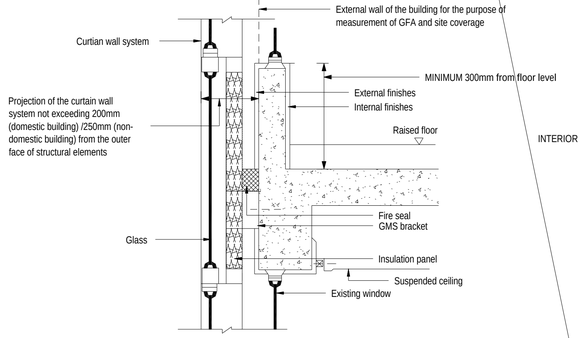
6. ALLOWABLE TOLERANCE:

ALLOWABLE TOLERANCE OF THE POSITIONING OF WINDOW SUPPORTS AND ARRANGEMENTS IS ±25mm

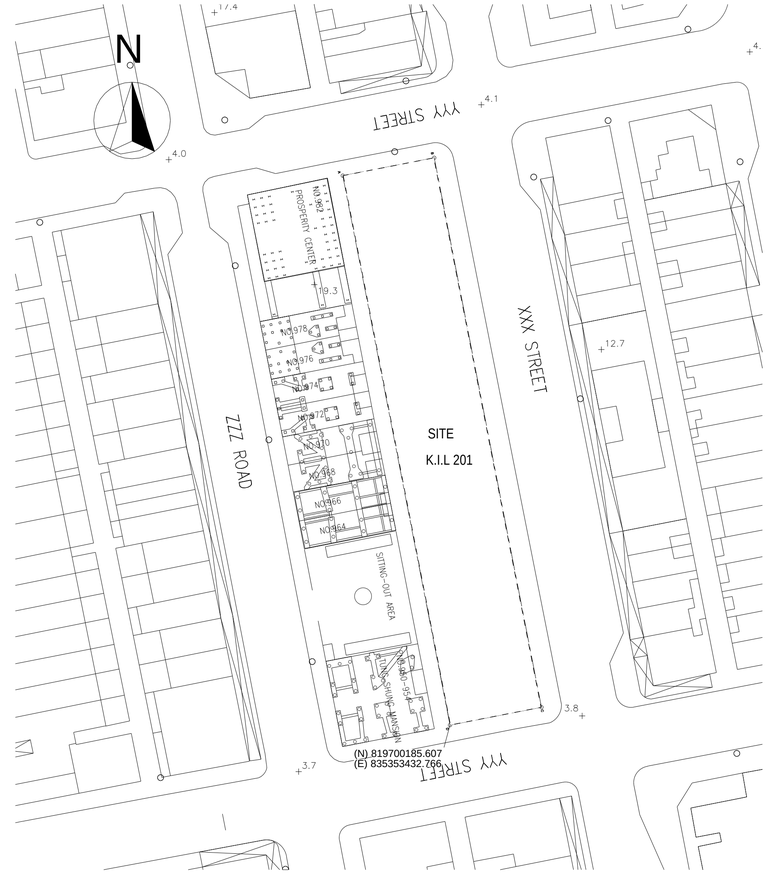


Section of Curtain Wall System installed at New Building

FOR REFERENCE ONLY



Section of Curtain Wall System installed at Existing Building



BLOCK PLAN
1:500

BD REF :

BIM REF :

REV	DATE	AMENDMENT

PROJECT
CIC SAMPLE PROJECT

DRAWING TITLE
CURTAIN WALL GENERAL NOTES

SCALE AS SHOWN@A1

DRAWING NO. C001

REV. NO.

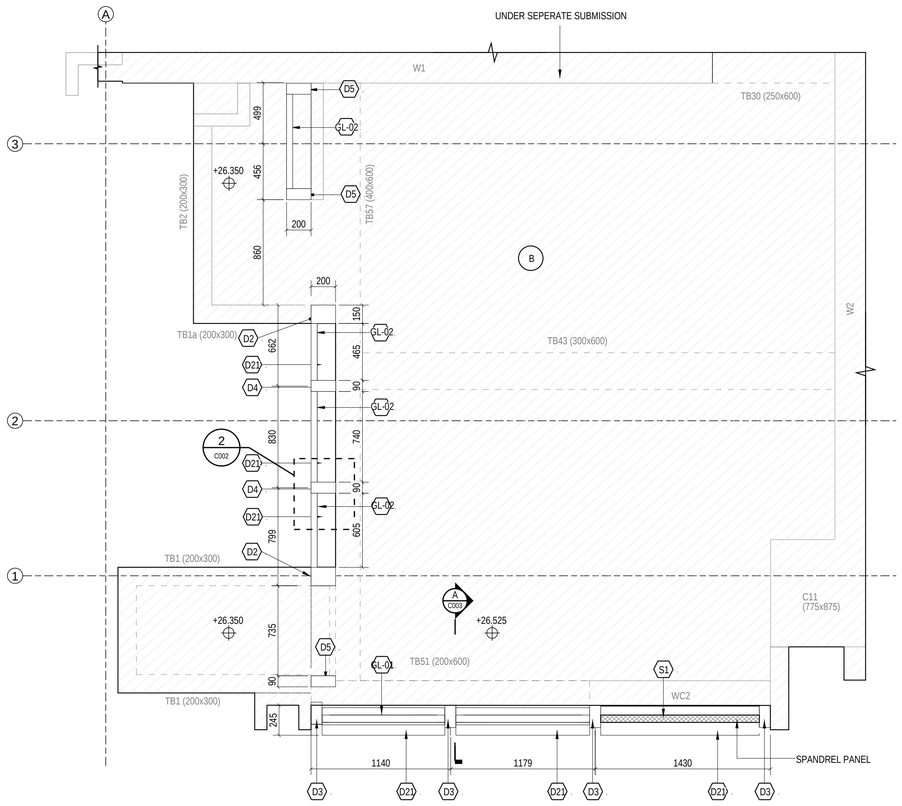
SOURCE ---

90mm (W) x 40mm (H) space for COMPANY LOGO

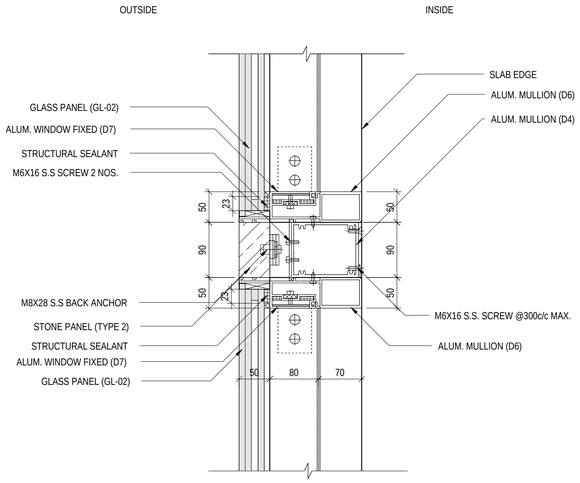
90mm (W) x 60mm (H) space for AP/RSE/RGE's signature/ and stamp chop

BD's OFFICAL USE

90mm (W) x 150mm (H) space for BD's approval stamp / certification of copies of approved plans (PNAP ADM-10 APP A)



1 5/F CURTAIN WALL LAYOUT PART PLAN (FLAT B)
1:25



2 TYPICAL MULLION FIXING DETAIL
1:5

This is an example of demonstrating the presentation of drawings generated from BIM according to the Standard and User Guides ONLY. It does NOT represent the completeness of Submission Drawings under BD's approval requirement of Statutory Plans. The BD approval requirements should refer to other relevant references and remain unchanged no matter whether BIM is used or not used for the preparation of Statutory Plans.

BD REF :

BIM REF :

REV	DATE	AMENDMENT

PROJECT
CIC SAMPLE PROJECT

DRAWING TITLE
CURTAIN WALL LAYOUT PART PLAN

SCALE AS SHOWN@A1

DRAWING NO. C002

REV. NO.

SOURCE ---

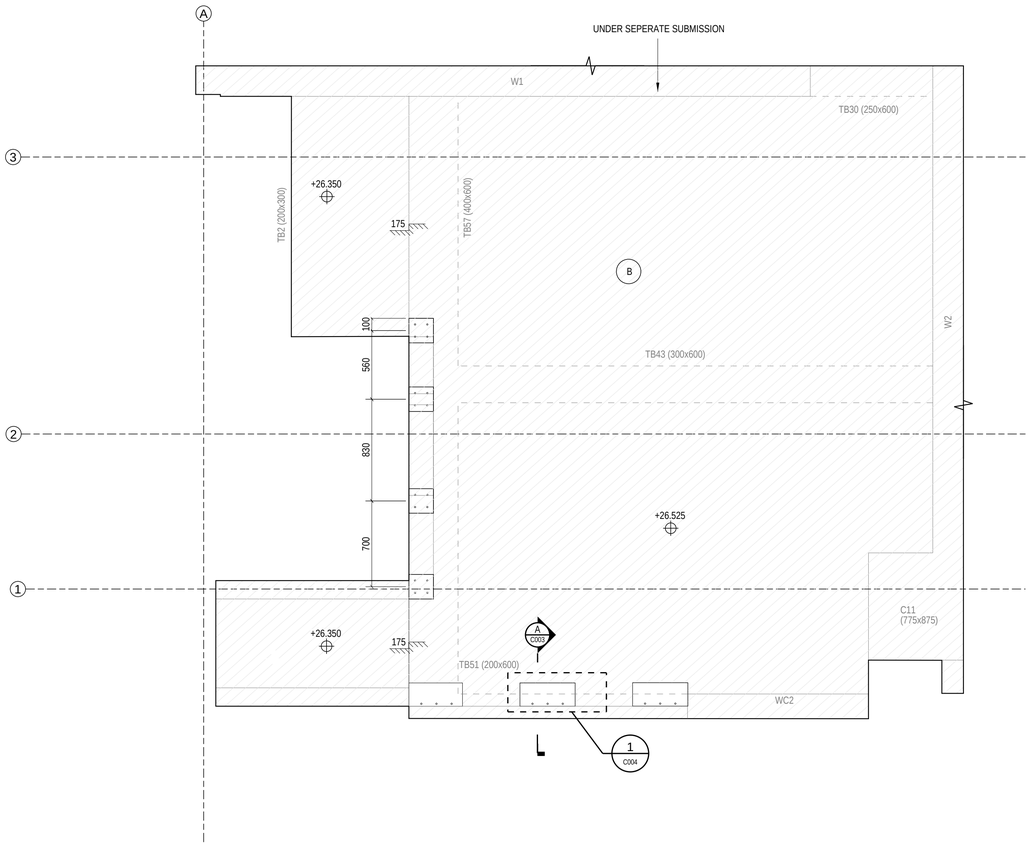
90mm (W) x 40mm (H) space
for COMPANY LOGO

90mm (W) x 60mm (H) space
for AP/RSE/RGE's
signature/ and stamp chop

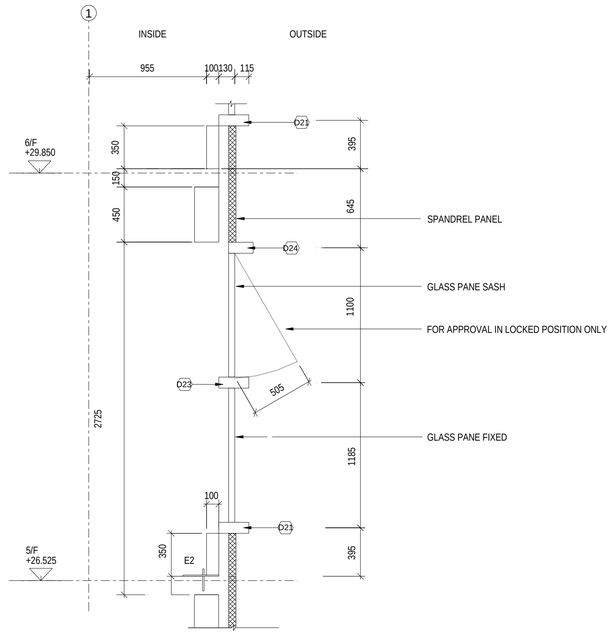
BD's OFFICAL USE

90mm (W) x 150mm (H) space
for BD's approval stamp /
certification of copies of
approved plans
(PNAP ADM-10 APP A)

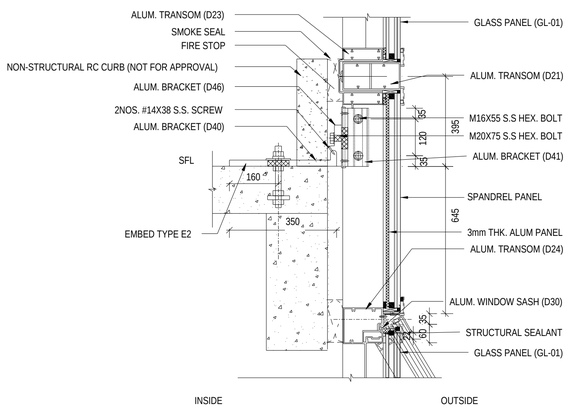
Tekla Structures

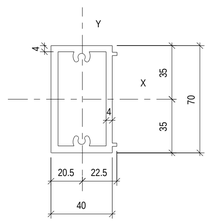


E 5/F CAST-IN LAYOUT PART PLAN (FLAT B)
1:25



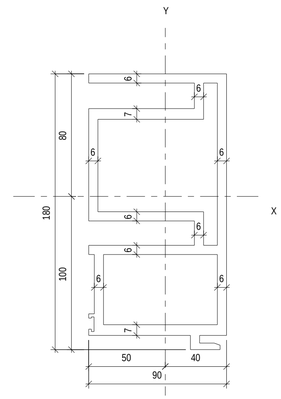
A SECTION A
1:25





D1 ALUM. TRANSOM	SECTION PROPERTY
ALLOY	6063-T6
Area (mm²) :	922.5
Moments of inertia - X (mm ⁴) :	592951
Moments of inertia - Y (mm ⁴) :	211886
Radii of gyration - X (mm) :	25
Radii of gyration - Y (mm) :	15
elastic Modulus - Zx (mm ³) :	I/y - max = 16941
elastic Modulus - Zy (mm ³) :	J/ x- max = 9326

3 TRANSOM DETAIL (D1)
1:2



D3 ALUM. MULLION	SECTION PROPERTY
ALLOY	6063-T6
Area (mm²) :	2311.8
Moments of inertia - X (mm ⁴) :	4509546
Moments of inertia - Y (mm ⁴) :	629163
Radii of gyration - X (mm) :	44
Radii of gyration - Y (mm) :	16
elastic Modulus - Zx (mm ³) :	I/y - max = 63137
elastic Modulus - Zy (mm ³) :	J/ x- max = 25172

4 MULLION DETAIL (D3)
1:2

BD REF :

BIM REF :

REV	DATE	AMENDMENT

PROJECT
CIC SAMPLE PROJECT

DRAWING TITLE
CURTAIN WALL CAST-IN LAYOUT PLAN

SCALE AS SHOWN@A1

DRAWING NO. C003

REV. NO.

SOURCE ---

90mm (W) x 40mm (H) space
for COMPANY LOGO

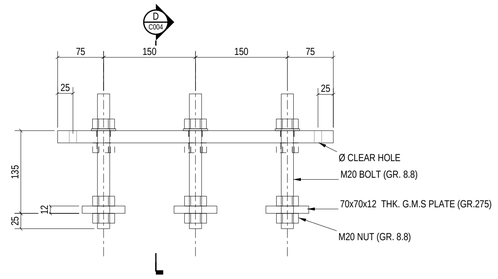
90mm (W) x 60mm (H) space
for AP/RSE/RGE's
signature/ and stamp chop

BD's OFFICAL USE

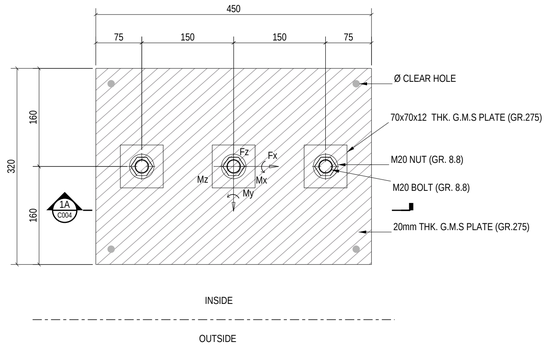
90mm (W) x 150mm (H) space
for BD's approval stamp /
certification of copies of
approved plans
(PNAP ADM-10 APP A)

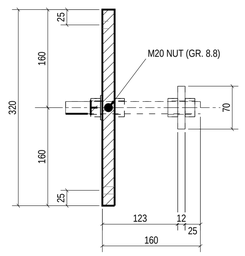
UNFACTORED FORCES FOR CAST-IN EMBED TYPE E2		
	D.L.	W.L.
Fx (kN)	0	0
Fy (kN)	0	39.5
Fz (kN)	-14	0
Mx (kNm)	0.9	2
My (kNm)	0	0
Mz (kNm)	0	0

*(W.L.) WIND LOAD ARE REVERSIBLE



1A PLAN VIEW CAST-IN EMBED TYPE E2
1:5





D SIDE VIEW CAST-IN EMBED TYPE E2
1:5

1 PLAN VIEW CAST-IN EMBED TYPE E2
1:5

BD REF :

BIM REF :

REV	DATE	AMENDMENT

PROJECT
CIC SAMPLE PROJECT

DRAWING TITLE
EMBED DETAIL

SCALE AS SHOWN@A1

DRAWING NO. C004

REV. NO.

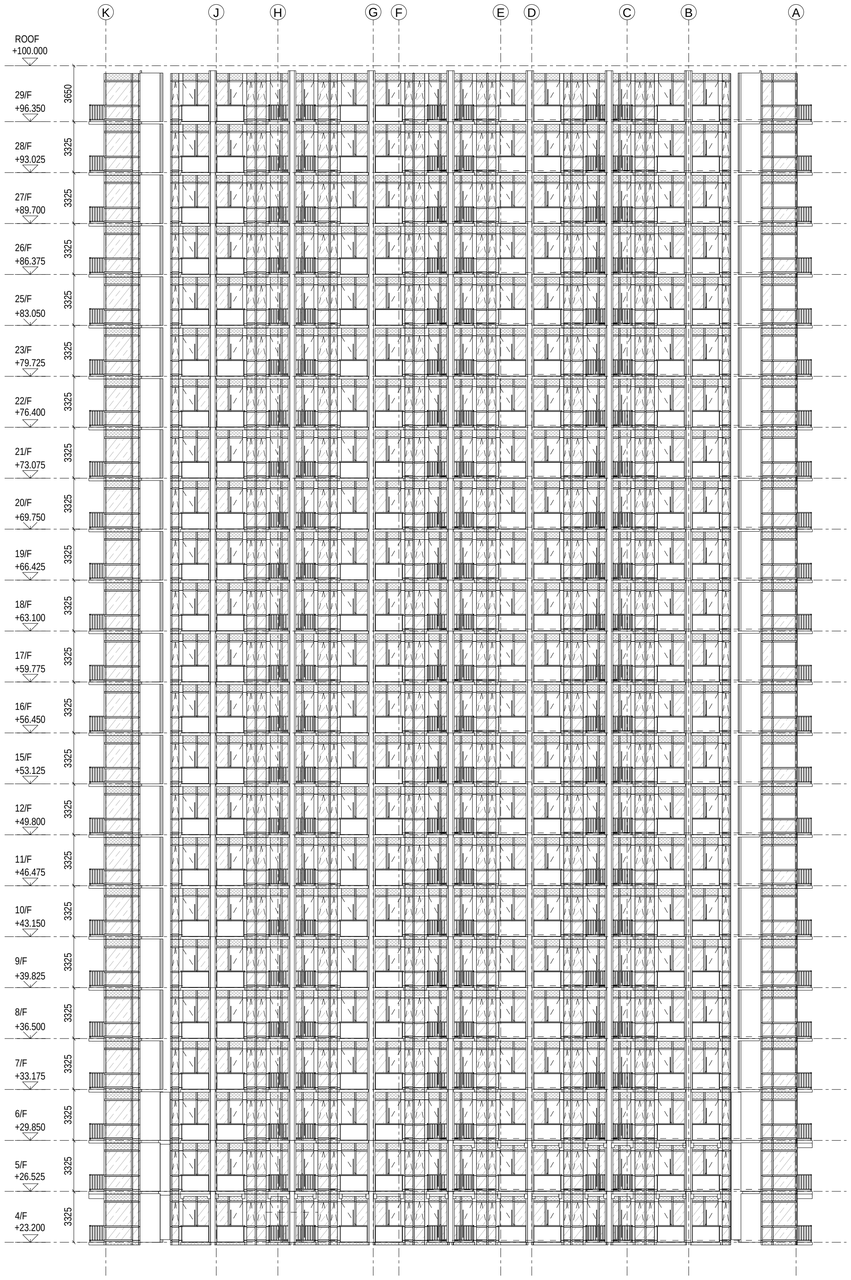
SOURCE ---

90mm (W) x 40mm (H) space
for COMPANY LOGO

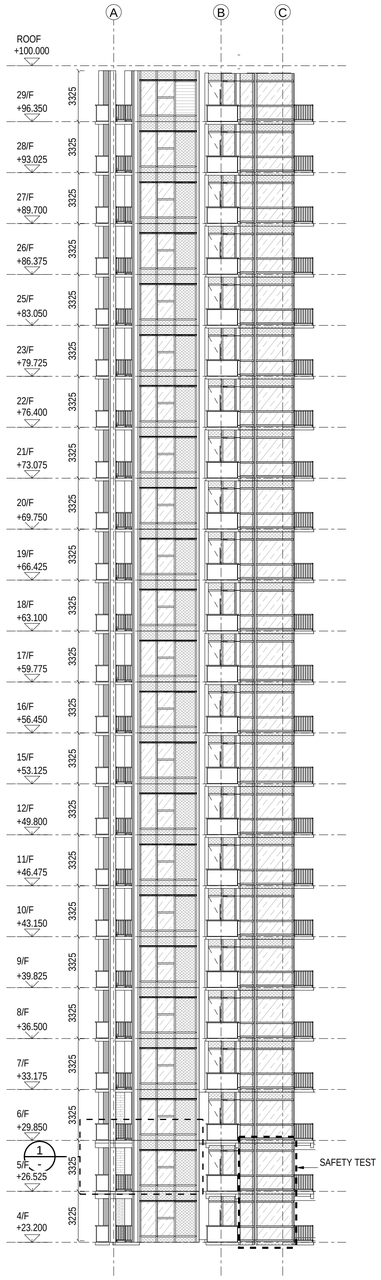
90mm (W) x 60mm (H) space
for AP/RSE/RGE's
signature/ and stamp chop

BD's OFFICAL USE

90mm (W) x 150mm (H) space
for BD's approval stamp /
certification of copies of
approved plans
(PNAP ADM-10 APP A)



1 ELEVATION 1
1:200



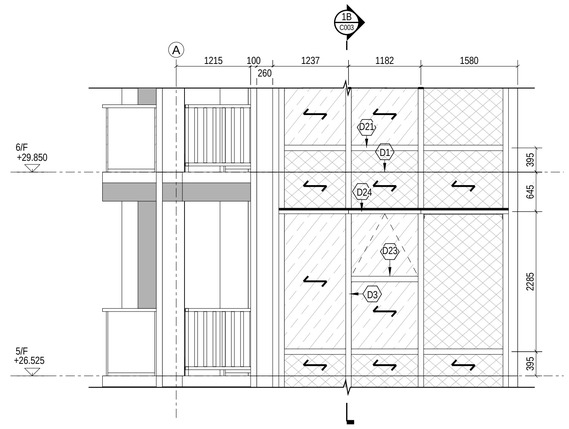
2 ELEVATION 2
1:200

LEGEND:

TP10+12A=TP100mm SILVER GREY GLASS PANEL GLASS W/LOW-E COATING ON SURFACE (GL-01)

SPANDREL PANEL

OPENABLE WINDOW



1 PARTIAL ELEVATION
1:50

This is an example of demonstrating the presentation of drawings generated from BIM according to the Standard and User Guides ONLY. It does NOT represent the completeness of Submission Drawings under BD's approval requirement of Statutory Plans. The BD approval requirements should refer to other relevant references and remain unchanged no matter whether BIM is used or not used for the preparation of Statutory Plans.

BD REF :

BIM REF :

REV	DATE	AMENDMENT

PROJECT
CIC SAMPLE PROJECT

DRAWING TITLE
CURTAIN WALL ELEVATIONS AND SECTIONS

SCALE AS SHOWN@A1

DRAWING NO. C005

REV. NO.

SOURCE ---

90mm (W) x 40mm (H) space for COMPANY LOGO

90mm (W) x 60mm (H) space for AP/RSE/RGE's signature/ and stamp chop

BD's OFFICAL USE

90mm (W) x 150mm (H) space for BD's approval stamp / certification of copies of approved plans (PNAP ADM-10 APP A)

Tekla Structures

GENERAL NOTES

1. ALL DIMENSIONS ARE IN MILLIMETERS (mm) UNLESS OTHERWISE STATED.
2. ALL LEVELS ARE IN METERS ABOVE PRINCIPAL DATUM(mPD) UNLESS OTHERWISE STATED.
3. ALL PROPOSED CAP TOP LEVEL SHOULD BE -6.35mPD. THICKNESS OF CAP TO BE 2500mm/2000mm.
4. CONCRETE GRADE OF PILE CAP IS C45/20(UNDER SEPARATE SUBMISSION)
5. ALL PILE CAP SHOULD BE UNDER SEPARATE SUBMISSION.
6. ALL FOUNDING LEVELS OF BORED PILES AS SHOWN ARE TENTATIVE ONLY.
7. HEIGHT OF BUILDING TO B

8. THE DESIGN OF BORED PILING WORKS SHALL BE IN ACCORDANCE WITH HONG KONG BUILDING (CONSTRUCTION) REGULATIONS 1990, THE STRUCTURAL USE OF CONCRETE 2013, CODE OF PRACTICE ON WIND EFFECTS IN HONG KONG 2004, CODE OF PRACTICE FOR FOUNDATION 2017 AND PRACTICE NOTES FROM THE BUILDINGS DEPARTMENT.
9. HIGHEST POSSIBLE GROUND WATER LEVEL TO BE +4.10mPD. EXISTING GROUND LEVEL IS +4.10mPD.
10. FLEXIBLE CAP THEORY IS ADAPTED IN PILE DESIGN.
11. ALL LATERAL LOADS ARE RESISTED BY BORED PILES & SOCKETED H-SHEET PILES.
12. WIND LOAD SHALL BE REVERSIBLE.
13. CONSIDERATION OF N.S.F. IS NOT REQUIRED.

GENERAL NOTES FOR BORED PILE

ALL STRUCTURAL DRAWINGS SHALL BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTURAL AND BUILDING SERVICES DRAWINGS. SETTING OUT TO BE IN ACCORDANCE WITH RELEVANT ARCHITECTURAL DRAWINGS.

1. CONCRETE USED IN BORED PILE SHALL HAVE PFA CONTENTS COMPLYING WITH PNAP APP-33 AND NOT EXCEED 25% OF THE CEMENT CONTENT AND COMPLY WITH PNAP APP-74. THE REACTIVE ALKALI OF CONCRETE EXPRESSED AS THE EQUIVALENT SODIUM OXIDE PER CUBIC METER OF CONCRETE SHOULD NOT EXCEED 3.0kg.
2. ALL DESIGN IS IN ACCORDANCE WITH "HONG KONG(CONSTRUCTION) REGULATION 1990" WITH LOAD COMBINATION IN ACCORDANCE WITH TABLE 2.1 OF "THE CODE OF PRACTICE FOR STRUCTURAL USE OF CONCRETE 2013" FOR REINFORCED CONCRETE DESIGN. THE LOAD COMBINATIONS INCLUDE 1.4D+1.6L, 1.4D+1.4W, 1.2D+1.2L+1.2W, 1.0D - 1.4W
3. THE CONTRACTOR SHALL ESTABLISH THE BASE SETTING OUT POINTS AND LINES FOR THE ENGINEERS.
4. THE CONTRACTOR IS ADVISED TO INSPECT THE CONDITIONS ON SITE AND TO RECORD THE EXISTING LANDSCAPING FEATURES AND UTILITIES WITHIN AND CLOSE TO THE EXCAVATION AREA. THE CONTRACTOR SHALL CARRY OUT PRE-CONSTRUCTION DIVERSION OF THE EXISTING UNDERGROUND UTILITIES WITHIN THE WORK AREA.
5. ALL REINFORCEMENTS ARE HIGH TENSILE DEFORMED STEEL BAR (Y) AND MILD STEEL ROUND BAR (R) COMPLYING WITH CS2 : 2012 WITH MINIMUM YIELD STRESS AS FOLLOWS :
HIGH TENSILE DEFORMED STEEL BAR = 500 N/sq mm
MILD STEEL ROUND BARS = 250 N/sq mm
6. CONCRETE MIX FOR ALL BORED PILES TO BE GRADE C45 COMPLYING WITH HONG KONG BUILDING (CONSTRUCTION) REGULATION CONCRETING METHOD TO BE BY TREMIE. A REDUCTION FACTOR OF 0.8 SHALL BE APPLIED FOR CONCRETE STRENGTH.
7. ALL LAP LENGTHS OF REI [FOR REFERENCE ONLY] DIAMETER OF REINFORCEMENT.
8. CUT-OFF LEVEL AND TENTATIVE FOUNDING LEVEL FOR ALL PILES ARE SHOWN IN THE BORED PILE SCHEDULES.
9. COVER TO MAIN REINFORCEMENT FOR BORED PILES TO BE 75mm.
10. ALL DIMENSIONS ARE IN mm.
11. ALL LEVELS ARE IN mPD.
12. ESTIMATED PILE LENGTHS GIVEN IN THE PILING SCHEDULE ARE MEASURED FROM THE CUT-OFF LEVEL 1 OF INDIVIDUAL PILES.
13. ESTIMATED PILE LENGTHS GIVEN ARE TENTATIVE. ACTUAL PILE LENGTH FOR INDIVIDUAL PILES SHALL BE VERIFIED ON SITE.
14. THE TENTATIVE FOUNDING LEVELS OF BORED-PILES ARE APPROXIMATE AS DETERMINED FROM THE BOREHOLE INFORMATION.
15. CONCRETE SHALL BE COMPILED WITH CS1 : 2010, EXCEPT CLAUSE 7.1.
16. BORED PILE IS DESIGNED AS FIXED HEAD AND PILE CAP TO BE DESIGNED AS FLEXIBLE CAP. PILE CAP SHALL BE PROVIDED AT B2/F (UNDER SEPARATE SUBMISSION)
17. NO NEGATIVE SKIN FRICTION TO BE CONSIDERED FOR PILE DESIGN DUE TO COMPLETION OF CONSOLIDATION AND REDUCTION OF OVERBURDEN PRESSURE FROM THE BASEMENT CONSTRUCTION.
18. CORRESPONDING GBP SUBMISSION AND SUBSEQUENT AMENDMENT SHALL BE SUBMITTED TO TALLY WITH THE AS-BUILT SETTING OUT OF BORED PILES.

NOTES ON FOUNDING CRITERIA AND PREDRILLING

ALL BORED PILES SHOULD BE FOUNDED AT THE PRESCRIBED LEVELS WHICH ARE DETERMINED BY THE FOLLOWING CRITERIA:

1. THE FOUNDING STRATUM SHALL BE SLIGHTLY TO MODERATELY DECOMPOSED MODERATELY STRONG ROCK OR MATERIAL WEATHERING CAT (1C) ROCK OF BETTER, WITH A TOTAL CORE RECOVERY OF MORE THAN 85% OF THE GRADE AND MINIMUM UNIAXIAL COMPRESSION STRENGTH (UCS) NOT LESS THAN 25MPa OR EQUIVALENTLY POINT LOAD INDEX STRENGTH (PLI50) NOT LESS THAN 1MPa. THE ALLOWABLE BEARING CAPACITY SHOULD BE 5000 kPa
2. PRE-DRILLING SHALL BE CARRIED OUT FOR EACH PILE TO ASCERTAIN THAT THE FOUNDING TO A DEPTH 5m OR THE DESIGNE [FOR REFERENCE ONLY] INTO CONTINUOUS CAT (1C) ROCK OR BETTER WITH TCR
3. PRIOR TO THE COMMENCEMENT OF BORED PILE WORKS, PRE-DRILLING RECORDS SHALL BE SUBMITTED TO THE SATISFACTION OF THE ENGINEER. IN CASE CHANGE IN FOUNDING LEVEL IS REQUIRED, CORRESPONDING AMENDMENT SHALL BE SUBMITTED TO BD FOR APPROVAL.
4. THE ALLOWABLE BOND BETWEEN ROCK AND CONCRETE SHOULD BE 700 kPA UNDER COMPRESSION OR TRANSIENT TENSION, AND 350kPA UNDER PERMANENT TENSION.

METHOD STATEMENT OF BORED PILE CONSTRUCTION

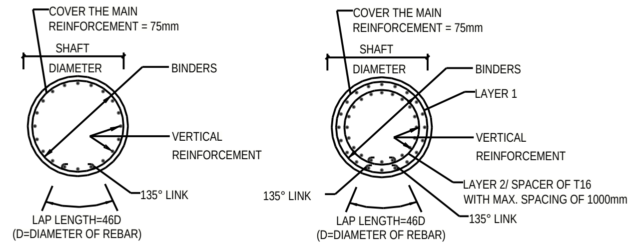
1. BEFORE THE COMMENCEMENT OF THE BORED PILE CONSTRUCTION, PREDRILLHOLES TO BE CARRIED OUT AT PILE POSITION TO VERIFY THE FOUNDING LEVEL.
2. SET OUT THE BORED PILE LOCATION CORRECTLY ON SITE.
3. THE HYDRAULIC OSCILLATOR OR ROTATOR SHALL BE SET UP IN CONJUNCTION WITH A CRANE AND THE TEMPORARY STEEL CASING OF THE REQUIRED DIAMETER SHALL BE INSTALLED INTO THE GROUND.
4. EXCAVATION OF SOIL WITHIN THE TEMPORARY CASING SHALL BE CARRIED OUT BY A HAMMER GRAB. EXCAVATION IN ROCK/BOULDER SHALL BE CARRIED OUT BY RCD.
5. A CONSTANT HEAD EQUAL TO GROUND LEVEL OF DRILLING FLUID SHALL BE MAINTAINED SO AS TO CREATE A"BALANCED HEAD CONDITION" TO PREVENT ANY INGRESS OF MATERIALS AT THE BOTTOM OF CASING.
6. THE TEMPORARY STEEL CASING SHALL BE EXTENDED BY BOLTING OR WELDING ON ADDITIONAL CASING AND BE OSCILLATED AND JACKED DOWN BY A OSCILLATOR OR BE ROTATED DOWN BY A ROTATOR. THE TEMPORARY CASING SHALL MAINTAIN A MINIMUM OF 1.5m EMBEDMENT LENGTH FROM EXCAVATION LEVEL.
7. VERTICALITY OF THE CASING SHALL BE MONITORED BY MEANS OF SPIRIT LEVEL FROM TIME TO TIME.
8. TOLERANCE FOR BORE PILES : THE MAX. DEVIATION OF THE CENTRE OF THE HEAD OF EACH PILE FROM THE DESIGNED CENTRE POINT SHALL NOT BE MORE THAN 75mm IN ANY DIRECTION. THE MAX. DEVIATION FROM THE VERTICAL AXIS OF THE PILE THROUGH THE CENTROID OF THE FINISHED PILE SHALL NOT BE MORE THAN 1 IN 100.
9. CONTINUE PROCEDURES 4 TO 7 UNTIL THE FOUNDING LEVELS OF PILES HAVE BEEN REACHED.
10. FOR PILE ENLARGEMENT/BELLOUT, IT SHALL BE FORMED BY EMPLOYING A BELLING OUT TOOL.
11. THE CONTRACTOR SHALL CARRY OUT KODEN PILE MONITORING TESTS ON ALL (100%) BORED PILES OR SIMILAR ELECTRONIC CALIBRATION TEST METHOD APPROVED BY THE ENGINEER TO CHECK THE DIMENSION, ALIGNMENT AND INTEGRITY OF THE PILE ROCK SOCKET AND BELLOUT. THE CONTRACTOR SHALL SUBMIT THE PROPOSED METHOD FOR APPROVAL PRIOR TO COMMENCEMENT OF THE WORKS. A COPY OF THE TEST RESULTS SHALL BE PROVIDED TO THE ENGINEER IMMEDIATELY AFTER TESTING AND SUBMITTED TO BD TOGETHER WITH FORM BA14.
12. STEEL REINFORCEMENT [FOR REFERENCE ONLY] LOWERED INTO THE TEMPORARY STEEL CASING.
13. FINAL CLEANING SHALL BE ACHIEVED BY MEANS OF HAMMER GRAB/RCD AND AIR LIFTING METHOD USING HIGH PRESSURE AIR COMPRESSORS.
14. THE MUDDY WATER WITHIN THE STEEL CASING SHALL BE CLEANED AND DELIVERED INTO A DESILTING TANK BEFORE DISCHARGED INTO DRAINS.
15. THE PILE SHAFT SHALL THEN BE CONCRETED USING HIGH SLUMP TREMIE CONCRETE THROUGH TREMIE PIPE DISPLACING FLUID UPWARDS.
16. DURING CONCRETING OPERATION, THE TEMPORARY STEEL CASING SHALL BE EXTRACTED SIMULTANEOUSLY BY THE OSCILLATOR OR ROTATOR. A HEAD OF APPROX. 2m IS MAINTAINED BETWEEN THE TOP OF THE CONCRETE AND THE BASE OF THE TEMPORARY STEEL CASING.
17. THE BASE OF THE TREMIE PIPE SHALL BE KEPT AT A MINIMUM DEPTH OF APPROX. 2m BELOW THE SURFACE OF THE CONCRETE.
18. CONCRETING SHALL BE CARRIED OUT IN ONE CONTINUOUS OPERATION UNTIL 1.0m.ABOVE THE CUT-OFF LEVEL 2 . THE TREMIE PIPE WILL BE EXTRACTED.
19. CORING TEST OF PILES SHALL BE CONDUCTED IN ACCORDANCE WITH PNAP APP-18 AFTER THE CONCRETE IS MATURED.
20. THE CONTRACTOR SHALL CARRY OUT SONIC LOGGING TEST FOR 100% AT THE TOTAL NUMBER OF LARGE DIAMETER BORED PILE BY AN INDEPENDENT APPROVED LABORATORY
21. NO PILE EXCAVATION SHALL CARRIED OUT WITHIN DISTANCE NO LESS THAN 10m FORM AN ADJACENT PILING BEING UNDER EXCAVATION OR AN ADJACENT PILE HAS BEEN CONCRETING LESS THAN 24 HRS. PREVIOUSLY.

NOTES ON PROOF TEST BY CORE-DRILLING

1. CORE-DRILLING SHOULD BE TAKEN THROUGH THE FULL DEPTH OF THE PILE AND CARRIED DOWN TO A DISTANCE OF AT LEAST HALF A DIAMETER OF THE BASE, OR 00mm, WHICHEVER IS LARGER, INTO THE GROUND UPON WHICH THE PILE IS FOUNDED.
2. THE COMPLETED CORE TAKEN SHOULD BE PROPERLY MARKED AND ARRANGED IN ORDER FOR INSPECTION.
3. THE CONCRETE CORES SHO [FOR REFERENCE ONLY] OR SEGREGATION OF INDIVIDUAL MATERIALS AND TH [FOR REFERENCE ONLY] E CORES SHOULD NOT BE MORE THAN FIGURE NO. "(16(b))" IN ACCORDANCE WITH THE CLASSIFICATION DEFINED IN TABLE 4 OF CS1:2010.
4. ANY ROCK CORE OBTAINED SHALL BE VISUALLY EXAMINED TO CONFORM TO THE REQUIRED ROCK MATERIAL SPECIFIED IN THE DESIGN.
5. THE CORES SHALL ALSO BE EXAMINED TO CONFIRM THE ADEQUACY OF THE INTERFACE BETWEEN THE CONCRETE AND ROCK.

NOTES ON MINOR IMPERFECTION OF PILE / ROCK INTERFACE

1. SHOULD ANY SEDIMENT AND/OR SEGREGATION MORE THAN 50mm THICK BE FOUND AT THE CONCRETE / ROCK INTERFACE DURING THE INTERFACE PROOF DRILLING. REMEDIAL WORKS BY MEANS OF PRESSURE GROUTING SHALL BE CARRIED OUT UNDER THE SUPERVISION OF RSE.
2. THE PILE BASE SHOULD BE CLEANED BY HIGH WATER JETTING WITH MINIMUM JET PRESSURE OF 200 BARS PRIOR TO PRESSURE GROUT.
3. THE GROUT SHOULD BE CEMENT GROUT AND THE GROUT STRENGTH SHOULD NOT BE LESS THAN THE CONCRETE STRENGTH OF BORED PILES.
4. THE GROUT PRESSURE SHALL NOT BE LESS THAN 25 BAR AND SHALL BE MAINTAINED FOR AT LEAST 5 MINUTES UNTIL NO SIGNIFICANT GROUT INTAKE IS NOTED.
5. DETAILED METHOD STATEMENT FOR THE GROUTING WORKS SHALL BE SUBMITTED BY CONTRACTOR TO THE RSE FOR HIS ACCEPTANCE PRIOR TO CARRYING OUT THE GROUTING WORKS. THE GROUTING WORKS SHALL BE SUPERVISED BY THE RSE AND ALL RELEVANT RECORDS SHALL BE KEPT ON SITE FOR INSPECTION AT ALL TIMES.
6. FULL DETAILS OF THE REMEDIAL GROUTING WORKS INCLUDING IDENTIFICATION OF THE PILES FOR GROUTING, NATURE AND THICKNESS OF THE SEDIMENT/SEGREGATION DISCOVERED, EFFECTIVENESS OF FLUSHING AND GROUTING WORKS, GROUTING RECORDS AND GROUT CUBE TEST REPORTS SHALL BE INCORPORATED IN THE PILING REPORTS TO BE SUBMITTED TO THE BUILDING AUTHORITY UPON COMPLETION OF THE PILING WORKS.

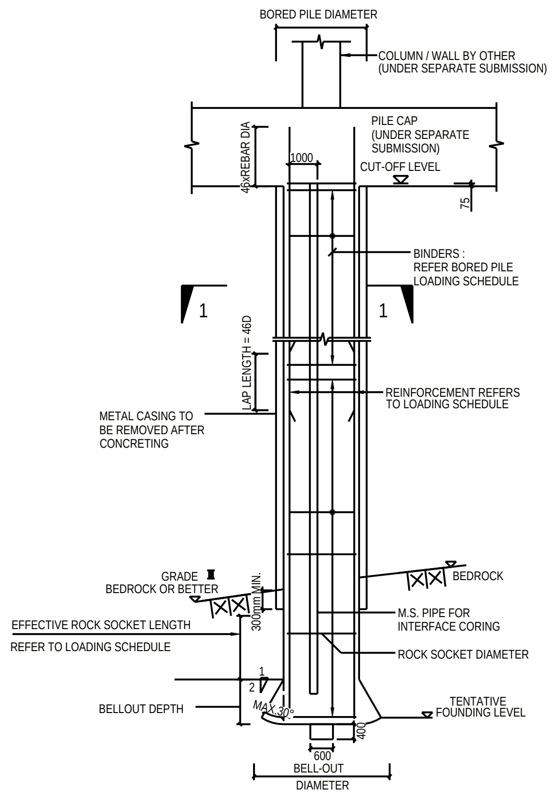


BORED PILE WITH SINGLE LAYER REINF'T TYPE1

BORED PILE WITH DOUBLE LAYER REINF'T TYPE2

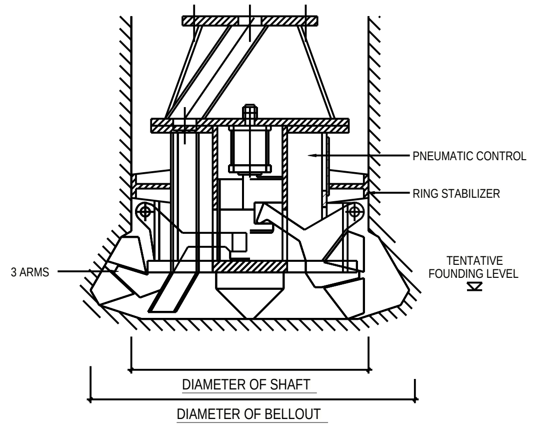
SECTION 1-1

N. T. S.



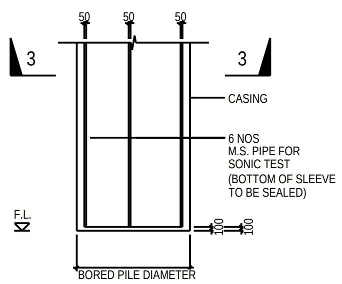
TYPICAL BORED PILE DETAILS (WITH BELL-OUT)

N.T.S.



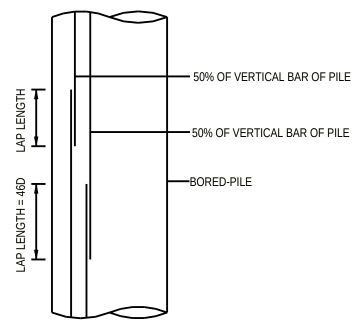
RCD BELLOUT TOOL (FOR INFORMATION ONLY)

(N.T.S.)



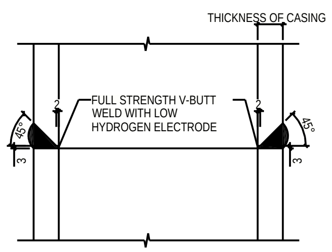
TYPICAL TUBE INSTALLATION (FOR BORED PILE)

1 : 100



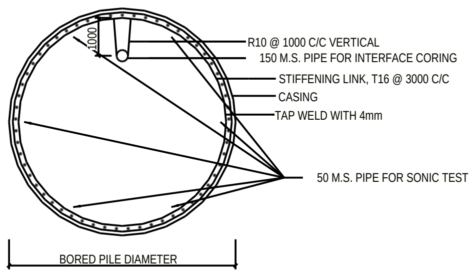
LAPPING DETAILS (STAGGERED LAP) FOR TENSION BORED PILE

N. T. S.



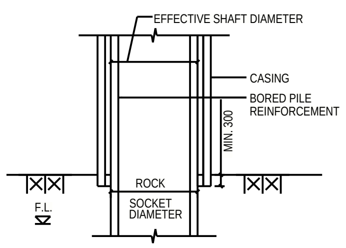
TYPICAL DETAIL FOR SPLICES OF TEMPORARY STEEL CASING

N. T. S.



SECTION 3-3

1 : 50



DETAIL OF BORED PILE DIAMETER

N. T. S.

BD REF :

BIM REF :

REV	DATE	AMENDMENT

PROJECT

CIC SAMPLE PROJECT

DRAWING TITLE

GENERAL NOTES FOR FOUNDATION

SCALE

DRAWING NO. REV. NO.

P001

SOURCE ---

90mm (W) x 40mm (H) space for COMPANY LOGO

90mm (W) x 60mm (H) space for AP/RSE/RGE's signature/ and stamp chop

BD's OFFICAL USE

90mm (W) x 150mm (H) space for BD's approval stamp / certification of copies of approved plans (PNAP ADM-10 APP A)

LEGEND AND NOTES:

BOUNDARY LINE

BORED PILE

PILE CAP

H-PILE

F5

PILE CAP MARK

PILE CAP

H-PILE

F8

PILE CAP MARK

TB1
(1000x800)

TIEBEAM (UNDER SEPARATE SUBMISSION)

(500)

(500)

BASEMENT SLAB (UNDER SEPARATE SUBMISSION)

COLUMN / WALL ABOVE (UNDER SEPARATE SUBMISSION)

BASEMENT SCREEN WALL (UNDER SEPARATE SUBMISSION)

PILE CAP (2000mm THICK) (UNDER SEPARATE SUBMISSION)
CP1 -PILE CAP MARK

BH1(P)

BORED HOLE (WITH PIEZOMETER)
(BH1 (P), BH2 (P) AND BH5 (P)
BH6 (P), BH9 (P) AND BH10 (P) 6NOS.)

BH2

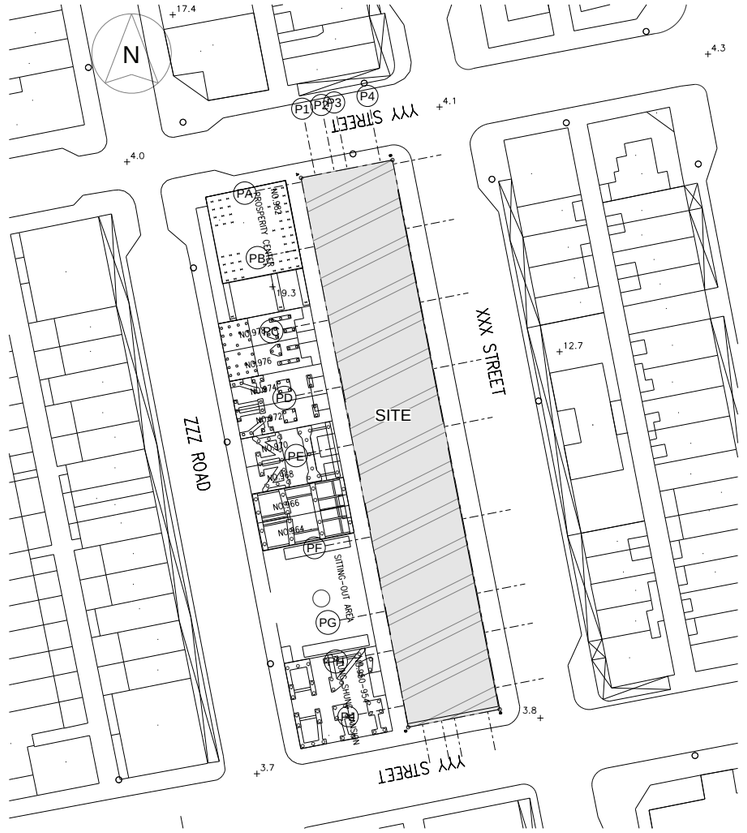
BORED HOLE
(BH3, BH4, BH7 AND BH8 4 NOS.)

4.15

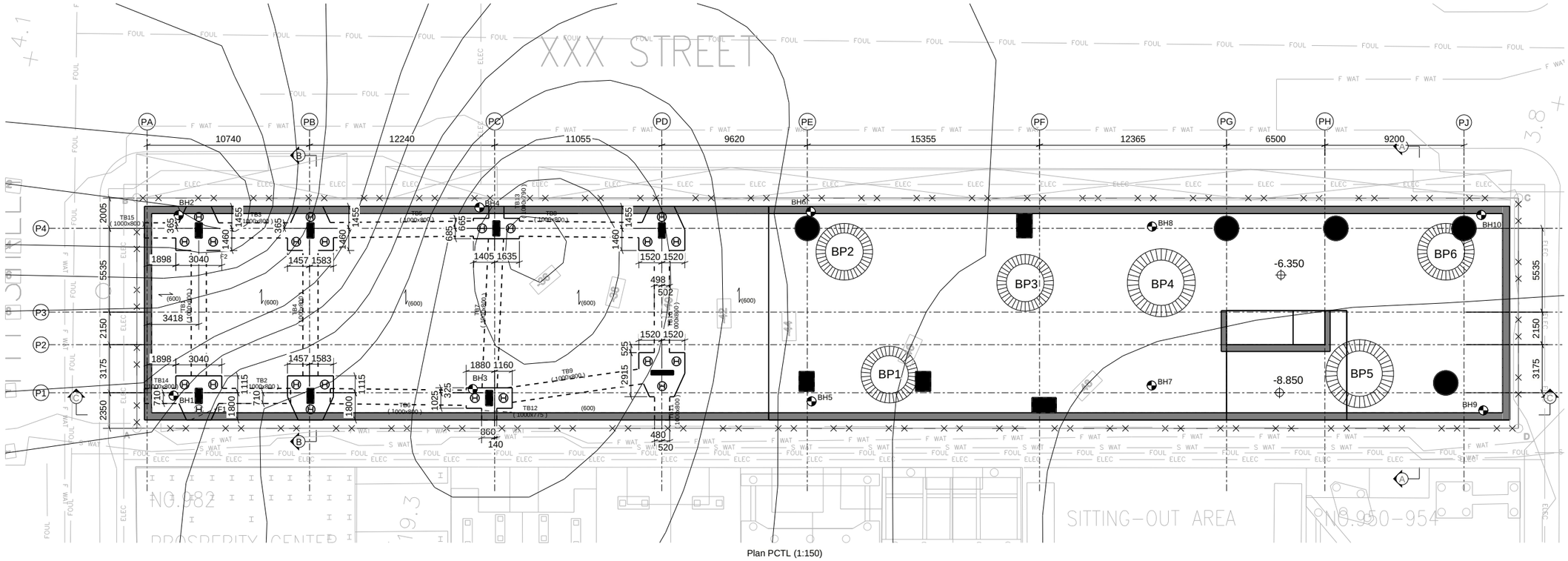
EXISTING GROUND LEVEL

-38

INFERED ROCK HEAD LEVEL



BLOCK PLAN
1:500



Plan PCTL (1:150)

REV	DATE	AMENDMENT

BD REF :

BIM REF :

PROJECT

CIC SAMPLE PROJECT

DRAWING TITLE
PILING LAYOUT PLAN

SCALE

DRAWING NO. P002

REV. NO.

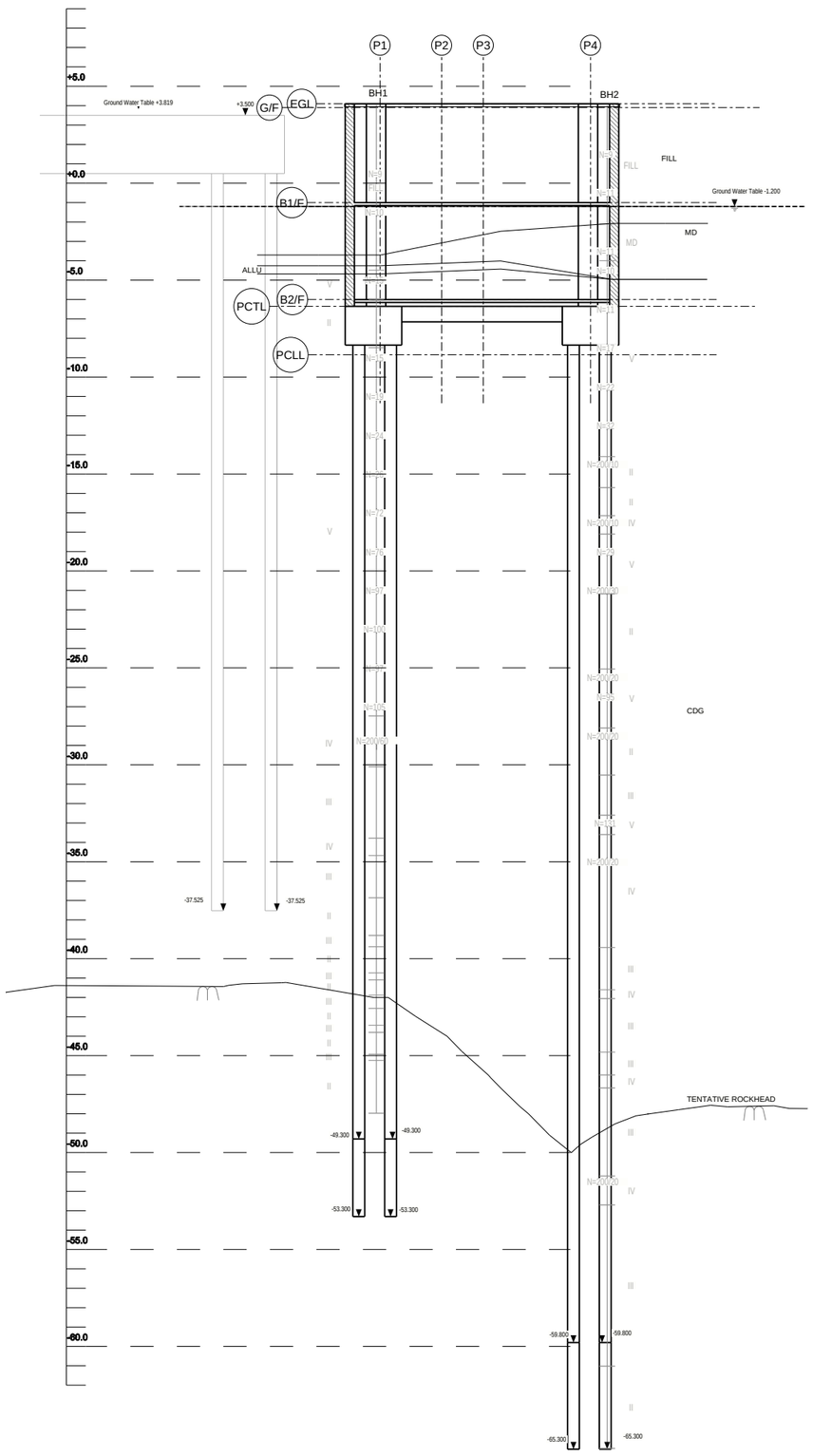
SOURCE ---

90mm (W) x 40mm (H) space
for COMPANY LOGO

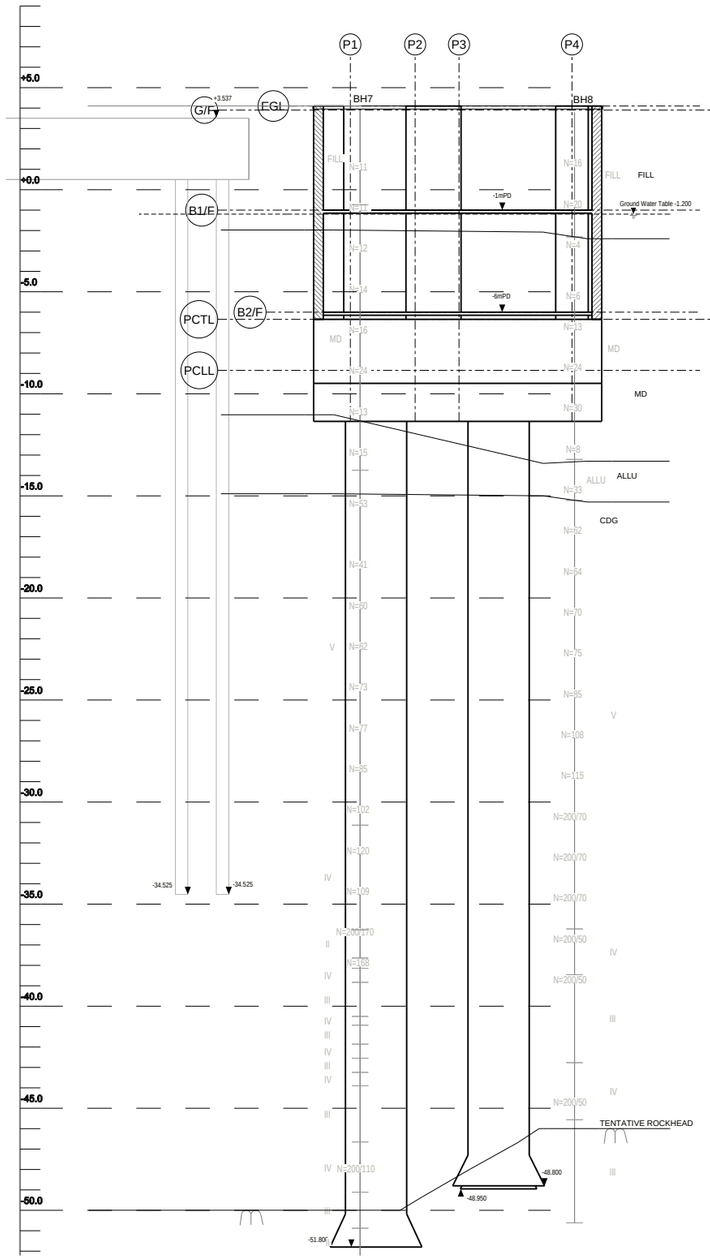
90mm (W) x 60mm (H) space
for AP/RSE/RGE's
signature/ and stamp chop

BD's OFFICAL USE

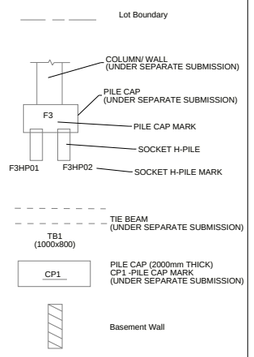
90mm (W) x 150mm (H) space
for BD's approval stamp /
certification of copies of
approved plans
(PNAP ADM-10 APP A)



SECTION B - B (1:150)



SECTION A - A (1:150)



BD REF :

BIM REF :

REV	DATE	AMENDMENT

PROJECT

CIC SAMPLE PROJECT

DRAWING TITLE

PILING SECTION A & SECTION B

SCALE

DRAWING NO. REV. NO.

P003

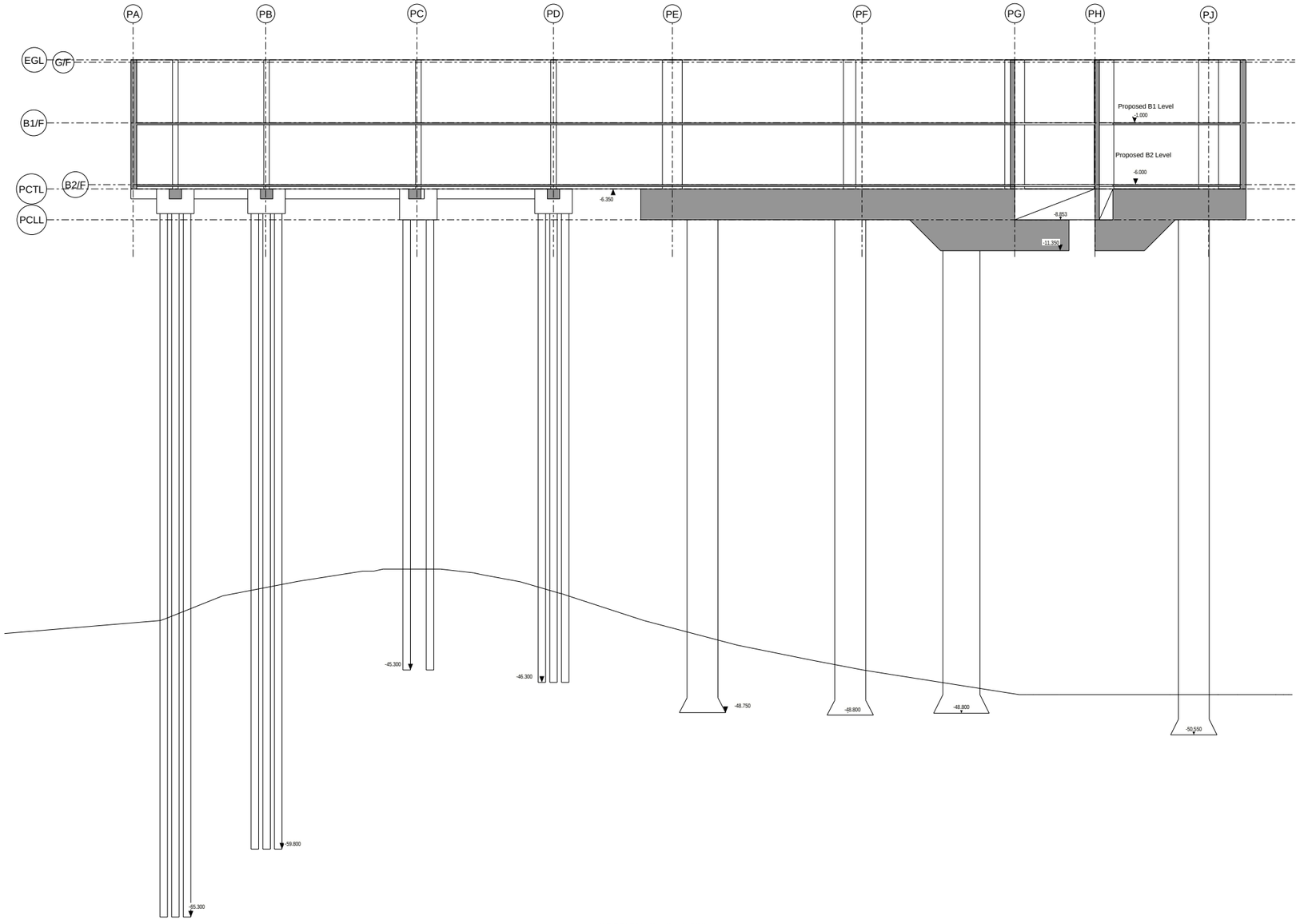
SOURCE ---

90mm (W) x 40mm (H) space
for COMPANY LOGO

90mm (W) x 60mm (H) space
for AP/RSE/RGE's
signature/ and stamp chop

BD's OFFICAL USE

90mm (W) x 150mm (H) space
for BD's approval stamp /
certification of copies of
approved plans
(PNAP ADM-10 APP A)



SECTION C - C (1:200)

BD REF :

BIM REF :

REV	DATE	AMENDMENT

PROJECT

CIC SAMPLE PROJECT

DRAWING TITLE

PILIING SECTION C

SCALE

DRAWING NO. P004

REV. NO.

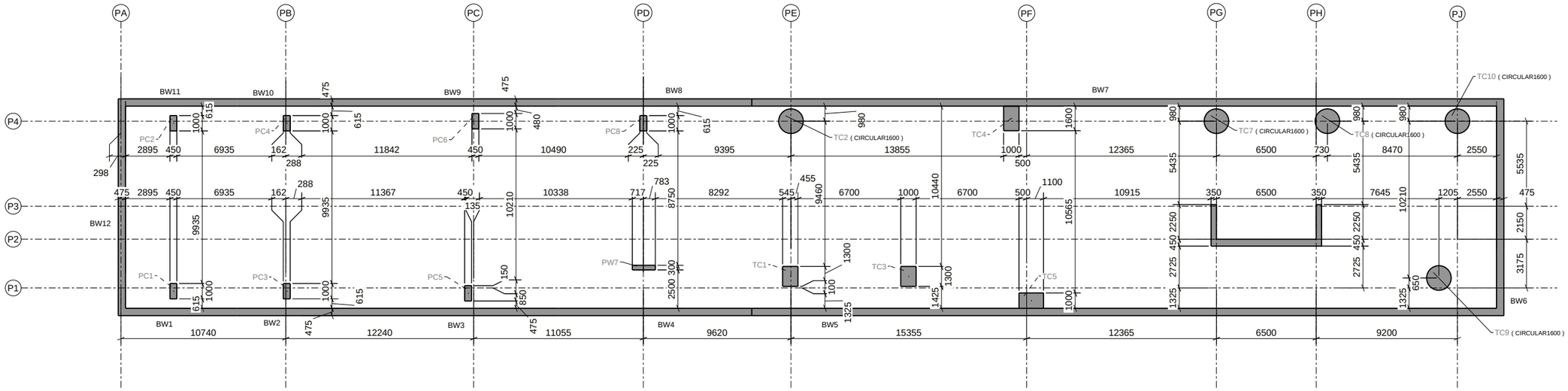
SOURCE ---

90mm (W) x 40mm (H) space
for COMPANY LOGO

90mm (W) x 60mm (H) space
for AP/RSE/RGE's
signature/ and stamp chop

BD's OFFICAL USE

90mm (W) x 150mm (H) space
for BD's approval stamp /
certification of copies of
approved plans
(PNAP ADM-10 APP A)

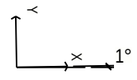


Plan PCTL (1:150)

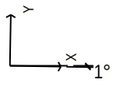
LOCAL AXIS

LOCAL AXIS SHOWN ABOVE APPLIES TO COLUMNS & WALLS WITH ANGLE 0°.

LOCAL AXIS SHOWN ABOVE APPLIES TO WALL WITH ANGLE 90°.



LOCAL AXIS SHOWN ABOVE APPLIES TO WALL WITH ANGLE 1°.



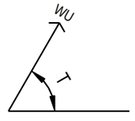
LOCAL AXIS SHOWN ABOVE APPLIES TO WALL WITH ANGLE -1°.

DIRECTION OF WIND LOAD CASE

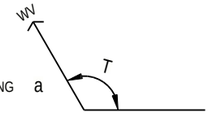
WIND ALONG X

WIND ALONG Y

WIND ALONG T

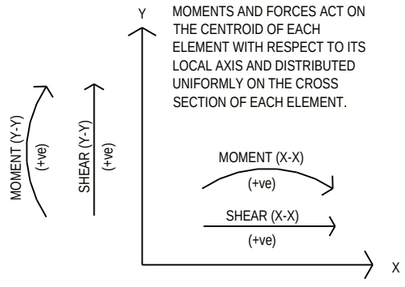


WIND ALONG a



W_{MAX} = ABSOLUTE MAXIMUM OF W0, W90, WU, WV

UNLESS OTHERWISE STATED ALL MOMENTS AND FORCES ACT ON THE CENTROID OF EACH ELEMENT WITH RESPECT TO ITS LOCAL AXIS AND DISTRIBUTED UNIFORMLY ON THE CROSS SECTION OF EACH ELEMENT.



SIGN CONVENTION

AXIAL LOAD : (P)
+ COMPRESSION (DOWNWARD)
- TENSION (UPWARD)

V_X = SHEAR FORCE ALONG LOCAL X-AXIS
V_Y = SHEAR FORCE ALONG LOCAL Y-AXIS
M_X = MOMENT ALONG LOCAL X-AXIS
M_Y = MOMENT ALONG LOCAL Y-AXIS

BD REF :

BIM REF :

REV	DATE	AMENDMENT

PROJECT

CIC SAMPLE PROJECT

DRAWING TITLE
COLUMN / WALL LOADING PLAN

SCALE

DRAWING NO. P005

REV. NO.

SOURCE ---

90mm (W) x 40mm (H) space for COMPANY LOGO

90mm (W) x 60mm (H) space for AP/RSE/RGE's signature/ and stamp chop

BD's OFFICAL USE

90mm (W) x 150mm (H) space for BD's approval stamp / certification of copies of approved plans (PNAP ADM-10 APP A)

COLUMN LOADING SCHEDULE ABOVE PILE CAP (1 OF 2)

COLUMN MARK	ANGLE	MIN DEAD LOAD (Dmin)			SDL			DEAD LOAD (DL) = Dmin + SDL			LIVE LOAD (LL)			DL + LL		
		P (kN)	M2 (kNm)	M3 (kNm)	P (kN)	M2 (kNm)	M3 (kNm)	P (kN)	M2 (kNm)	M3 (kNm)	P (kN)	M2 (kNm)	M3 (kNm)	P (kN)	M2 (kNm)	M3 (kNm)
PC1	0	1600	0	0	800	0	0	2400	0	0	700	0	0	3100	0	0
PC2	0	2100	0	0	1400	0	0	3500	0	0	900	0	0	4400	0	0
PC3	0	2400	0	0	1700	0	0	4100	0	0	1000	0	0	5100	0	0
PC4	0	2300	0	0	2000	0	0	4300	0	0	1000	0	0	5300	0	0
PC5	0	2300	0	0	1400	0	0	3700	0	0	900	0	0	4600	0	0
PC6	0	2500	0	0	1400	0	0	3900	0	0	1000	0	0	4900	0	0
PC8	0	3200	0	0	1100	0	0	4300	0	0	1300	0	0	5600	0	0
PW7	0	4200	0	200	1600	0	300	5800	0	500	1800	0	100	7600	0	600
TC1	0	12700	0	0	5600	0	0	18300	0	0	4500	0	0	22800	0	0
TC2	0	19400	0	0	9300	0	0	28700	0	0	6400	0	0	35100	0	0
TC3	0	17200	0	0	7200	0	0	24400	0	0	7100	0	0	31500	0	0
TC4	0	18000	0	0	7400	0	0	25400	0	0	8100	0	0	33500	0	0
TC5	0	24200	0	0	10900	0	0	35100	0	0	9300	0	0	44400	0	0
TC7	0	16200	0	0	7300	0	0	23500	0	0	6100	0	0	29600	0	0
TC8	0	13400	0	0	6700	0	0	20100	0	0	4200	0	0	24300	0	0
TC9	0	13200	0	0	7200	0	0	20400	0	0	4700	0	0	25100	0	0
TC10	0	13000	0	0	7500	0	0	20500	0	0	4300	0	0	24800	0	0

COLUMN LOADING SCHEDULE ABOVE PILE CAP (2 OF 2)

COLUMN MARK	ANGLE	W0					W90					WD1					WD2					WMAX				
		P (kN)	V2 (kN)	V3 (kN)	M2 (kNm)	M3 (kNm)	P (kN)	V2 (kN)	V3 (kN)	M2 (kNm)	M3 (kNm)	P (kN)	V2 (kN)	V3 (kN)	M2 (kNm)	M3 (kNm)	P (kN)	V2 (kN)	V3 (kN)	M2 (kNm)	M3 (kNm)	P (kN)	V2 (kN)	V3 (kN)	M2 (kNm)	M3 (kNm)
PC1	0	-200	10	30	0	0	-1000	10	300	0	0	-600	10	80	0	0	-700	-10	230	0	0	1000	10	300	0	0
PC2	0	100	10	30	0	0	1000	-10	290	0	0	200	10	80	0	0	800	-10	230	0	0	1000	10	290	0	0
PC3	0	-200	10	30	0	0	-1600	-10	390	0	0	-500	10	90	0	0	-1200	-10	300	0	0	1600	10	390	0	0
PC4	0	200	10	30	0	0	1600	-10	370	0	0	400	10	90	0	0	1300	-10	290	0	0	1600	10	370	0	0
PC5	0	-200	10	30	0	0	-1800	10	380	0	0	-500	10	90	0	0	-1400	-10	300	0	0	1800	10	380	0	0
PC6	0	100	10	20	0	0	1500	10	350	0	0	300	10	80	0	0	1200	-10	280	0	0	1500	10	350	0	0
PC8	0	-200	10	10	0	0	1300	-10	200	0	0	-200	10	40	0	0	1300	-10	170	0	0	1300	10	200	0	0
PW7	0	-400	270	10	0	1200	-1100	-80	10	0	-400	-700	450	10	0	2000	-600	-330	10	0	-1400	1100	450	10	0	2000
TC1	0	-1300	10	20	0	0	-11400	-30	510	0	0	-3800	-10	90	0	0	-8300	-20	420	0	0	11400	30	510	0	0
TC2	0	-500	50	20	0	0	15200	-20	540	0	0	1400	80	90	0	0	13100	-60	450	0	0	15300	80	540	0	0
TC3	0	-500	-10	-10	0	0	-13100	-10	340	0	0	-2700	-10	40	0	0	-10400	10	290	0	0	13100	10	340	0	0
TC4	0	-1400	-10	-20	0	0	-13000	-50	350	0	0	-4100	-20	20	0	0	-9500	-40	310	0	0	13000	50	350	0	0
TC5	0	-600	50	10	0	0	20600	-20	400	0	0	2100	80	60	0	0	17600	-60	330	0	0	20600	80	400	0	0
TC7	0	-1500	50	-10	0	0	19000	20	-490	0	0	300	90	-70	0	0	17100	-30	-400	0	0	19000	90	490	0	0
TC8	0	600	60	20	0	0	17000	30	-470	0	0	3400	90	-50	0	0	13500	-40	-410	0	0	17000	90	470	0	0
TC9	0	3100	-40	10	0	0	-17300	230	330	0	0	2700	-30	50	0	0	-17100	220	280	0	0	17300	230	330	0	0
TC10	0	2100	40	-10	0	0	13300	60	360	0	0	5400	70	40	0	0	9100	10	310	0	0	13300	70	390	0	0

WALL LOADING SCHEDULE ABOVE PILE CAP (1 OF 2)

WALL MARK	ANGLE	MIN DEAD LOAD (Dmin)			SDL			DEAD LOAD (DL) = Dmin + SDL			LIVE LOAD (LL)			DL + LL		
		P (kN)	M2 (kNm)	M3 (kNm)	P (kN)	M2 (kNm)	M3 (kNm)	P (kN)	M2 (kNm)	M3 (kNm)	P (kN)	M2 (kNm)	M3 (kNm)	P (kN)	M2 (kNm)	M3 (kNm)
BW1	0	2300	0	-900	700	0	-500	3000	0	-1400	400	0	-200	3400	0	-1600
BW2	0	3200	0	-600	1100	0	-300	4300	0	-900	700	0	-100	5000	0	-1000
BW3	0	3200	0	-600	900	0	-300	4100	0	-900	600	0	-100	4700	0	-1000
BW4	0	2600	0	-300	400	0	-100	3000	0	-400	400	0	-100	3400	0	-500
BW5	0	11300	0	-2500	2200	0	2600	13500	0	100	4000	0	-3300	17500	0	-3200
BW6	90	4000	0	-2200	1000	0	-800	5000	0	-3000	1100	0	-600	6100	0	-3600
BW7	0	19600	0	-11400	5800	0	1800	25400	0	-9600	6000	0	-14700	31400	0	-24300
BW8	0	3400	0	500	800	0	300	4200	0	800	600	0	100	4800	0	900
BW9	0	2000	0	-200	200	0	-100	2200	0	-300	200	0	-200	2400	0	-500
BW10	0	2000	0	-100	400	0	-100	2400	0	-200	100	0	-200	2500	0	-400
BW11	0	1700	0	-100	400	0	100	2100	0	0	200	0	-100	2300	0	-100
BW12	90	1600	0	-400	300	0	-200	1900	0	-600	200	0	-100	2100	0	-700
TW6A	90	4700	0	200	2000	0	200	6700	0	400	2100	0	-100	8800	0	300
TW6B	0	24200	0	1200	10400	0	200	34600	0	1400	9600	0	1000	44200	0	2400
TW6C	90	4600	0	300	2100	0	100	6700	0	400	1900	0	-100	8600	0	300

WALL LOADING SCHEDULE ABOVE PILE CAP (2 OF 2)

WALL MARK	ANGLE	W0					W90					WD1					WD2					WMAX				
		P (kN)	V2 (kN)	V3 (kN)	M2 (kNm)	M3 (kNm)	P (kN)	V2 (kN)	V3 (kN)	M2 (kNm)	M3 (kNm)	P (kN)	V2 (kN)	V3 (kN)	M2 (kNm)	M3 (kNm)	P (kN)	V2 (kN)	V3 (kN)	M2 (kNm)	M3 (kNm)	P (kN)	V2 (kN)	V3 (kN)	M2 (kNm)	M3 (kNm)
TW6A	90	-2600	-280	-10	0	25500	8300	4880	-10	0	-1100	-3300	200	-10	0	1800	9400	4330	-10	0	2220	9400	4880	10	0	25500
TW6B	0	900	3170	10	0	600	-47600	-180	-10	0	27700	-5300	5340	-10	0	46800	-40200	-3190	-10	0	-26100	47600	5340	10	0	46800
TW6C	90	2400	120	-10	0	26700	9100	5150	10	0	300	5300	910	10	0	4100	5300	4160	10	0	21900	9100	5150	10	0	26700

REV	DATE	AMENDMENT

BD REF :

BIM REF :

PROJECT

CIC SAMPLE PROJECT

DRAWING TITLE

COLUMN / WALL LOADING SCHEDULE

SCALE

DRAWING NO. REV. NO.

P006

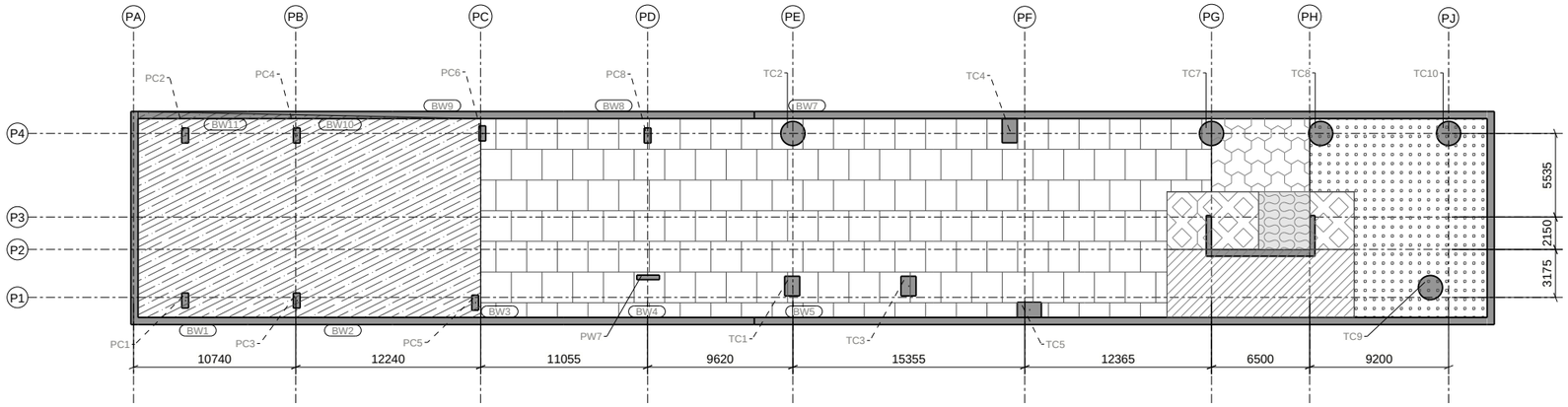
SOURCE ---

90mm (W) x 40mm (H) space
for COMPANY LOGO

90mm (W) x 60mm (H) space
for AP/RSE/RGE's
signature/ and stamp chop

BD's OFFICAL USE

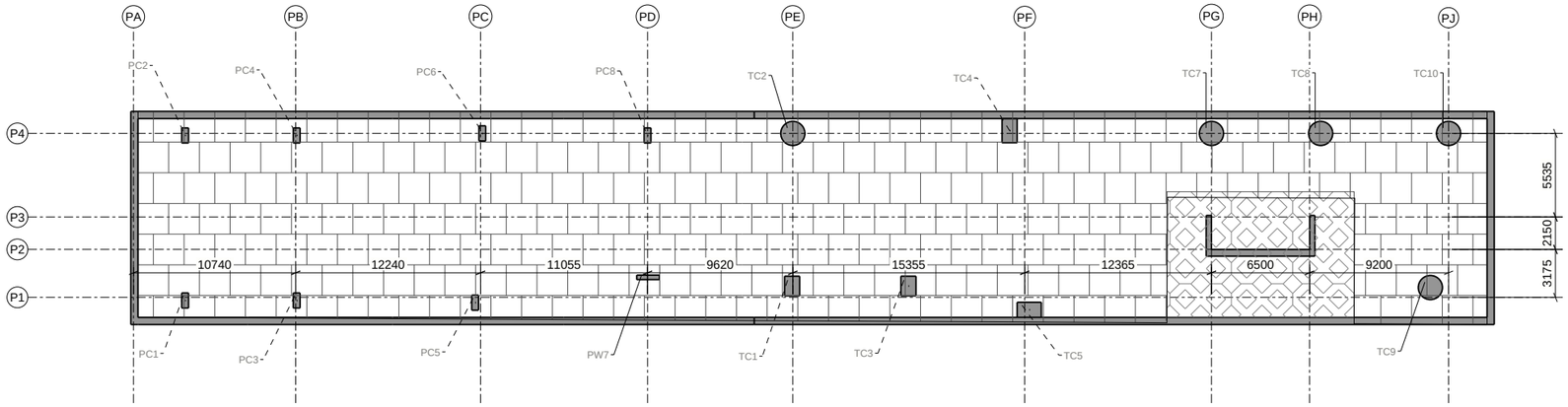
90mm (W) x 150mm (H) space
for BD's approval stamp /
certification of copies of
approved plans
(PNAP ADM-10 APP A)



LOADING INTENSITY PLAN AT B2

LOADING INTENSITY PLAN AT B2

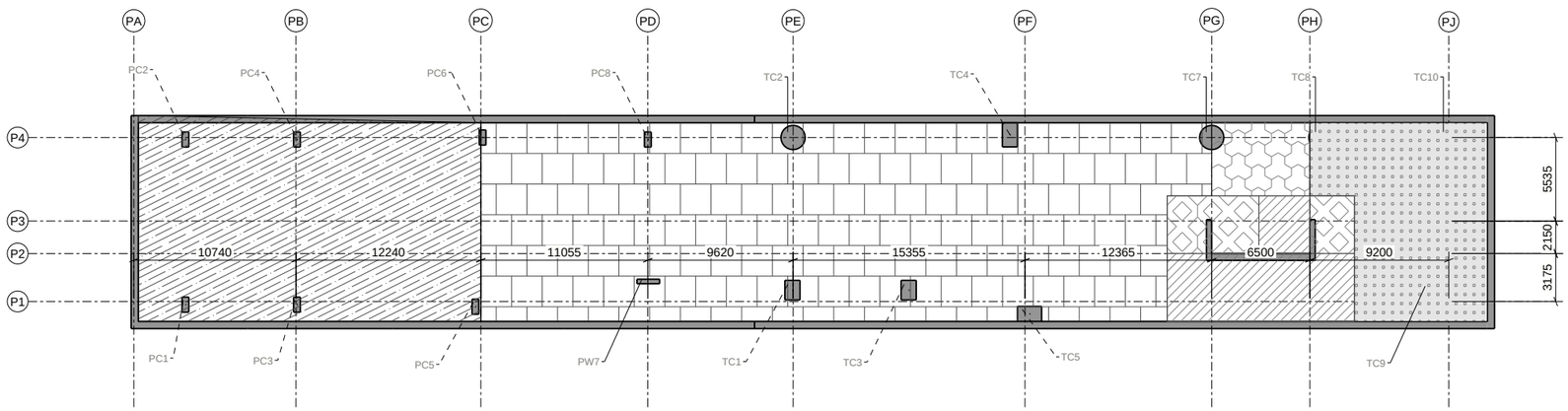
DESCRIPTION	LEGEND	FINISHES (kPa)	IMPOSED LOAD (kPa)
LOBBY		1.2	3.0
CAR PARK		1.2	3.0
CAR LIFT PIT		1.2	7.5
LIFT PIT		1.2	7.5
PLANT ROOM		1.2	7.5
WATER TANK 1		14.7+1.2	30.0
WATER TANK 2		17.0+1.2	30.0



LOADING INTENSITY PLAN FOR UPTRUST AT B2

LOADING INTENSITY PLAN FOR UPTRUST AT B2

LEGEND	UPTRUST (kPa)
	129.5
	140.5
	154.5



LOADING INTENSITY PLAN FOR FILL AT B2

LOADING INTENSITY PLAN FOR FILL AT B2

LEGEND	FILL (kPa)
	12.3
	NO FILL
	NO FILL
	25.8
	61.3
	NO FILL

BD REF :

BIM REF :

REV	DATE	AMENDMENT

PROJECT

CIC SAMPLE PROJECT

DRAWING TITLE

LOADING INTENSITY PLAN

SCALE

DRAWING NO. P007

REV. NO.

SOURCE ---

90mm (W) x 40mm (H) space for COMPANY LOGO

90mm (W) x 60mm (H) space for AP/RSE/RGE's signature/ and stamp chop

BD's OFFICAL USE

90mm (W) x 150mm (H) space for BD's approval stamp / certification of copies of approved plans (PNAP ADM-10 APP A)

BORED PILE LOADING SCHEDULE (1 OF 2)

BORED PILE MARK	BORED PILE CAP THICKNESS (FOR REFERENCE ONLY)	BORED PILE DIAMETER	BORED PILE EFFECTIVE SHAFT DIAMETER	ROCK SOCKET DIAMETER	PILE BASE DIAMETER	(X) BELLOUT DEPTH	(AA) CUT-OFF LEVEL	(W) TENTATIVE ROCKHEAD LEVEL	Z=W-0.3-(X)-(Y) TENTATIVE FOUNDING LEVEL	(AB)=(AA)-(Z) TENTATIVE PILE LENGTH	(Y) EFFECTIVE ROCK SOCKET LENGTH	(a) SELF-WEIGHT OF BORED PILE (SUBMERGED) (SWP)	(b) Dmin (total)	(c)=(a)+(b) Dmin + SWP	(d) SDL(total)	(b)+(d) TOTAL DEAD LOAD (DL) = Dmin + SDL	(e) LIVE LOAD (LL) (total)	(f)=(b)+(d)+(e) DL + SDL + LL	(h) Wmax (total)	(i) TOTAL UPLIFT FORCE DUE TO GROUND WATER (U)	(j) ADDITIONAL LOAD DUE TO STEPPING EFFECT WITHOUT WIND	(k) ADDITIONAL LOAD DUE TO STEPPING EFFECT WITH WIND
	(m)	(m)	(m)	(m)	(m)	(m)	(mPD)	(mPD)	(mPD)	(m)	(m)	(kN)	(kN)	(kN)	(kN)	(kN)	(kN)	(kN)	(kN)	(kN)	(kN)	(kN)
BP1	2.50	3.00	2.80	2.80	4.50	1.50	-8.761	-47.00	-52.40	43.639	3.60	3950	45600	49550	17500	63100	15200	78300	15800	-21400	0	0
BP3	2.50	3.00	2.80	2.80	4.50	1.50	-8.761	-47.00	-52.40	43.639	3.60	3950	45600	49550	17500	63100	15200	78300	15800	-21400	0	0
BP4	2.50	3.00	2.80	2.80	4.50	1.50	-11.280	-47.00	-52.40	41.120	3.60	3950	45600	49550	17500	63100	15200	78300	15800	-21400	0	0
BP4	2.50	3.00	2.80	2.80	4.50	1.50	-8.761	-47.00	-52.40	43.639	3.60	3950	45600	49550	17500	63100	15200	78300	15800	-21400	0	0
BP5	2.50	3.00	2.80	2.80	4.50	1.50	-11.280	-47.00	-52.40	41.120	3.60	3950	45600	49550	17500	63100	15200	78300	15800	-21400	0	0
BP6	2.50	3.00	2.80	2.80	4.50	1.50	-8.780	-47.00	-52.40	43.620	3.60	3950	45600	49550	17500	63100	15200	78300	15800	-21400	0	0

BORED PILE MARK	(f) MAX. PILE LOAD DL + SDL + LL	(f)+(h) MAX. PILE LOAD DL + SDL + LL + Wmax	(f)+(a)+(j) MAX. PILE LOAD DL + SDL + LL + Stepping Load	(f)+(h)+(a)+(k) MAX. PILE LOAD DL + SDL + LL + Wmax + Stepping Load	(l)=(b)+(a)+(i) MIN. PILE LOAD Dmin + SWP -U	(m)=(b)-(h)+(i) MIN. PILE LOAD Dmin + SWP - Wmax - U	(n)=(b)-1.5*(h)+1.5*(i) MIN. PILE LOAD Dmin + SWP - 1.5Wmax - 1.5U	VERTICAL BARS LAYER 1	VERTICAL BARS LAYER 2	LINKS	(o) PILE BARING CAPACITY (COMPRESSION) WITHOUT WIND	(p)=(o)*1.25 PILE BARING CAPACITY (COMPRESSION) WITH WIND	(q) ROCK FRICTION (COMPRESSION) WITHOUT WIND	(r)=(q)*1.25 ROCK FRICTION (COMPRESSION) WITH WIND	(r1) ROCK FRICTION (TENSION)	(p1) ROCK/SOIL MASS (SUBMERGED)	(a1)=Min of(((r1),(p1)/3))+(a) UPLIFT RESISTANCE ALLOWABLE	(u1)=Min of(((r1)*2,(p1))+(a) UPLIFT RESISTANCE ULTIMATE	(u)=(o)+(q) BORED PILE BEARING CAPACITY (COMPRESSION) WITHOUT WIND	(v)=(u)*1.25 BORED PILE BEARING CAPACITY (COMPRESSION) WITH WIND	(b)+0.9*(u1)-1.5*(h)+1.5*(i)>0 STABILITY CHECK Dmin + 0.9*Ru -1.5Wmax - 1.5U	(b)+(a1)-(h)+(i)>0 STABILITY CHECK Dmin + Ra - Wmax - U	REFERENCE BORED HOLE
	(kN)	(kN)	(kN)	(kN)	(kN)	(kN)	(kN)				(kN)	(kN)	(kN)	(kN)	(kN)	(kN)	Ra (kN)	Ru (kN)	(kN)	(kN)	(kN)	(kN)	
BP1	78300	94100	82250	98050	28150	12350	-6250	54 T40	50 T40	T16 / 300 (2 rings)	798530	998162	17250	21562	11090	21899	11249	25849	815780	1019725	13064	19649	BP1
BP3	78300	94100	82250	98050	28150	12350	-6250	54 T40	50 T40	T16 / 300 (2 rings)	798530	998162	17250	21562	11090	21899	11249	25849	815780	1019725	13064	19649	BP3
BP4	78300	94100	82250	98050	28150	12350	-6250	54 T40	50 T40	T16 / 300 (2 rings)	798530	998162	17250	21562	11090	21899	11249	25849	815780	1019725	13064	19649	BP4
BP5	78300	94100	82250	98050	28150	12350	-6250	54 T40	50 T40	T16 / 300 (2 rings)	798530	998162	17250	21562	11090	21899	11249	25849	815780	1019725	13064	19649	BP5
BP6	78300	94100	82250	98050	28150	12350	-6250	54 T40	50 T40	T16 / 300 (2 rings)	798530	998162	17250	21562	11090	21899	11249	25849	815780	1019725	13064	19649	BP6

SOCKET H-PILE LOADING SCHEDULE (1 OF 2)

PILE MARK	PILE CAP THICKNESS (FOR REFERENCE ONLY)	(A) PIPE EFFECTIVE SHAFT DIAMETER	(A) ROCK SOCKET DIAMETER	PILE CAP BASE LEVEL	(AA) CUT-OFF LEVEL	(w) TENTATIVE ROCKHEAD LEVEL	(Z) TENTATIVE FOUNDING LEVEL	(AB) TENTATIVE PILE LENGTH	TENTATIVE PILE LENGTH ABOVE RH	(Y) EFFECTIVE ROCK SOCKET LENGTH	ROCK MASS (SUBMERGED)	(P1) SOIL MASS SURROUNDING PILE (SUBMERGED)	(P2) ROCK/SOIL MASS (SUBMERGED) W/O PILE SELF-WEIGHT	(P3) = (P1) + (P2)	(a) SELF-WEIGHT (SUBMERGED) (SWP)	(P4) = (P3) + (a) ROCK / SOIL MASS (SUBMERGED) W/ PILE SELF WEIGHT	(b) Min DEAD LOAD PER PILE (Dmin)	(d) SDL PER PILE	(b) + (d) TOTAL DEAD LOAD (DL) = Dmin + SDL	(e) LIVE LOAD (LL)	(f) = (b) + (d) + (e) DL + SDL + LL	(h) Wmax PER PILE	(i) UPLIFT FORCE PER PILE (AT THE BOTTOM OF CAP) (U)	(j) ADDITIONAL LOAD DUE TO STEPPING EFFECT WITHOUT WIND	(k) = (j) * 1.25 ADDITIONAL LOAD DUE TO STEPPING EFFECT WITH WIND
	(m)	(m)	(m)	(mPD)	(mPD)	(m)	(m)	(m)	(m)	(m)	(kN)	(kN)	(kN)	(kN)	(kN)	(kN)	(kN)	(kN)	(kN)	(kN)	(kN)	(kN)	(kN)	(kN)	(kN)
SP1A	2	0.55	0.55	-53.30	-28.275	-46.30		-8.275		7					190		8290	2900	11190	2100	13290	1300	-10000		0
SP1B	2	0.55	0.55	-53.30	-28.275	-46.30		-8.275		7					190		8290	2900	11190	2100	13290	1300	-10000		0
SP1C	2	0.55	0.55	-53.30	-28.275	-46.30		-8.275		7					190		8290	2900	11190	2100	13290	1300	-10000		0
SP2A	2	0.55	0.55	-65.30	-28.275	-58.30		-8.275		7					190		8290	2900	11190	2100	13290	1300	-10000		0
SP2B	2	0.55	0.55	-65.30	-28.275	-58.30		-8.275		7					190		8290	2900	11190	2100	13290	1300	-10000		0
SP2C	2	0.55	0.55	-65.30	-28.275	-58.30		-8.275		7					190		8290	2900	11190	2100	13290	1300	-10000		0
SP3A	2	0.55	0.55	-49.30	-28.275	-42.30		-8.275		7					190		8290	2900	11190	2100	13290	1300	-10000		0
SP3B	2	0.55	0.55	-49.30	-28.275	-42.30		-8.275		7					190		8290	2900	11190	2100	13290	1300	-10000		0
SP3C	2	0.55	0.55	-49.30	-28.275	-42.30		-8.275		7					190		8290	2900	11190	2100	13290	1300	-10000		0
SP4A	2	0.55	0.55	-59.80	-28.275	-52.80		-8.275		7					190		8290	2900	11190	2100	13290	1300	-10000		0
SP4B	2	0.55	0.55	-59.80	-28.275	-52.80		-8.275		7					190		8290	2900	11190	2100	13290	1300	-10000		0
SP4C	2	0.55	0.55	-59.80	-28.275	-52.80		-8.275		7					190		8290	2900	11190	2100	13290	1300	-10000		0
SP5A	2	0.55	0.55	-46.30	-28.275	-39.30		-8.275		7					190		8290	2900	11190	2100	13290	1300	-10000		0
SP5B	2	0.55	0.55	-46.30	-28.275	-39.30		-8.275		7					190		8290	2900	11190	2100	13290	1300	-10000		0
SP5A	2	0.55	0.55	-45.30	-28.275	-38.30		-8.275		7					190		8290	2900	11190	2100	13290	1300	-10000		0
SP6B	2	0.55	0.55	-45.30	-28.275	-38.30		-8.275		7					190		8290	2900	11190	2100	13290	1300	-10000		0
SP7A	2	0.55	0.55	-47.30	-28.275	-40.30		-8.275		7					190		8290	2900	11190	2100	13290	1300	-10000		0
SP7B	2	0.55	0.55	-47.30	-28.275	-40.30		-8.275		7					190		8290	2900	11190	2100	13290	1300	-10000		0
SP7C	2	0.55	0.55	-47.30	-28.275	-40.30		-8.275		7					190		8290	2900	11190	2100	13290	1300	-10000		0
SP8A	2	0.55	0.55	-46.30	-28.275	-39.30		-8.275		7					190		8290	2900	11190	2100	13290	1300	-10000		0
SP8B	2	0.55	0.55	-46.30	-28.275	-39.30		-8.275		7					190		8290	2900	11190	2100	13290	1300	-10000		0
SP8C	2	0.55	0.55	-46.30	-28.275	-39.30		-8.275		7					190		8290	2900	11190	2100	13290	1300	-10000		0

SOCKET H-PILE LOADING SCHEDULE (2 OF 2)

BORED PILE MARK	(f) MAX. PILE LOAD DL + SDL + LL	(f)+(h) MAX. PILE LOAD DL + SDL + LL + Wmax	(f)+(a)+(j) MAX. PILE LOAD DL + SDL + LL + SWP + Stepping Load	(f)+(h)+(a)+(k) MAX. PILE LOAD DL + SDL + LL + Wmax + SWP + Stepping Load	(l)=(b)+(a)+(i) MIN. PILE LOAD Dmin + SWP -U	(m)=(b)-(h)+(i) MIN. PILE LOAD Dmin + SWP - Wmax - U	(n)=(b)-1.5*(h)+1.5*(i) MIN. PILE LOAD Dmin + SWP - 1.5Wmax - 1.5U	(o) PILE BARING CAPACITY (COMPRESSION) WITHOUT WIND	(p)=(o)*1.25 PILE BARING CAPACITY (COMPRESSION) WITH WIND	(r1) ROCK FRICTION (TENSION)	(p1) = (P3) ROCK/SOIL MASS (SUBMERGED)	(a1)=Min of(((r1),(p1)/3))+(a) UPLIFT RESISTANCE ALLOWABLE	(u1)=Min of(((r1)*2,(p1))+(a) UPLIFT RESISTANCE ULTIMATE	(b)+0.9*(u1)-1.5*(h)+1.5*(i)>0 STABILITY CHECK Dmin + 0.9*Ru -1.5Wmax - 1.5U	(b)+(a1)-(h)+(i)>0 STABILITY CHECK Dmin + Ra - Wmax - U	REFERENCE BORED HOLE
	(kN)	(kN)	(kN)	(kN)	(kN)	(kN)	(kN)	(m)	(kN)	(kN)	(kN)	Ra (kN)	Ru (kN)	(kN)	(kN)	
SP1A	13290															
SP1B	13290															
SP1C	13290															
SP2A	13290															
SP2B	13290															
SP2C	13290															
SP3A	13290															
SP3B	13290															
SP3C	13290															
SP4A	13290															
SP4B	13290															
SP4C	13290															
SP5A	13290															
SP5B	13290															
SP6A	13290															
SP6B	13290															
SP7A	13290															
SP7B	13290															
SP7C	13290															
SP8A	13290															
SP8B	13290															
SP8C	13290															

BD REF :

BIM REF :

REV	DATE	AMENDMENT

PROJECT

CIC SAMPLE PROJECT

DRAWING TITLE

PILE LOAD SCHEDULE

SCALE

DRAWING NO. REV. NO.

P008

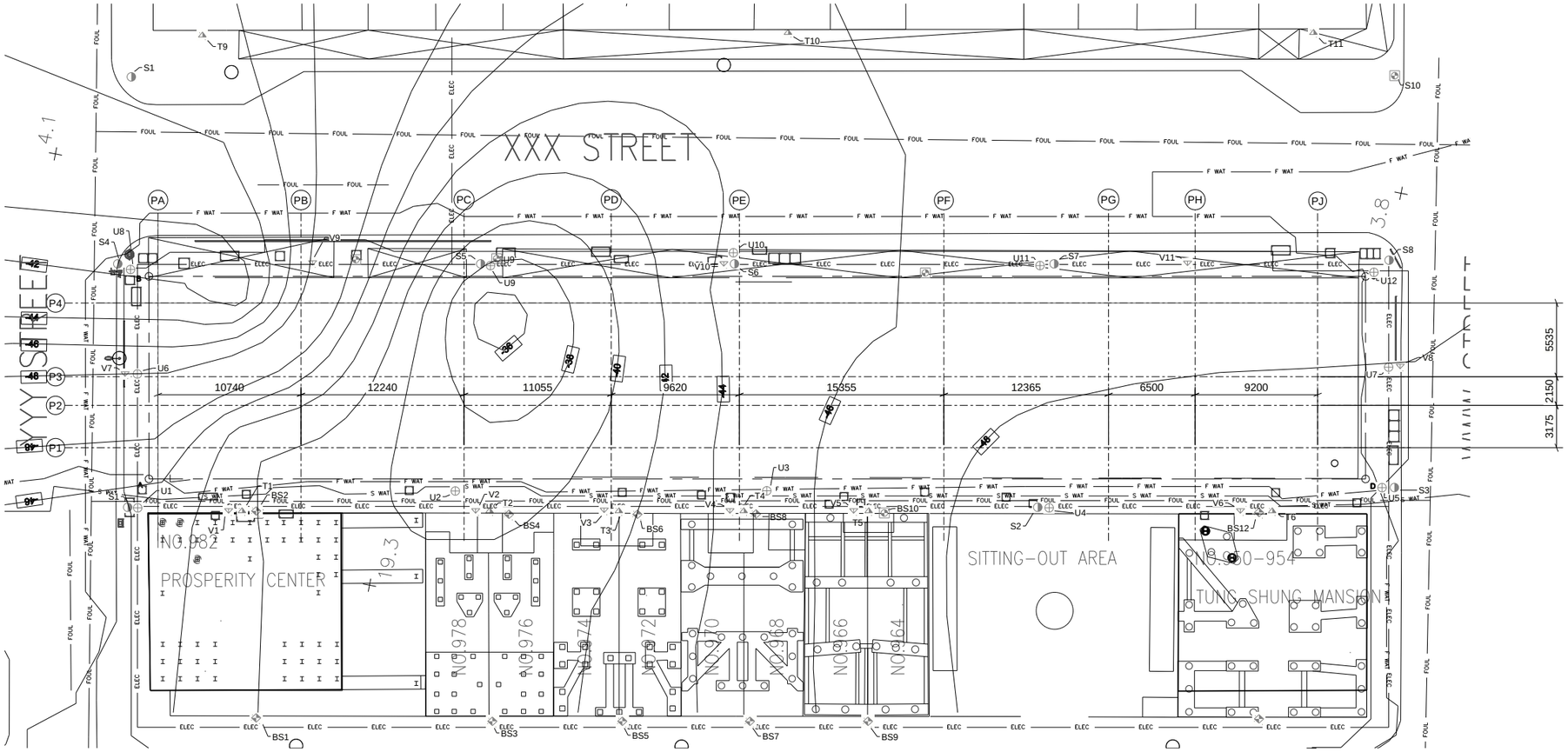
SOURCE ---

90mm (W) x 40mm (H) space
for COMPANY LOGO

90mm (W) x 60mm (H) space
for AP/RSE/RGE's
signature/ and stamp chop

BD's OFFICAL USE

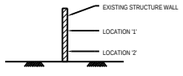
90mm (W) x 150mm (H) space
for BD's approval stamp /
certification of copies of
approved plans
(PNAP ADM-10 APP A)



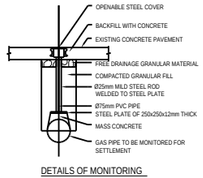
Foundation Monitoring Plan

AAA TRIGGER LEVELS

INSTRUMENT	CRITERION	ALERT	ALARM	ACTION
GROUND SETTLEMENT CHECK POINT (S1-S10)	TOTAL SETTLEMENT	12mm	18mm	20mm
UTILITY SETTLEMENT CHECK POINT (U1-U12)	TOTAL SETTLEMENT	12mm	18mm	25mm
TILTING CHECK POINT (T1-T11)	ANGULAR DISTORTION	1:1000	1:750	1:500
VIBRATION CHECK POINT (V1 TO V11)	PEAK PARTICLE VELOCITY	7.5mm/s	10mm/s	15mm/s
BUILDING SETTLEMENT CHECK POINT (BS1-BS12)	TOTAL SETTLEMENT	12mm	18mm	25mm
STANDPIPE/ PIEZONEMETER	RISE OF GROUND WATER LEVEL	+2.0mPD	+2.25mPD	+2.5mPD
STANDPIPE/PIEZONEMETER OUTSIDE COFFERDAM	DRAIN OF GROUND WATER LEVEL	-0.4mPD	-0.5mPD	-0.6mPD

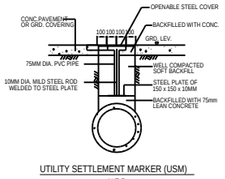


LOCATION OF TILTING CHECK POINT ON STRUCTURAL WALL
N.T.S.

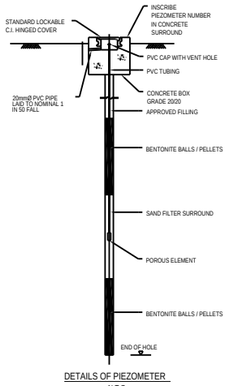


DETAILS OF MONITORING STATION ON UTILITY
N.T.S.

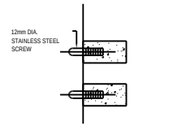
NOTES:
1. THE PRIOR AGREEMENT FOR THE UTILITY OWNERS SHOULD BE OBTAINED BEFORE THE INSTALLATION WORK COMMENCE.



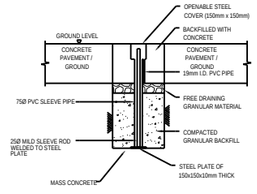
UTILITY SETTLEMENT MARKER (USM)
N.T.S.



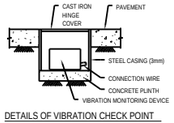
DETAILS OF PIEZOMETER
N.T.S.



DETAIL OF SETTLEMENT/ TILTING MARKER ON EXISTING BUILDING/ RETAINING WALL
N.T.S.



DETAILS OF GROUND SETTLEMENT CHECK POINTS (BUILDING SETTLEMENT CHECK POINTS SIMILAR)
N.T.S.



DETAILS OF VIBRATION CHECK POINT
N.T.S.

S1 — GROUND SETTLEMENT CHECK POINT (S1 TO S10)

V1 — VIBRATION CHECK POINT (V1 TO V11)

T1 — BUILDING TILTING CHECKPOINT WITH VERTICAL DISPLACEMENT (T1 TO T11)

BS1 — BUILDING SETTLEMENT MARKER (BS1 TO BS12)

U1 — UTILITY SETTLEMENT MARKER (U1 TO U12)

BD REF :

BIM REF :

REV	DATE	AMENDMENT

PROJECT
CIC SAMPLE PROJECT

DRAWING TITLE
FOUNDATION MONITORING PLAN

SCALE

DRAWING NO. P009 REV. NO.

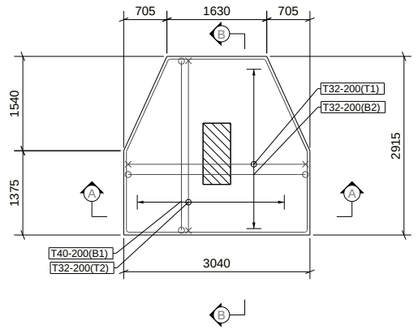
SOURCE ---

90mm (W) x 40mm (H) space for COMPANY LOGO

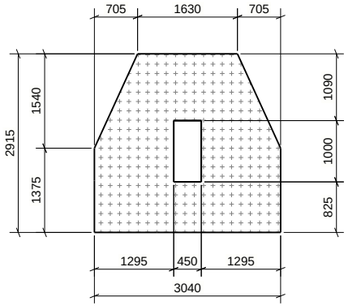
90mm (W) x 60mm (H) space for AP/RSE/RGE's signature/ and stamp chop

BD's OFFICAL USE

90mm (W) x 150mm (H) space for BD's approval stamp / certification of copies of approved plans (PNAP ADM-10 APP A)



PILE CAP F1 (2000MM THK.)
(F2,F3,F4,F7&F8 SIMILAR)
1:50



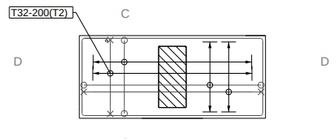
PILE CAP F1 (2000MM THK.)
(F2,F3,F4,F7&F8 SIMILAR)
1:50

LEGEND:

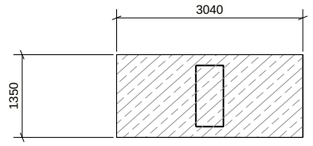
PROPOSED COLUMN /WALL
(UNDER SEPARATE SUBMISSION)

LEGENDS FOR SHEAR LINKS DIAGRAM :

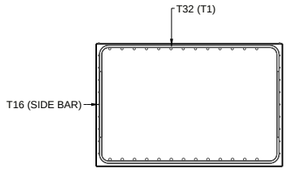
PATTERN	LINK ARRANGMENT
T16 SHEAR LINKS AT 150mm C/C BOTH WAYS	
T16 SHEAR LINKS AT 175mm C/C BOTH WAYS	



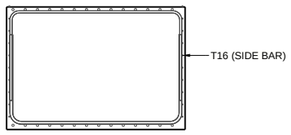
PILE CAP F5 (2000mm THK.)
(F6 SIMILAR)
1:50



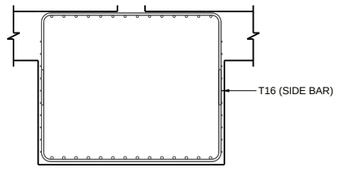
PILE CAP F5 (2000mm THK.)
(F6 SIMILAR)
(SHEAR REINFORCEMENT)
1:50



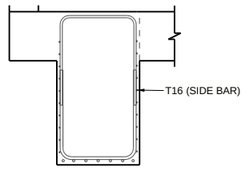
SECTION A - A (1:50)



SECTION B - B (1:50)



SECTION D - D (1:50)



SECTION C - C (1:50)

BD REF :

BIM REF :

REV	DATE	AMENDMENT

PROJECT

CIC SAMPLE PROJECT

DRAWING TITLE
PILE CAP REINFORCEMENT
LAYOUT PLAN (1 OF 2)

SCALE

DRAWING NO. REV. NO.
P010

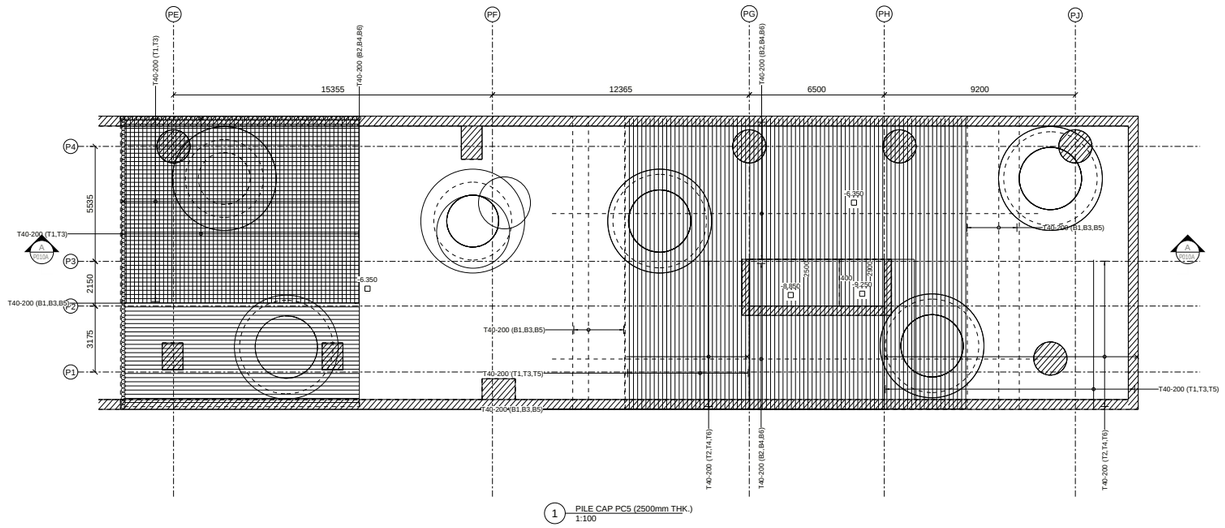
SOURCE ---

90mm (W) x 40mm (H) space
for COMPANY LOGO

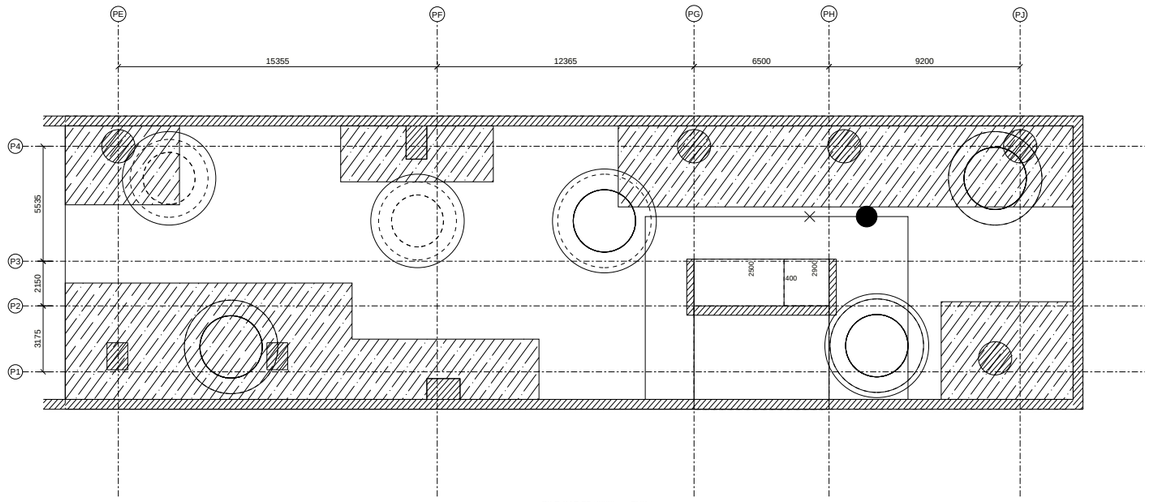
90mm (W) x 60mm (H) space
for AP/RSE/RGE's
signature/ and stamp chop

BD's OFFICAL USE

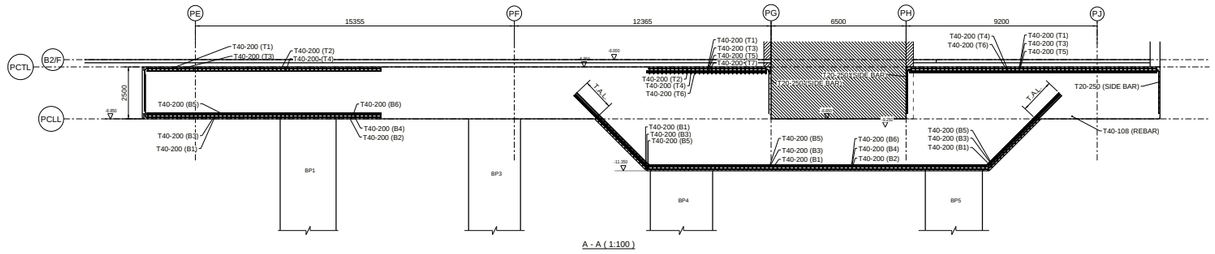
90mm (W) x 150mm (H) space
for BD's approval stamp /
certification of copies of
approved plans
(PNAP ADM-10 APP A)



1 PILE CAP PC5 (2500mm THK.)
1:100



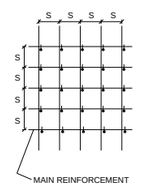
3 PILE CAP F5 (2000mm THK.)
(SHEAR REINFORCEMENT)
1:100



A - A (1:100)

LEGENDS FOR SHEAR LINK DIAGRAME

PATTERN	LINK ARRANGEMENT
T10 SHEAR LINKS AT 200 mm C/C BOTH WAYS	
T16 SHEAR LINKS AT 100 mm C/C BOTH WAYS	
T16 SHEAR LINKS AT 125 mm C/C BOTH WAYS	
T16 SHEAR LINKS AT 150 mm C/C BOTH WAYS	
T16 SHEAR LINKS AT 200	S = SPACING OF SHEAR LINKS



LEGEND

PROPOSED COLUMN / WALL
(UNDER SEPARATE SUBMISSION)

LEGENDS FOR SHEAR LINK DIAGRAM:

PATTERN	LINK ARRANGEMENT
T16 SHEAR LINKS AT 150mm C/C BOTH WAYS	
T16 SHEAR LINKS AT 175mm C/C BOTH WAYS	MAIN REINFORCEMENT

BD REF :

BIM REF :

REV	DATE	AMENDMENT

PROJECT

CIC SAMPLE PROJECT

DRAWING TITLE

PILE CAP REINFORCEMENT
LAYOUT PLAN (2 OF 2)

SCALE

DRAWING NO. REV. NO.

P010A

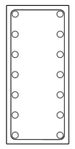
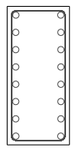
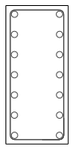
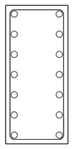
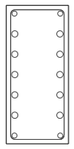
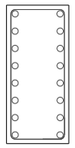
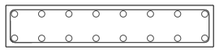
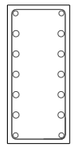
SOURCE ---

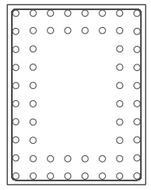
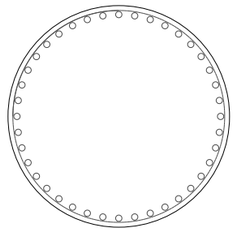
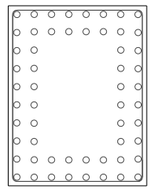
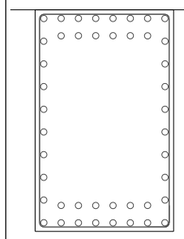
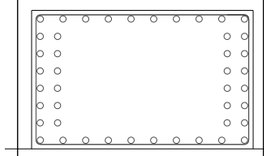
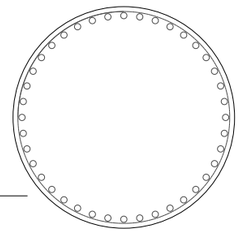
90mm (W) x 40mm (H) space
for COMPANY LOGO

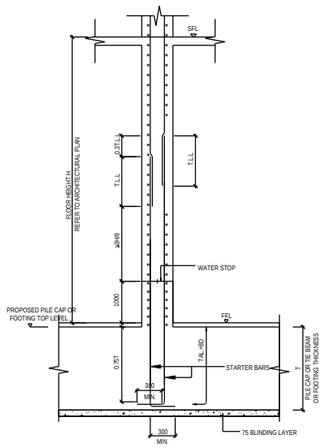
90mm (W) x 60mm (H) space
for AP/RSE/RGE's
signature/ and stamp chop

BD's OFFICAL USE

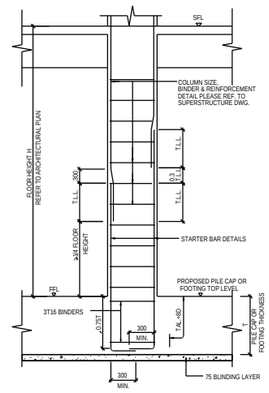
90mm (W) x 150mm (H) space
for BD's approval stamp /
certification of copies of
approved plans
(PNAP ADM-10 APP A)

	PC1	PC2	PC3	PC4	PC5	PC6	PW7	PC8
								
SECTIONS	450x1000	450x1000	450x1000	450x1000	450x1000	450x1000	300x1500	450x1000
VERTICAL BARS	14T40 (3.59%)	14T40 (3.83%)	14T40 (3.82%)	14T40 (3.53%)	14T40 (3.90%)	14T40 (3.83%)	14T40 (3.83%)	14T40 (3.91%)

	TC1	TC2	TC3	TC4	TC5	TC7, TC8, TC9, TC10
						
SECTIONS	1000x1300	CIRCULAR1600	1000x1300	1000x1600	1600x1000	CIRCULAR1600
VERTICAL BARS	48T40 (3.67%)	36T40 (4.00%)	48T40 (3.67%)	56T40 (3.97%)	56T40 (3.97%)	36T40 (4.00%)



TYPICAL DETAIL FOR WALL STARTER BAR
(N.T.S.)
WHERE D = DIAMETER OF REBAR



TYPICAL DETAIL FOR COLUMN STARTER BAR
(N.T.S.)
WHERE D = DIAMETER OF REBAR

BD REF :

BIM REF :

REV	DATE	AMENDMENT

PROJECT

CIC SAMPLE PROJECT

DRAWING TITLE

COLUMN AND WALL STARTER DETAILS

SCALE

DRAWING NO. P011

REV. NO.

SOURCE ---

90mm (W) x 40mm (H) space
for COMPANY LOGO

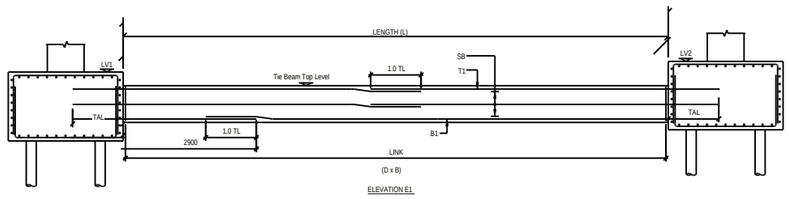
90mm (W) x 60mm (H) space
for AP/RSE/RGE's
signature/ and stamp chop

BD's OFFICAL USE

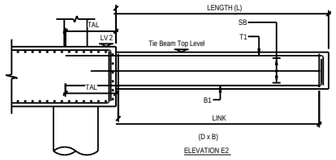
90mm (W) x 150mm (H) space
for BD's approval stamp /
certification of copies of
approved plans
(PNAP ADM-10 APP A)

TIE BEAM R.C. DETAILS SCHEDULE

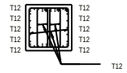
TIE BEAM MARK	BEAM SIZE (D x B)	LENGTH (m)	PILE CAP (P1)	TOP LEVEL (Lv1)	PILE CAP (P2)	TOP LEVEL (Lv2)	STEEL BAR					Link	SECTION REFERENCE	ELEVATION REFERENCE
							T1	T2	B1	B2	SB			
TB1	1000 x 800	10.935	F1	-6350	F2	-6350	10T40	6T40	10T40	6T40	5T12 E.F.	T12-150 T.S.	SECTION S1	ELEVATION E1
TB2	1000 x 800	7.385	F1	-6350	F3	-6350	10T40	6T40	10T40	6T40	5T12 E.F.	T12-150 T.S.	SECTION S1	ELEVATION E1
TB3	1000 x 800	7.400	F2	-6350	F4	-6350	10T40	6T40	10T40	6T40	5T12 E.F.	T12-150 T.S.	SECTION S1	ELEVATION E1
TB4	1000 x 800	10.936	F3	-6350	F4	-6350	10T40	6T40	10T40	6T40	5T12 E.F.	T12-150 T.S.	SECTION S1	ELEVATION E1
TB5	1000 x 800	12.293	F4	-6350	F6	-6350	10T40	6T40	10T40	6T40	5T12 E.F.	T12-150 T.S.	SECTION S1	ELEVATION E1
TB6	1000 x 800	11.818	F3	-6350	F5	-6350	10T40	6T40	10T40	6T40	5T12 E.F.	T12-150 T.S.	SECTION S1	ELEVATION E1
TB7	1000 x 800	11.220	F5	-6350	F6	-6350	10T40	6T40	10T40	6T40	5T12 E.F.	T12-150 T.S.	SECTION S1	ELEVATION E1
TB8	1000 x 800	10.941	F6	-6350	F8	-6350	10T40	6T40	10T40	6T40	5T12 E.F.	T12-150 T.S.	SECTION S1	ELEVATION E1
TB9	1000 x 800	11.530	F5	-6350	F7	-6350	10T40	6T40	10T40	6T40	5T12 E.F.	T12-150 T.S.	SECTION S1	ELEVATION E1
TB10	1000 x 800	9.451	F7	-6350	F8	-6350	10T40	6T40	10T40	6T40	5T12 E.F.	T12-150 T.S.	SECTION S1	ELEVATION E1
TB11	1000 x 800	3.075	BW4	-6350	F7	-6350	10T32	-	10T32	-	5T12 E.F.	T12-150 T.S.	SECTION S1	ELEVATION E2
TB12	1000 x 800	1.450	BW3	-6350	F5	-6350	10T32	-	10T32	-	5T12 E.F.	T12-150 T.S.	SECTION S1	ELEVATION E2
TB13	1000 x 800	1.455	BW9	-6350	F6	-6350	10T32	-	10T32	-	5T12 E.F.	T12-150 T.S.	SECTION S1	ELEVATION E2
TB14	1000 x 800	3.595	BW13	-6350	F1	-6350	10T32	-	10T32	-	5T12 E.F.	T12-150 T.S.	SECTION S1	ELEVATION E2
TB15	1000 x 800	3.595	BW12	-6350	F2	-6350	10T32	-	10T32	-	5T12 E.F.	T12-150 T.S.	SECTION S1	ELEVATION E2
TB16	1000 x 800	7.065	F8	-6350	PC1	-6350	10T40	6T40	10T40	6T40	5T12 E.F.	T12-150 T.S.	SECTION S1	ELEVATION E1
TB17	1000 x 800	7.045	F7	-6350	PC1	-6350	10T40	6T40	10T40	6T40	5T12 E.F.	T12-150 T.S.	SECTION S1	ELEVATION E1



ELEVATION E1



ELEVATION E2



SECTION S1

BD REF :

BIM REF :

REV	DATE	AMENDMENT

PROJECT

CIC SAMPLE PROJECT

DRAWING TITLE

TIE BEAM DETAILS & SCHEDULE

SCALE

DRAWING NO. REV. NO.

P012

SOURCE ---

90mm (W) x 40mm (H) space
for COMPANY LOGO

90mm (W) x 60mm (H) space
for AP/RSE/RGE's
signature/ and stamp chop

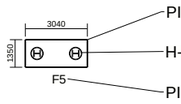
BD's OFFICAL USE

90mm (W) x 150mm (H) space
for BD's approval stamp /
certification of copies of
approved plans
(PNAP ADM-10 APP A)

LEGEND AND NOTES:

BOUNDARY LINE

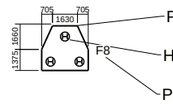
BORED PILE



PILE CAP

H-PILE

PILE CAP MARK



PILE CAP

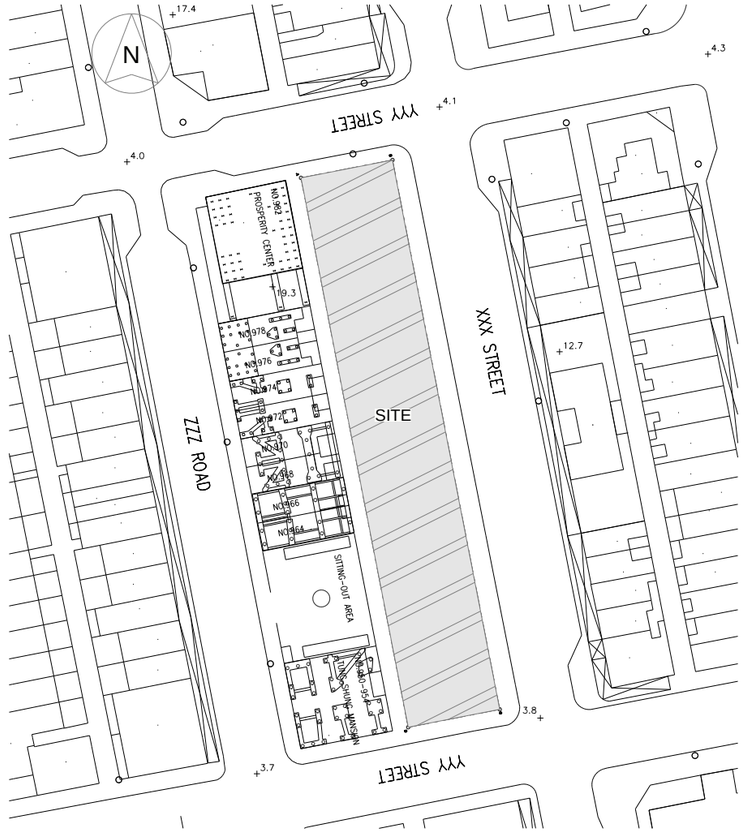
H-PILE

PILE CAP MARK

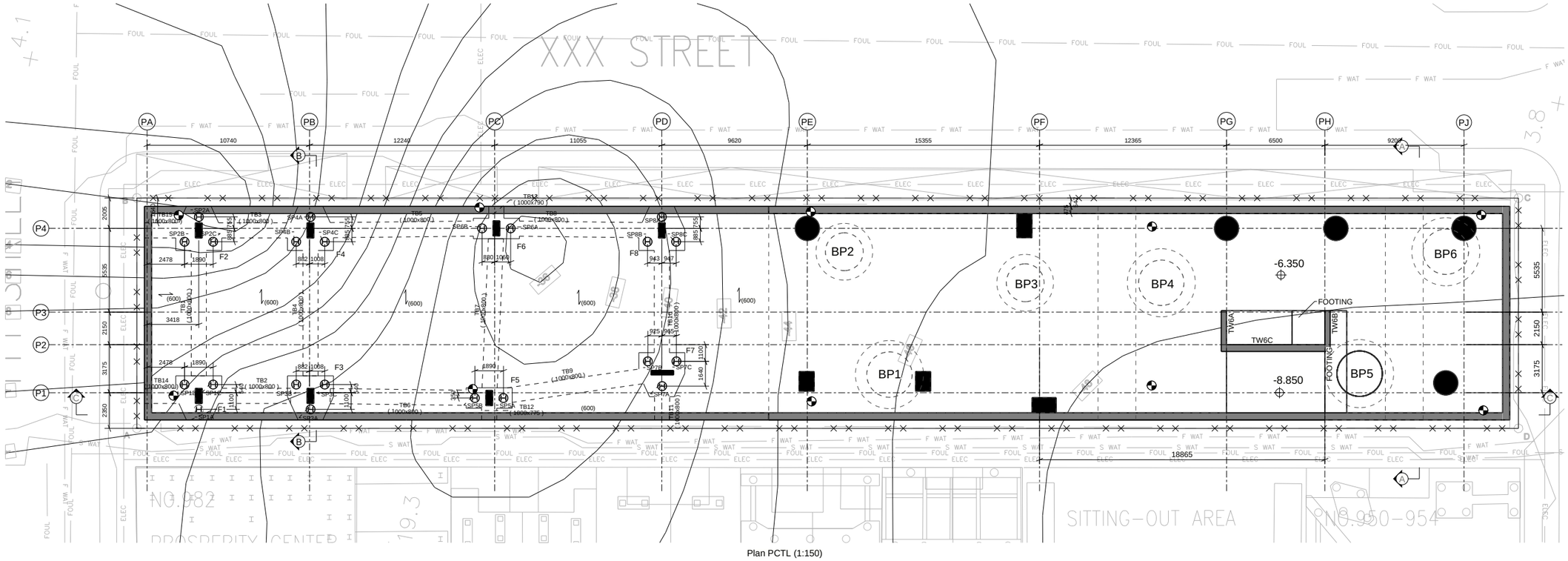
COLUMN / WALL ABOVE (UNDER SEPARATE SUBMISSION)

BASEMENT SCREEN WALL (UNDER SEPARATE SUBMISSION)

TIEBEAM (UNDER SEPARATE SUBMISSION)



BLOCK PLAN
1:500



Plan PCTL (1:150)

REV	DATE	AMENDMENT

BD REF :

BIM REF :

PROJECT

CIC SAMPLE PROJECT

DRAWING TITLE

PILE CAP LAYOUT PLAN

SCALE

DRAWING NO. P013

REV. NO.

SOURCE ---

90mm (W) x 40mm (H) space for COMPANY LOGO

90mm (W) x 60mm (H) space for AP/RSE/RGE's signature/ and stamp chop

BD's OFFICAL USE

90mm (W) x 150mm (H) space for BD's approval stamp / certification of copies of approved plans (PNAP ADM-10 APP A)

Tekla Structures

GENERAL NOTES ON PILE CAP

1. ALL DESIGN SHALL COMPLY WITH HONG KONG BUILDING (CONSTRUCTION) REGULATIONS AND THE CODE OF PRACTICE FOR STRUCTURAL USE OF CONCRETE 2013, CODE OF PRACTICE FOR FOUNDATIONS
2. ALL DIMENSIONS ARE IN mm AND ALL LEVEL ARE IN METERS ABOVE PRINCIPAL DATUM UNLESS OTHERWISE STATED.
3. 75mm THICK BLINDING LAYER OF GRADE 10/20 CONCRETE SHALL BE LAID UNDERNEATH ALL PILE CAP
4. ALL REINFORCEMENT SHALL COMPLY WITH BS4449:1997 AND CONSTRUCTION STANDARD, CS2, 1995 `T' INDICATES HIGH TENSILE STEEL, WITH MINIMUM TENSILE STRESS EQUAL TO 500 MPa.
5. CONCRETE FOR ALL PILE CAP SHALL COMPLY WITH CS1:2010 (EXCEPT SECTION 7.1), THE CONCRETE DESIGN MIX SHALL BE GRADE 45D/20 AND MINIMUM CONCRETE COVER SHALL BE 40mm.
6. THE REACTIVE ALKALI OF CONCRETE EXPRESSED AS THE EQUIVALENT SODIUM OXIDE PER CUBIC METER OF OF CONCRETE SHALL NOT EXCEED 3.0kg WHEN DETERMINED IN ACCORDANCE WITH THE SPECIFIED ITEM GIVEN IN APPENDIX A OF PNAP APP-74.
7. ANY ADDITIVE OR ADMIXTURE SHALL COMPLY WITH BS5075 AND SHALL NOT BE USED WITHOUT PRIOR AGREEMENT OF THE ENGINEER.
8. SAMPLES OF ALL MATERIALS USED SHALL BE TESTED & TEST RESULTS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL ALL WORKS, MATERIALS AND TESTING SUCH AS TESTING OF STEEL BAR &CONCRETE CUBES SHALL COMPLY WITH GENERAL SPECIFICATION FOR CIVIL ENGINEERING WORKS 1992 EDITION AND HONG KONG BUILDING (CONSTRUCTION) REGULATION UNLESS OTHERWISE STATED IN THE DRAWING.
9. DETAILS SETTING OUT OF THE BUILDING SHALL REFER TO BUILDING PLANS.
10. THE CONTRACTOR SHALL CHECK ALL RELEVANT DRAWINGS AND VERIFY LEVELS AND DIMENSIONS IN ADVANCE OF THE WORK AND REPORT ANY DISCREPANCY TO THE ARCHITECT/ENGINEER IMMEDIATELY.
11. THE WIND LOAD OF BUILDING IS BASED ON CODE OF PRACTICE ON WIND EFFECTS HONG KONG 2004.
12. ALL STRUCTURAL DRAWINGS ARE TO BE READ IN CONJUNCTION WITH THE RELEVANT ARCHITECT'S AND SERVICES ENGINEER'S DRAWINGS THE CONTRACTOR SHALL CHECK ALL DRAWINGS AND VERIFY LEVELS AND DIMENSIONS IN ADVANCE OF THE WORK AND FOR REFERENCE ONLY.

13. HIGH TENSILE STEEL BARS (DENOTED BY T) SHALL BE HOT ROLLED TYPE 2 DEFORMED BAR OF GRADE 500 TO CS2-2012. MILD STEEL BARS (DENOTED BY R) SHALL BE PLAIN ROUND GRADE 250 TO CS2-2012. ALL REINFORCEMENT TO BE CUT AND BENT IN ACCORDANCE WITH BS4466.
14. ALLOW SUFFICIENT STEEL CHAIRS TO SUPPORT TOP REINFORCEMENTS IN PILE CAP AND TIE BEAM TO KEEP VERTICAL WALL REINFORCEMENTS IN THEIR CORRECT ALIGNMENTS.
15. UNLESS NOTED OTHERWISE, MINIMUM LAP LENGTHS AND MINIMUM ANCHORAGE LENGTHS OF BEAM BARS AND COLUMN BARS SHALL COMPLY WITH CODE OF PRACTICE FOR STRUCTURAL USE OF CONCRETE 2013 OR BE AS FOLLOW, WHICHEVER IS THE GREATER.

(A) MINIMUM TENSION ANCHORAGE LENGTH (T.A.L.)

HIGH YIELD BAR DIA. (mm.)	DESIGNED MIX (CONC GRADE) 45D
10	300
12	360
16	480
20	600
25	750
32	960
40	1200

(B) MINIMUM TENSION LAP LENGTH (T.L.L.)

HIGH YIELD BAR DIA. (mm.)		DESIGNED MIX (CONC GRADE) 45D
10	(L.L.)	300
	(1.4 L.L.)	420
	(2.0 L.L.)	600
12	(L.L.)	360
	(1.4 L.L.)	510
	(2.0 L.L.)	720
16	(L.L.)	480
	(1.4 L.L.)	680
	(2.0 L.L.)	960
20	(L.L.)	600
	(1.4 L.L.)	840
	(2.0 L.L.)	1200
25	(L.L.)	750
	(1.4 L.L.)	1050
	(2.0 L.L.)	1500
32	(L.L.)	960
	(1.4 L.L.)	1350
	(2.0 L.L.)	1920
40	(L.L.)	1200
	(1.4 L.L.)	1680
	(2.0 L.L.)	2400

NOTES :

1. TENSION LAP LENGTH (T.L.) NORMALLY EQUAL TO LAP LENGTH (L.L.)
2. LAP LENGTH FOR UNEQUAL SIZE BARS JULY BE BASED UPON THE SMALLER BAR.
3. (2.0 L.L.) APPEARS ON TOP MOST LAYERS OF STEEL BARS ONLY.

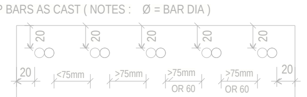
(C) SPECIAL CASE FOR TENSION LAP LENGTH

(a) WHERE A LAP OCCURS AT THE TOP OF A SECTION AS CAST AND THE MINIMUM COVER IS LESS THAN TWICE THE SIZE OF THE LAPPED REINFORCEMENT, THE LAP LENGTH SHOULD BE INCREASED BY A FACTOR OF 1.4.

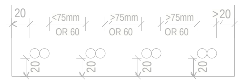
(b) WHERE A LAP OCCURS AT THE CORNER OF A SECTION AND THE MINMUM COVER TO EITHER FACE IS LESS THAN TWICE THE SIZE OF THE LAPPED REINFORCEMENT OR, WHERE THE CLEAR DISTANCE BETWEEN ADJACENT LAPS IS LESS THAN 75mm OR SIX TIMES THE SIZE OF THE LAPPED REINFORCEMENT, WHICHEVER IS THE GREATER, THE LAP LENGTH SHOULD BE INCREASED BY A FACTOR OF 1.4.

(c) IN CASE WHERE BOTH CONDITIONS (a) & (b) APPLY, THE LAP LENGTH SHOULD BE INCREASED BY A FACTOR OF 2.0.

e.g TOP BARS AS CAST (NOTES : Ø = BAR DIA)



e.g. BOTTOM BARS AS CAST



16. THE PILE CAP DESIGN IS ADOPTED BY FLEXIBLE CAP ASSUMPTION.
17. THE CONCRETE COVER TO REINFORCEMENT BAR OF PILE CAP SHALL BE 40mm.
18. PULVERISED FUEL ASH (PFA) WILL BE USED AS A PARTIAL CEMENT REPLACEMENT IN CONCRETE OF PILE CAP:

(a) PFA AS A SEPARATE CONSTITUENT MAY BE USED ONLY WITH OPC AND SHOULD COMPLY WITH BS3892 : PART I : 1982, EXCEPT THAT THE CRITERION FOR MAXIMUM WATER REQUIREMENT MAY NOT APPLY;

(b) BLENDED CEMENT CONTAINING PFA SHOULD COMPLY WITH BS6588:1985 AND HAVE A NOMINAL PFA CONTENT NOT EXCEEDING 25%;

(c) THE PFA CONTENT SHOULD NOT EXCEED 25% BY MASS OF THE CEMENTITIOUS CONTENT (OPC PLUS PFA) OF THE CONCRETE.

NOTES ON PROTECTION OF EARTHWORKS AGAINST HEAVY RAINFALL

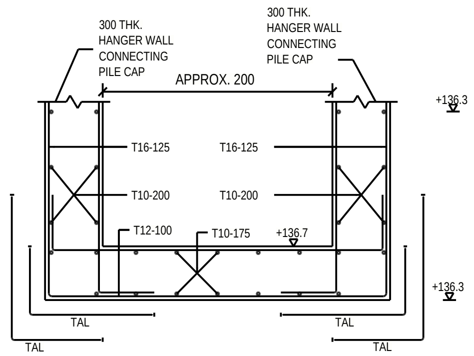
1. SURFACE WATER FLOWING INTO AND OUT OF THE SITE SHALL BE INTERCEPTED AND CONDUCTED FORM THE SITE TO A SAFE DISCHARGE POINT AT EACH INTERSECTION AND ABRUPT CHANGE IN DIRECTION OF SURFACE CHANNEL, ACCESSIBLE CATCHPIT SHALL BE PROVIDED ALL DRAINAGE WORKS SHALL BE KEPT CLEAR OF DEBRIS.
2. WHERE PARTIALLY COMPLETED DRAINAGE WORKS DISCHARGE WITHIN THE SITE A TEMPORARY CONDUIT SHALL BE PROVIDED TO THE DISCHARGE POINT.

3. DURING EXCAVATION A METHOD OF WORKING SHALL BE ADOPTED IN WHICH THE MINIMIUM OF BARE SOIL IS EXPOSED AT ANY TIME. EXCAVATION TO FORM THE FINAL FACE SHALL BE FOLLOWED UP IMMEDIATELY WITH SURFACE PROTECTION AND DRAINAGE WORKS.
4. WHERE TEMPORARY BARE EARTH SLOPE FACES ARE UNAVOIDABLE. THEY SHALL BE PROTECTED WITH HEAVY DUTY SHEETING ADEQUATELY SECURED AT THE EDGES, SEALED AT THE CREST, AND LAPPED AT JOINTS WHERE SLOPE FACES ARE TO BE TEMPORARILY EXPOSED FOR MORE THAN TWO WEEKS, TEMPORARY DRAINS SHALL BE INSTALLED IN ADDITION TO SURFACING.

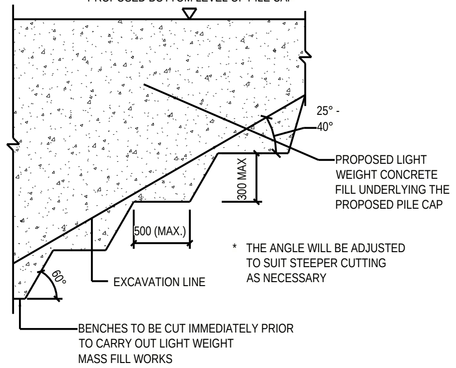
NOTES ON COMPACTED BACKFILL (FOR INFORMATION ONLY)

1. FILL MATERIAL SHALL BE GRADED, CONTAINING NO PARTICLES COARSER THAN 200mm AND THE PERCENTAGE BY MASS PASSING 75mm BS TEST SIEVE SHALL BE 75% TO 100%.
2. FILL MATERIAL SHALL BE PLACED IN LAYERS OF NOT MORE THAN 300mm THICK, AND EACH LAYER SHALL BE COMPACTED TO NOT LESS THAN 95% MAXIMUM DRY DENSITY.
3. FILL MATERIALS SHALL BE AT OPTIMUM MOISTURE CONTENT DURING COMPACTION THE TOLERANCE ON THE OPTIMUM MOISTURE CONTENT PERCENTAGE SHALL BE 3%, PROVIDED THAT THE FILL MATERIAL IS STILL CAPABLE OF BEING COMPACTED IN ACCORDANCE WITH THE SPECIFIED REQUIREMENTS.
4. COMPACTION OF THE SOFT FILL SHALL BE PERFORMED IN ACCORDANCE WITH THE REQUIREMENT STIPULATED IN CLAUSE 6.46 - 6.48 OF GENERAL SPECIFICATION FOR CIVIL ENGINEERING WORKS, PNAP APP-8 AND PNAP APP-64.
5. FILL MATERIAL SHALL CONTAIN NO ORGANIC MATTER.
6. IF THE FRACTI[illegible]EVE IS PLASTIC, THE LIQUID LIMIT SHALL NOT EXCEED 45% AND THE PLASTIC LIMIT SHALL NOT EXCEED 20%.

7. THE MAXIMUM DRY DENSITY AND OPTIMUM MOISTURE CONTENT SHALL BE DETERMINED IN ACCORDANCE WITH GEO REPORT NO 36 TEST NO 4.3.3 EACH SOIL TYPE SHALL BE TESTED WHEN FIRST USED AND THEREAFTER AT THE SAME TIME AS EVERY SET OF FIELD DENSITY TESTS RECORDS SHALL SHOW CLEARLY SOIL TYPE, TEST LOCATION AND ELEVATION IN mPD FOR EACH TEST TOGETHER WITH THE MAXIMUM DRY DENSITY AND OPTIMUM MOISTURE CONTENT RESULTS.
8. THE INSITU FIELD DENSITY AND MOISTURE CONTENT SHALL BE DETERMINED IN ACCORDANCE WITH GEO REPORT NO 36 TEST NO 9.2.1 AND PNAP APP-8.
9. ONLY LABORATORIES ACCREDITED UNDER HOKLAS FOR THE RELEVANT TESTS SHALL BE EMPLOYED IN ACCORDANCE WITH PNAP APP-64 AND THE TEST RESULTS SHALL BE ISSUED ON HOKLAS-ENDORSED TEST CERTIFICATES OR REPORTS.



TYPICAL DETAILS OF LIFT PIT SLAB (800)
(N.T.S)

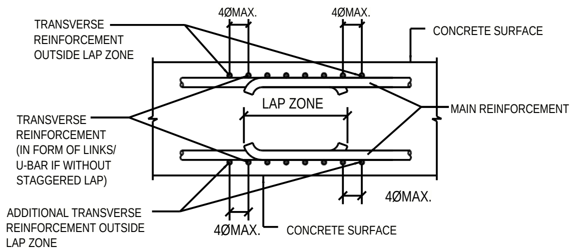


DETAILS OF BENCHING UNDERLYING THE PILE CAP
(N.T.S)

DETAILS OF MINIMUM TRANSVERSE REINFORCEMENT IN LAP ZONE

TALBE : TRANSVERSE REINFORCEMENT

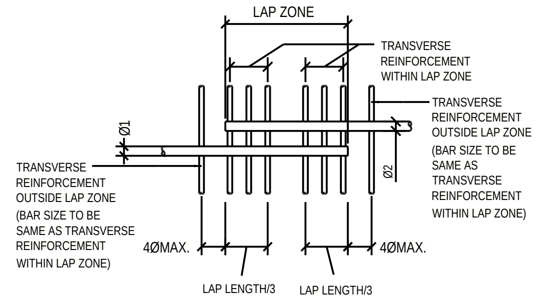
MAIN REINFORCEMENT AT LAP (THE SMALLER OF Ø1 OR Ø2)	TRANSVERSE REINFORCEMENT REQUIRED WITHIN LAP ZONE			
	(WITH STAGGERED LAP)	(WITHOUT STAGGERED LAP)		
		1.0TL	1.4TL	2.0TL
< 20	NO EXTRA REQUIREMENT			
20	4T10 / 3T12	2x3T10-100	2x3T10-125	2x4T10-125
25	7T10 / 5T12	2x3T12-125	2x4T10-100	2x5T10-125
32	11T10 / 8T12	2x4T12-150	2x5T12-125	2x6T12-150
40	16T10 / 12T12	2x6T12-100	2x6T12-125	2x7T12-150
50	25T10 / 18T12	2x5T16-125	2x5T16-150	2x9T12-200



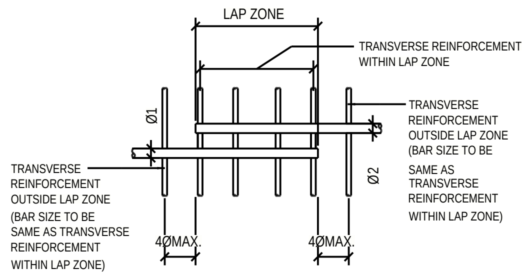
TRANSVERSE REINFORCEMENT FOR SLAB

NOTES :

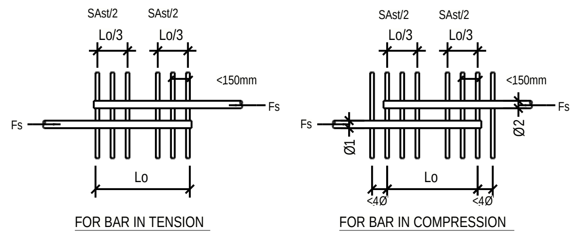
1. Ø IS THE SMALLER OF Ø1 AND Ø2
2. TRANSVERSE REINFORCEMENT SHOULD BE PLACE PERPENEDICULAR TO THE DIRECTION OF THE LAPPED REINFORCEMENT AND BETWEEN THAT AND THE SURFACE OF THE CONCRETE
3. TRANSVERSE REINFORCEMENT SHALL INCLUDE HORIZONTAL BARS BARS OF WALL, BINDERS OF COLUMN OR SHEAR LINKS OF BEAM



WITHOUT STAGGERED LAP
(N.T.S)



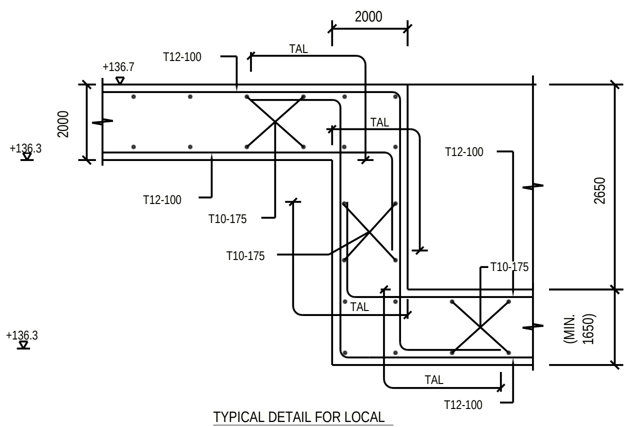
WITH STAGGERED LAP
(N.T.S)



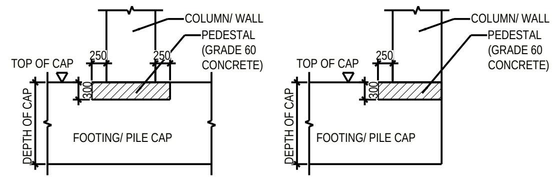
FOR BAR IN TENSION

FOR BAR IN COMPRESSION

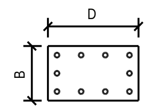
TRANSVERSE REINFORCEMENT IN LAP ZONE (FOR OUTER MOST REBAR)
(N.T.S)



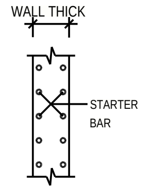
TYPICAL DETAIL FOR LOCAL SUMP PIT AT LIFT PIT
(N.T.S)



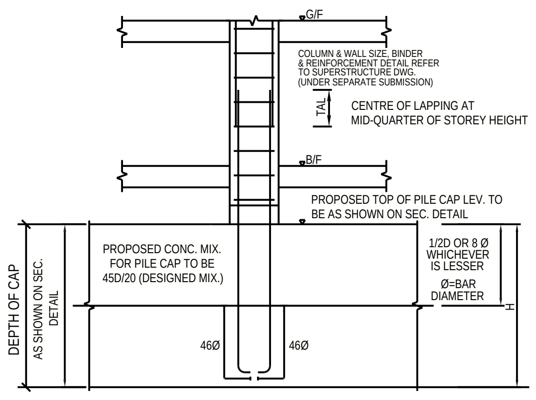
DETAIL OF PEDESTAL FOR COLUMN/ WALL
(N.T.S)



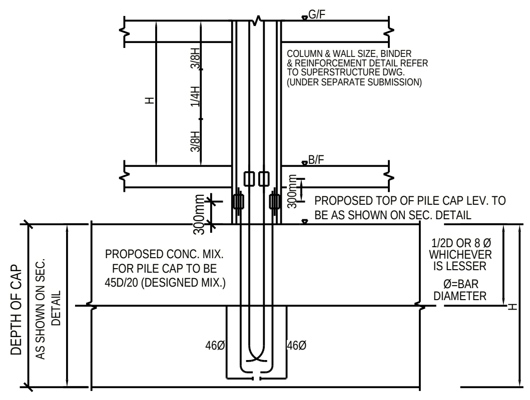
TYPICAL ARRANGEMENT OF STARTER BAR DETAIL FOR COLUMN
(N.T.S)
* CONCRETE COVER FOR STARTER BAR TO BE 40mm.



TYPICAL ARRANGEMENT OF STARTER BAR DETAIL FOR WALL
(N.T.S)

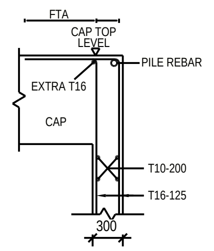


TYPICAL DETAIL FOR COLUMN & WALL STARTER BAR
(FOR INFORMATION ONLY)
(N.T.S)



TYPICAL DETAIL FOR TYPE 2 STARTER BAR
(N.T.S)

SYMBOL: (THE COUPLER FOR COLUMN AND WALL STARTER SHALL BE "BOSA " DUCTILITY COUPLER)



TYPICAL DETAIL DETAILS BETWEEN HANGER WALL AND PILE CAP
(N.T.S)

BD REF :

BIM REF :

REV	DATE	AMENDMENT

PROJECT
CIC SAMPLE PROJECT

DRAWING TITLE
GENERAL NOTES FOR PILE CAP

SCALE

DRAWING NO. P014

REV. NO.

SOURCE ---

90mm (W) x 40mm (H) space for COMPANY LOGO

90mm (W) x 60mm (H) space for AP/RSE/RGE's signature/ and stamp chop

BD's OFFICAL USE

90mm (W) x 150mm (H) space for BD's approval stamp / certification of copies of approved plans (PNAP ADM-10 APP A)

METHOD STATEMENT FOR DEMOLITION WORK:

1. GENERAL

1.1 DEMOLITION WORKS SHALL COMPLY WITH BUILDING (DEMOLITION WORKS) REGULATIONS, BS6187:82, CONSTRUCTION SITE (SAFETY) REGULATIONS, THE GUIDELINES AND REQUIREMENTS SET OUT IN PNAP71 AND CODE OF PRACTICE FOR DEMOLITION OF BUILDINGS 2004.

1.2 ALL STRUCTURES TO BE DEMOLISHED BY ORDINARY HAND-HELD TOOLS.

1.3 POWERED MECHANICAL PLANTS MAY BE EMPLOYED AND RESTED AT SOLID GROUND TO HELP REMOVAL OF DEBRIS AT G/F.

1.4 DEMOLITION SHALL BEGIN ON THE ROOF AND PROCEED DOWN FLOOR BY FLOOR TO THE GROUND FLOOR. THE CONCRETE OF EACH STRUCTURAL ELEMENT SHALL BE BROKEN DOWN GRADUALLY. THE REINFORCEMENT SHALL BE LEFT IN PLACE UNTIL THE CONCRETE IS BROKEN AWAY AND WHEN ITS SUPPORT IS NO LONGER NEEDED.

1.5 THE DEMOLITION OF EACH STRUCTURAL ELEMENT SHALL BE PERFORMED ACCORDING TO THE DETAILS AS SHOWN ON DEMOLITION PLANS.

1.6 BEFORE DEMOLITION WORKS, THE PROPPING UNDERNEATH CANTILEVER BEAMS IF ANY SHALL BE INSTALLED.

1.7 BEFORE DEMOLITION WORKS, ALL UNAUTHORIZED STRUCTURES SHALL BE REMOVED.

1.8 THE CONTRACTOR SHOULD VERIFY THE STRUCTURE WITH THE LATEST STRUCTURE APPROVED PLANS (INCLUDING A&A WORKS) BEFORE COMMENCEMENT OF THE DEMOLITION WORKS. WHERE CONDITIONS ON SITE REVEALED SITUATION AND ARRANGEMENT DIFFERENT FROM THE AVAILABLE INFORMATION, OR HAVING ANY POTENTIAL INSTABILITY, THE CONTRACTORS SHOULD SEEK OPINION AND ADVICE FROM AP/RSE BEFORE PROCEED.

1.9 GROUND FLOOR SLAB

1.10 ALL SCAFFOLDING WORKS SHOULD STRICTLY FOLLOW THE GUIDANCE NOTES OF CODE OF PRACTICE FOR BAMBOO SCAFFOLDING SAFETY AND GUIDANCE NOTES TO RENOVATION SAFETY ISSUED BY LABOUR DEPARTMENT.

2. DEMOLITION SEQUENCE (TOP DOWN - BY MANUAL METHOD)

2.1 DEMOLITION SEQUENCE SHALL BE DETERMINED ACCORDING TO THE ACTUAL SITE CONDITIONS, RESTRAINTS, ORIGINAL BUILDING LAYOUT AND ITS CONSTRUCTION. IN GENERAL, THE FOLLOWING SEQUENCE SHALL APPLY:

(i) ALL CANTILEVERED STRUCTURE CANOPIES, AND VERANDAHS SHALL FIRST BE DEMOLISHED PRIOR TO THE DEMOLITION OF MAIN BUILDING AND ITS INTERNAL STRUCTURES ON EACH FLOOR;

(ii) THE STRUCTURAL ELEMENTS, IN GENERAL, SHALL BE DEMOLISHED IN THE FOLLOWING SEQUENCE:
- SLAB
- SECONDARY BEAMS, THEN
- INTERNAL PRIMARY BEAMS

(iii) ALL DEMOLITION WORKS TO BE CARRIED OUT FLOOR BY FLOOR.

(iv) THE PERIPHERAL ELEMENT OF THE BUILDING SHALL BE DEMOLISHED IN ACCORDANCE WITH THE DEMOLITION SEQUENCE OF PERIPHERAL ELEMENTS.

(v) THE INTERNAL ELEMENT, INCLUDING BEAMS AND COLUMNS SHALL BE DEMOLISHED BY GRADUALLY BREAKING DOWN THE CONCRETE OR BY PULLING THEM DOWN IN A CONTROLLED MANNER.

(vi) THE ABOVE PROCEDURES SHALL BE REPEATED (IF NECESSARY) FOR DEMOLITION DOWN TO THE LOWEST FLOOR AT GROUND LEVEL.

3. PRIOR TO COMMENCEMENT OF THE DEMOLITION WORK AN ASBESTOS INVESTIGATION SURVEY SHALL BE CARRIED OUT BY A SPECIALIST ASBESTOS CONSULTANT FIRM TO DETERMINE ANY ASBESTOS BASED PRODUCTS WHICH MAY EXIST.

DEMOLITION SEQUENCE:

1. REMOVE THE UBW WORKS UNDER MINOR WORKS IF APPLICABLE.

2. PRIOR TO THE DEMOLITION WORKS, THE HOARDING SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE HOARDING PLANS UNDER SEPARATE SUBMISSION.

3. THE TWO-STORIES PROPPING SHOULD BE PROVIDED PRIOR TO START OF DEMOLITION WORK.

4. REMOVE ALL UBW STRUCTURES.

5. DEMOLITION SEQUENCE OF ROOF FLOOR:

a. PARAPETS, STAIRHOOD AND OTHER STRUCTURES ABOVE ROOF FLOOR LEVEL;

b. EXTERIOR WALLS LINKING THE CANTILEVERED STRUCTURE AT ROOF FLOOR;

c. CANTILEVER SLABS OR CANOPY AT ROOF FLOOR;

d. REMAINING SLAB AT ROOF FLOOR;

e. NON-LOAD BEARING WALLS BETWEEN THE ROOF AND THE FLOOR BELOW;

f. SECONDARY BEAMS AT ROOF FLOOR;

g. MAIN BEAMS AT ROOF FLOOR;

h. COLUMNS AND LOAD BEARING WALLS BETWEEN ROOF AND FLOOR BELOW ROOF.

6. DEMOLITION OF SUBSEQUENT FLOORS BELOW ROOF FLOOR:

a. PARAPETS, STAIRHOOD AND OTHER STRUCTURES ABOVE FLOOR LEVEL IF APPLICABLE;

b. EXTERIOR WALLS LINKING THE CANTILEVERED STRUCTURES IF APPLICABLE;

c. CANTILEVERED SLABS OR CANOPY;

d. REMAINING SLABS;

e. NON-LOAD BEARING WALLS BETWEEN THE FLOOR AND THE FLOOR BELOW;

f. SECONDARY BEAMS;

g. MAIN BEAMS;

h. COLUMNS AND LOAD BEARING WALLS BETWEEN THE FLOOR AND THE FLOOR BELOW.

DEMOLITION SEQUENCE OF UBW STRUCTURES:

1. THE DEMOLITION OF UBW STRUCTURES SHALL BE CARRIED OUT BY HAND HELD TOOLS IN THE FOLLOWING SEQUENCE:

a. REMOVE STEEL SHEET COVER IN STRIP OF NOT MORE THAN 1m WIDE.

b. REMOVE THE STEEL BE... THE STEEL BEAMS SHALL BE SAFETY TIED BEFORE CUTTING.

c. REMOVE THE RC WALL IN HORIZONTAL STRIP OF NOT MORE THAN 500mm HEIGHT FROM TOP TO BOTTOM.

DEMOLITION OF CANTILEVER STRUCTURE:

1. PROPPINGS SHALL BE INSTALLED FOR ALL CANTILEVERED STRUCTURES PRIOR TO COMMENCEMENT OF DEMOLITION WORKS.

2. NO STRUCTURAL MEMBER WITHIN THE BUILDING ON ABOVE THAT FLOOR CAN BE DEMOLISHED PRIOR TO THE DEMOLITION OF THE CANTILEVER STRUCTURE AT THAT FLOOR.

3. THE EXTERIOR WALL ... THE CANTILEVER SLAB.

4. ANY STRUCTURE OR DEAD LOAD SUPPORTED BY THE CANTILEVERED SYSTEM SHALL BE REMOVED PRIOR TO DEMOLISHING THE CANTILEVER SLAB.

5. THE CONCRETE SHALL BE BROKEN DOWN GRADUALLY STARTING FROM THE EXTERIOR EDGE OF THE CANTILEVER FLOOR, WORKING INWARD AND TOWARD ITS SUPPORTING BEAMS.

DEMOLITION OF BRICK IN-FILL WALL:

TO AVOID ANY POTENTIAL HAZARD OF BRICKS FALLING OUT OF THE BUILDING, ALL THE BRICK IN-FILL SHALL BE REMOVED BY PUSHING INWARD, BEFORE DEMANTLING THE REINFORCED CONCRETE FRAMING. WORKING PLATFORMS OUTSIDE THE BUILDING SHALL BE PROVIDED FOR REMOVAL OF THE BRICK IN-FILL WALLS. BRICK REMOVAL SHALL BEGIN FROM THE TOP LAYER DOWNWARDS. THE WORKS SHALL BE CARRIED OUT LAYER BY LAYER WITH EACH LAYER NOT LARGER THAN 300mm.

PRECAUTIONARY MEASURES:

1. HOARDING (SUBMITTED SEPARATELY)

THE HOARDING SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE HOARDING PLANS UNDER SEPARATE SUBMISSION.

2. TEMPORARY SUPPORT

STEEL PROPPING SHALL HAVE A WORKING CAPACITY OF 25kN PER PROP. THE PROPS SHALL BE BRACED WITH LATERAL RESTRAINTS IN AT LEAST TWO DIRECTIONS.

3. EXISTING UTILITIES

ALL EXISTING UTILITIES SHALL BE TERMINATED. SEWER SERVICE AND DRAINAGE CONNECTIONS SHALL BE PROPERLY DISCONNECTED AND SEALED OFF AT LAST MANHOLE. CONTRACTOR SHALL ASSIST THE CLIENT TO COORDINATE WITH UTILITY COMPANIES FOR ALL SERVICE TERMINATION.

4. NOTIFICATION TO AP/RSE FOR ANOMALIES OR IRREGULARITIES OBSERVED

4.1 THE FRAMING PLANS ARE ... WORK, THE CONTRACTOR SHOULD CARRY OUT A DETAILED INSPECTION TO VERIFY THE ACCURACY OF THE INFORMATION AS SHOWN. WHERE CONDITIONS ON SITE REVEALED SITUATION AND ARRANGEMENT DIFFERENT FROM NORMAL OR HAVING ANY POTENTIAL HAZARDS, THE CONTRACTOR SHOULD SEEK OPINION AND ADVICE OF AP/RSE BEFORE PROCEEDING FURTHER.

4.2 THE CONTRACTOR SHOULD EXAMINE AND IDENTIFY FOR THEMSELVES OF THE NATURE OR TAIL-LOADING OF ANY CANTILEVER CONSTRUCTION SUCH AS BALCONIES, HEAVY CORNICES OR STAIRCASES. IF UNCERTAIN, AP/RSE ADVICE SHOULD BE SOUGHT. GENERALLY, ALL CANTILEVER CONSTRUCTION SHOULD BE PROPPED PRIOR TO THE ACTUAL DEMOLITION.

4.3 THE CONTRACTOR SHOULD NOTIFY THE AP/RSE DURING THE COURSE OF DEMOLITION WORKS, THE FOLLOWING DEFECTS, IF ANY

(i) STRUCTURAL DEFORMATION;
(ii) CRACK; AND
(iii) CORROSION OF REINFORCEMENT

5. DEBRIS HANDLING

5.1 ANY EXISTING FURNITURE, WOOD FLOORS, DOOR FRAMES, WINDOWS, PIPING SHALL BE SORTED AND REMOVED SEPARATELY.

5.2 DEMOLITION DEBRIS SHALL BE PICKED UP ON GROUND FLOOR AND CARRIED AWAY BY DUMP TRUCKS. DEBRIS CLEARING AND TRANSPORTATION SHALL BE SCHEDULED TO MAINTAIN THE FOLLOWING CONDITIONS:

(i) DEBRIS ACCUMULATION ON THE COCKLOFT OR FIRST FLOOR OR ABOVE SHALL NOT BE HIGHER THAN 100mm.

(ii) DEBRIS ACCUMULATION ON THE GROUND FLOOR SHALL NOT EXCEED 1m.

(iii) NO DEBRIS SHALL BE ALLOWED TO ACCUMULATE ON THE CANTILEVER STRUCTURES.

6. SPECIAL SITE SAFETY

6.1 EMERGENCY EXIT

THE EXISTING STAIRCASE SHALL BE USED AS EMERGENCY ROUTE. THE EMERGENCY ROUTE SHALL BE MAINTAINED THROUGHOUT THE DEMOLITION PROCESS. THE ROUTE SHALL BE CLEARED OF OBSTRUCTION AT ALL TIME. SIGNS OR MARKINGS SHALL BE INSTALLED TO CLEARLY IDENTIFY THE ROUTE.

6.2 PROTECTION OF OPENINGS

THE CONTRACTOR SHOULD ENSURE THAT EVERY WORK PLACE AND APPROACH AND ALL OPENINGS DANGEROUS TO PERSONS EMPLOYED AND OTHERS BE PROPERLY ILLUMINATED AND PROTECTED. SATISFACTORY MEASURES SHALL BE PROVIDED TO AVOID PERSONS FALLING FROM HEIGHT.

6.3 FIRE PREVENTION

(i) FIRE EXTINGUISHER OR FIRE FIGHTING EQUIPMENT SHALL BE PLACED IN VISIBLE LOCATIONS, ADJACENT TO THE STAIRCASE, ON EACH FLOOR. ALL FLAMMABLE MATERIALS SHALL BE STORED IN A SAFE LOCATION IN ACCORDANCE WITH THE FACTORIES AND INDUSTRIAL UNDERTAKING REGULATIONS.

6.4 DUST AND NOISE

(i) WATER SPRAYING SHALL BE APPLIED TO SUPPRESS THE DUST GENERATED DURING THE DEMOLITION OPERATION AND DEBRIS HAULING.

(ii) SUPER SILENCED TYPE AIR COMPRESSOR SHALL BE USED. DEMOLITION WORKS SHALL NOT BE PERFORMED WITHIN THE RESTRICTED HOURS FROM 1900 HRS TO 0700 HRS ON ALL DAY AND FROM 0700 HRS TO 1900 HRS ON GENERAL HOLIDAYS INCLUDING SUNDAY, OR AS PER EPD'S REQUIREMENT.

6.5 TRAINING

ALL SITE PERSONNEL SHALL GO THROUGH A TRAINING PROGRAM TO UNDERSTAND THE PROJECT AND SITE SAFETY REQUIREMENTS. THE TRAINING PROGRAM SHALL BE CONDUCTED BY A COMPETENT TRAINER. THE TRAINING PROGRAM SHALL INCLUDE THE FOLLOWING:

(i) AN INDUCTION TRAINING COURSE AT THE BEGINNING OF THE JOB TO CIRCULATE INFORMATION ON THE PROPOSED METHOD AND REQUIRED SAFETY MEASURES TO PERFORM THE WORK.

(ii) DAILY SAFETY MEETINGS TO MAINTAIN AND REINFORCE THE SAFETY CONCEPT.

6.6 TYPHOON

IN THE CASE WHEN TYPHOON SIGNAL NO. 3 IS HOISTED, THE CONTRACTOR SHALL INSPECT ALL EXTERNALLY EXPOSED TEMPORARY WORK AND STRENGTHEN ANY LOOSE CONNECTIONS. AFTER THE TYPHOON, ALL EXTERNALLY EXPOSED TEMPORARY WORKS SHALL BE INSPECTED AND CONFIRMED TO BE SAFE BY THE COMPETENT AND EXPERIENCED PERSON.

7 MAINTENANCE AND INSPECTION

7.1 THE DEMOLITION WORKS SHALL BE SUPERVISED BY AUTHORIZED PERSON, REGISTERED STRUCTURAL ENGINEER, REGISTERED SPECIALIST CONTRACTOR AND THEIR TECHNICALLY COMPETENT PERSON IN ACCORDANCE WITH THE SITE SAFETY SUPERVISION PLAN LODGED WITH BUILDING AUTHORITY.

7.2 ALL THE PRECAUTIONARY MEASURES AND TEMPORARY SUPPORTS SHALL BE INSPECTED BY THE CONTRACTOR ON A DAILY BASIS. ANY ACCUMULATION OF BUILDING DEBRIS ON THE CATCH FANS AND CATCH PLATFORMS SHALL BE REMOVED. ANY DEFICIENCY SHALL BE REPAIRED WHEN FOUND NECESSARY. THE INSPECTION AND REPAIR RECORDS SHALL BE PROVIDED TO THE AP AND RSE.

7.3 BEFORE LEAVING THE JOB SITE EACH DAY, THE CONTRACTOR SHALL IDENTIFY AND RECTIFY ANY UNSAFE CONDITIONS SUCH AS PARTIALLY DEMOLISHED STRUCTURAL ELEMENTS AND DAMAGED TEMPORARY SUPPORTS.

7.4 THE BAMBOO SCAFFOLDING SHALL BE INSPECTED AND MAINTAINED IN ACCORDANCE WITH THE CODE OF PRACTICE FOR BAMBOO SAFETY AND THE CONSTRUCTION SITE (SAFETY) REGULATIONS BY THE CONTRACTOR.

8. EMERGENCY PLAN

8.1 EMERGENCY TELEPHONE NUMBERS SHALL BE CLEARLY DISPLAYED IN A CONSPICUOUS LOCATION. IN THE EVENT OF ANY EMERGENCY OR ACCIDENT, THE CONTRACTOR SHALL NOTIFY THE POLICE AND FIRE SERVICES DEPARTMENTS FOR ASSISTANCE. THE CONTRACTOR SHALL ALSO NOTIFY THE AP AND RSE IMMEDIATELY.

8.2 AT THE INITIAL WARNING OF A TYPHOON OR A MAJOR STORM EVENT, THE FOLLOWING SHALL BE PERFORMED:

8.2.1 CONTRACTOR SHALL SECURE ALL TEMPORARY SUPPORTS AND LOOSE ELEMENTS ON SITE.

8.2.2 ALL FLAMMABLE MATERIALS, OXYGEN AND ACETYLENE BOTTLES SHALL BE REMOVED OR SECURED IN A SAFE LOCATION.

8.2.3 NO UNSTABLE AND/OR PARTIALLY DEMOLISHED STRUCTURAL ELEMENTS SHALL BE BRACED AND SECURED.

9. POST DEMOLITION

9.1 UPON COMPLETION OF THE DEMOLITION, THE SITE SHALL BE LEVELLED AND CLEARED OF DEBRIS.

9.2 IN THE CASE OF NO IMMEDIATE REDEVELOPMENT, THE SITE BOUNDARY SHALL BE COMPLETELY ENCLOSED TO PREVENT PUBLIC ACCESS.

9.3 DAMAGE TO PAVEMENT, FOOTPATH AND OTHER ELEMENTS WITHIN THE RIGHT OF WAY SHALL BE REPAIRED TO ITS ORIGINAL CONDITION PRIOR TO THE COMPLETION OF THE DEMOLITION PROJECT.

10. SITE SUPERVISION

10.1 SITE STAFF RESPONSIBLE FOR SUPERVISION AND CONTROL OF DEMOLITION SHALL BE EXPERIENCED IN THE DEMOLITION OF BUILDINGS SIMILAR TO THOSE TO BE DEMOLISHED.

10.2 THE CONTRACTOR SHALL PROVIDE THE FOLLOWING MINIMUM SITE SUPERVISION REQUIREMENTS:

(i) A FULL-TIME SITE ENGINEER WHO SHALL BE REGISTERED PROFESSIONAL ENGINEER, IN THE STRUCTURAL, CIVIL OR BUILDING DISCIPLINE AND SHALL BE DIRECTLY RESPONSIBLE TO THE CONTRACTOR DURING DEMOLITION OF CANTILEVER STRUCTURES.

(ii) EXPERIENCED FOREMAN WHO SHALL BE FULL-TIME ON SITE. EACH FOREMAN SHALL BE RESPONSIBLE AND SUPERVISE THE DEMOLITION WORKS FOR EACH ZONE OF THE DEMOLITION WORKS.

(iii) SITE SUPERVISION REQUIREMENTS AS STIPULATED IN THE LATEST VERSION OF THE DEMOLITION CODE AND BUILDING (DEMOLITION WORKS) REGULATION.

NOTES ON UBW:

1. UBW SHALL BE REMOVED UNDER ... AP/RSE SUPERVISION UPON ISSUANCE OF THE DEMOLITION ...

NOTES ON DEBRIS MANAGEMENT SYSTEM:

1. DEBRIS MUST BE DISPOSED OF PROMPTLY. A DEBRIS DISPOSAL AND MANAGEMENT SYSTEM SHALL BE PREPARED AND IMPLEMENTED BY THE RSC TO THE SATISFACTION OF AP / RSE. THE DEBRIS DISPOSAL AND MANAGEMENT SYSTEM SHOULD LAY DOWN THE FOLLOWING DETAILS:

1.1 METHOD OF HANDLING DEMOLISHED BUILDING DEBRIS;

1.2 THE ROUTING AND MOVEMENT OF DEBRIS FROM EACH FLOOR TO ON GRADE HOLDING AREA PRIOR TO LEAVING THE SITE;

1.3 MEANS OF TRANSPORTATION OF DEBRIS OFFSITE ETC.

1.4 TIME AND FREQUENCY OF DEBRIS DISPOSAL OFF SITE;

1.5 RECORD SCHEME ON THE TONNAGE OF EACH TRUCK LOAD, TRUCK LICENSE PLATE, DRIVER'S NAME, TRIP TICKETS AND LOCATION OF DUMP SITE; AND

1.6 THE SITE SUPERVISORY PERSONNEL RESPONSIBLE FOR THE DEBRIS MANAGEMENT SYSTEM.

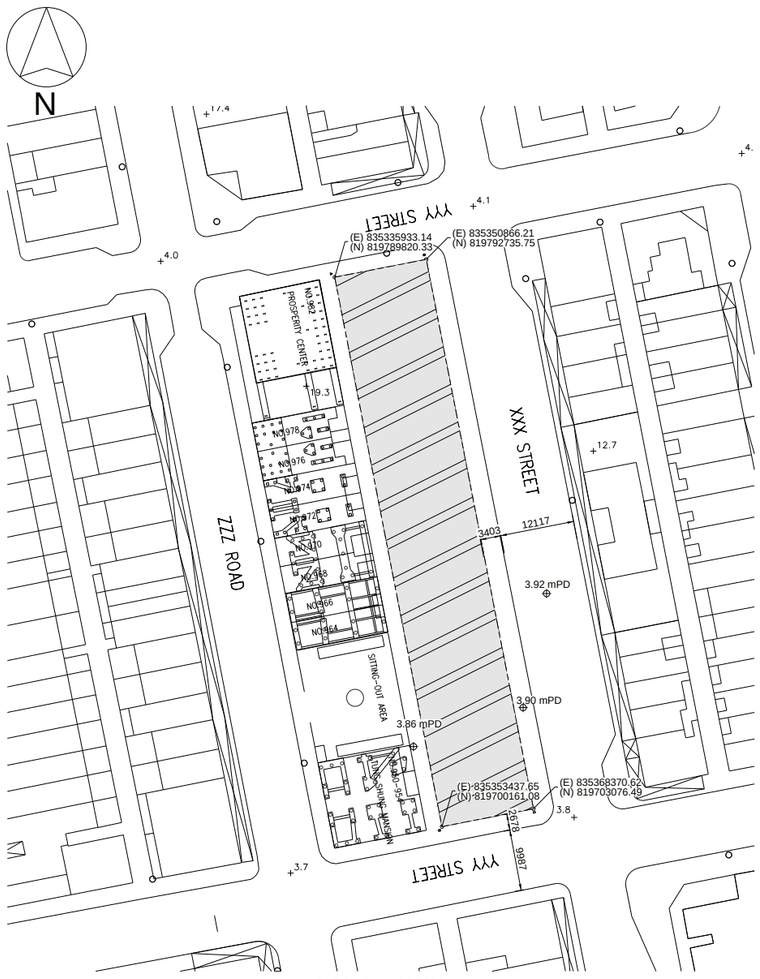
2. DETAILS OF THE DEBRIS DISPOSAL AND MANAGEMENT SYSTEM SHALL BE SUBMITTED TO THE BUILDINGS DEPARTMENT TOGETHER WITH THE SITE SAFETY SUPERVISION PLAN PRIOR TO OR AT THE TIME OF CONSENT APPLICATION.

NOTES ON SITE VIDEO CAMERA:

1. VIDEO CAMERA TO RECORD THE ENTIRE DEMOLITION PROCESS SHALL BE PROVIDED. THE VIDEO CAMERA SHALL BE SECURELY PROTECTED TO RECORD THE ENTIRE DEMOLITION PROCESS INCLUDING THE MOVEMENT OF ... DEMOLITION CAN BE RECORDED FOR REFERENCE AND REVIEW PURPOSES. THE LOCATION OF THE VIDEO CAMERA REFERS TO DEMOLITION PLAN. THE VIDEO CAMERA RECORDS SHALL BE KEPT BY THE RSE FOR AT LEAST 14 DAYS.

NOTES ON BEAM PLUS:

1. DEMOLITION WORKS AND ... COMPLY WITH THE BUILDING ENVIRONMENTAL ASSESSMENT METHOD (BEAM) PLUS V1.2 REQUIREMENT.



BLOCK PLAN (1:500)

BD REF :

BIM REF :

REV	DATE	AMENDMENT

PROJECT

CIC SAMPLE PROJECT

DRAWING TITLE

GENERAL NOTES FOR DEMOLITION

SCALE

DRAWING NO. D001

REV. NO.

SOURCE ---

90mm (W) x 40mm (H) space for COMPANY LOGO

90mm (W) x 60mm (H) space for AP/RSE/RGE's signature/ and stamp chop

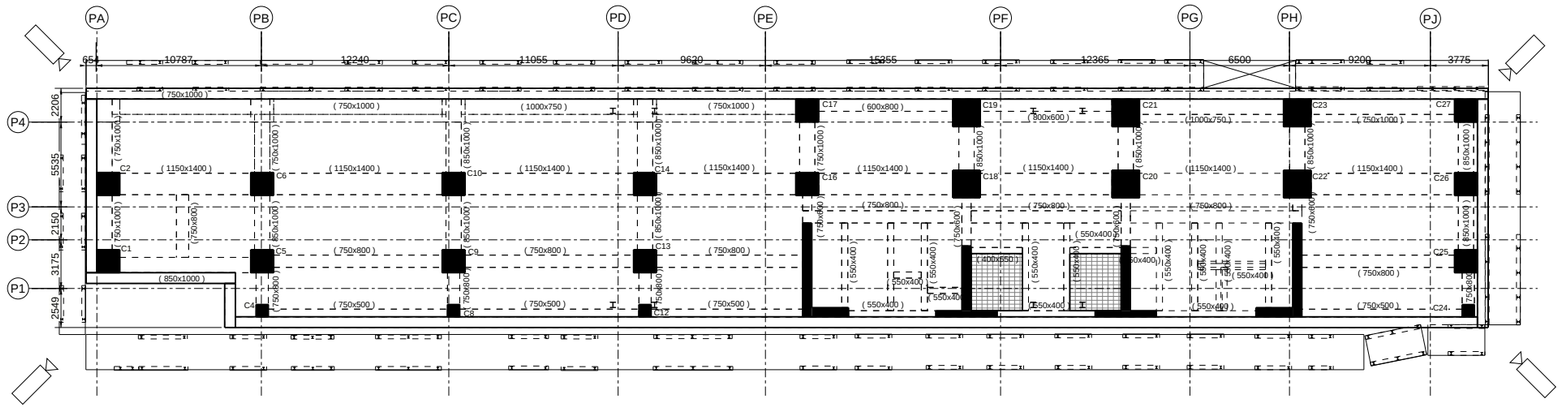
BD's OFFICAL USE

90mm (W) x 150mm (H) space for BD's approval stamp / certification of copies of approved plans (PNAP ADM-10 APP A)

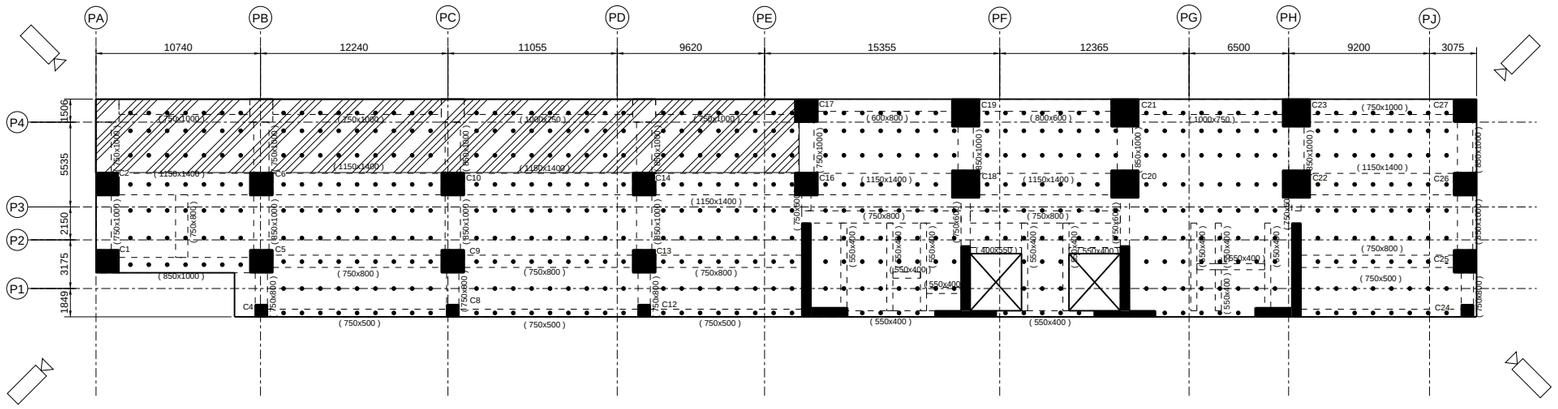
Tekla Structures

LEGEND :

- TEMPORARY STEEL PROP AT 1200mm c/c UNDER
- PROPOSED DEBRIS CHUTE
- CANTILEVER STRUCTURE
- SITE BOUNDARY
- CONCRETE FOOTING
- VIDEO CAMERA



DEMOLITION PLAN - EXISTING G/F FRAMING PLAN



DEMOLITION PLAN - EXISTING 1/F AND TYPICAL FLOOR FRAMING PLAN

BD REF :

BIM REF :

REV	DATE	AMENDMENT

PROJECT

CIC SAMPLE PROJECT

DRAWING TITLE

DEMONITION PLAN EXISTING G/F, 1/F FRAMING PLAN

SCALE

DRAWING NO. D002

REV. NO.

SOURCE ---

90mm (W) x 40mm (H) space for COMPANY LOGO

90mm (W) x 60mm (H) space for AP/RSE/RGE's signature/ and stamp chop

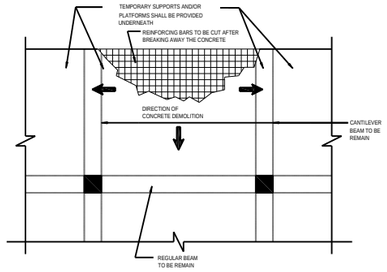
BD's OFFICAL USE

90mm (W) x 150mm (H) space for BD's approval stamp / certification of copies of approved plans (PNAP ADM-10 APP A)

Tekla Structures

DEMOLITION OF R.C. SLAB (MANUAL METHOD)

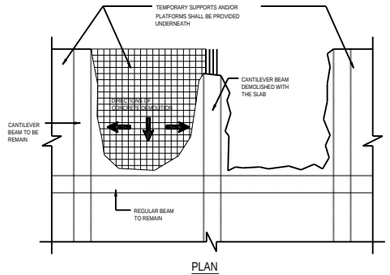
1. ENSURE ALL LOADS OTHER THAN SELF-WEIGHT, ARE REMOVED FROM SLABS. FOR CANTILEVER SLAB, THE EXTERIOR WALL OR PARAPET SHALL BE DEMOLISHED FIRST.
2. THE SLAB SHALL BE DEMOLISHED BY GRADUALLY BREAKING AWAY THE CONCRETE.
3. THE REINFORCEMENT SHALL REMAIN AND BE CUT OFF AFTER THE CONCRETE IS BROKEN AWAY.



PLAN

CANTILEVER SLAB

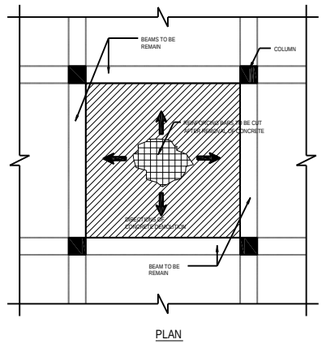
1. TEMPORARY SUPPORTING STRUCTURES AND/OR CATCH PLATFORM SHALL BE PLACE DIRECTLY UNDERNEATH THE CANTILEVER STRUCTURE AS PRECAUTION MEASURES. (SEE SECTION REFER TO SEPARATE DRG.)
2. THE CONCRETE SHALL BE BRAKEN DOWN GRADUALLY STARTING FROM THE EXTERIOR EDGE OF THE CANTILEVER FLOOR, WORKING INWARDS AND TOWARDS ITS SUPPORTING BEAM.



PLAN

CANTILEVER SLAB AND BEAM

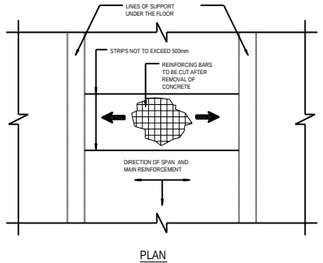
THE CANTILEVER BEAM SHALL BE DEMOLISHED AFTER THE DEMOLITION OF THE CONNECTING FLOOR SLAB. DEMOLITION OF THE CANTILEVER BEAM SHALL NOT ADVANCE FURTHER THAN THE SLAB SO THAT THE SUPPORT FOR THE SLAB IS ALWAYS MAINTAINED.



PLAN

TWO WAY SLAB

DEMOLITION OF SLAB SHALL BEGIN IN THE MIDDLE OF THE SLAB AND ADVANCE TOWARDS THE SIDES IN 4 DIRECTIONS.



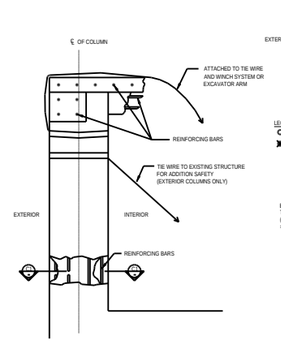
PLAN

ONE WAY SLAB

1. THE BREAKING OF CONCRETE SHALL BEGIN AT UNSUPPORTED END AND PROCEED IN STRIPS NOT EXCEEDING 500mm PERPENDICULAR TO THE LINKS OF SUPPORT.
2. THE STRIPS SHALL BE DEMOLISHED FROM THEIR CENTRE TOWARDS IN BOTH DIRECTION.

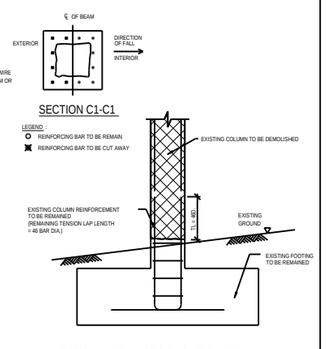
PRE-WEAKENING AND DISMANTLING OF R.C. COLUMN (MANUAL METHOD)

NOTES:
1. SECURE THE COLUMN BY WIRE & WINCH TO EXISTING STRUCTURE
2. PRE-WEAKENING AT THE BOTTOM OF COLUMN BY HAND HELD TOOLS.
   i) BREAK AWAY THE CONCRETE TO EXPOSE THE REINFORCING BARS.
   ii) CUT THE REINFORCING BARS AT THE EXTERIOR HALF OF THE COLUMN. CUTTING SHALL BE PERFORMED IMMEDIATELY PRIOR TO PULLING.
3. PULLING DOWN THE COLUMN IN A CONTROLLED MOTION.



DEMOLITION OF R.C. COLUMN

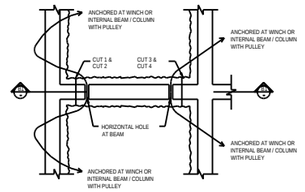
ALL COLUMN, EITHER EXTERIOR OR INTERIOR MAY BE PRE-WEAKENED AT THE BOTTOM OF COLUMN, PULLED DOWN ONTO BUILDING FLOOR FOR FURTHER BREAKEN.



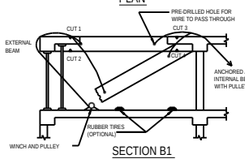
TYPICAL DETAIL OF DEMOLITION COLUMN ABOVE GROUND

DEMOLITION OF R.C. BEAM (MANUAL METHOD)

1. BEAMS MAY BE DEMOLISHED BY GRADUALLY BREAKING AWAY THE CONCRETE. THE REINFORCEMENT SHALL REMAIN AND CUT OFF AFTER THE CONCRETE IS BROKEN AWAY.
2. ALTERNATIVELY, THE ENTIRE BEAM SECTION MAY BE DISMANTLED AND LOWER ONTO THE FLOOR LEVEL FOR FURTHER BREAKDOWN.



PLAN

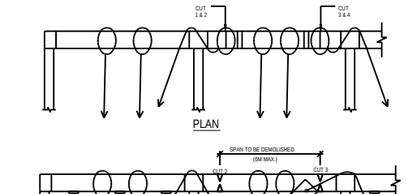


SECTION B1

1. ENSURE NO LOAD ON THE BEAM.
2. TIE THE BEAM TO BE DEMOLISHED (TO DETAILS AS SHOWN)
3. EXPOSE REINFORCEMENTS AT BOTH ENDS OF THE BEAM.
4. CUT REINFORCEMENTS AT POSITIONS CUT 1, CUT 2, AND CUT 3.
5. LOWER THE BEAM AT EXTERNAL END. ONTO BUILDING FLOOR IN A CONTROLLED MANNER.
6. CUT REINFORCEMENTS AT CUT 4 AND LOWER THE BEAM COMPLETELY.

NOTE : THE TIE WIRE ARE INDICATIVE. IF THERE ARE PERMANENT ANCHORS OR LIFTING MACHINES AVAILABLE, TIE WIRE ARRANGEMENTS MAY BE SIMPLIFIED TO SUIT.

DEMOLITION OF SECONDARY BEAM

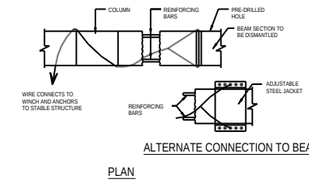


ELEVATION

1. PROP ALL SPAN OF EXTERNAL BEAM .
2. TIE THE SPAN OF BEAM TO DEMOLISHED. (REFER TO DETAILS AS SHOWN)
3. REMOVE PROPS AT SPAN TO BE DEMOLISHED.
4. EXPOSE ALL REINFORCEMENT AT CUT 1 TO CUT 4.
5. CUT REINFORCEMENT AT CUT 1, CUT 2, AND CUT 3.
6. LOWER THE END AT CUT 1 & CUT 2 ONTO BLDG. FLOOR IN A CONTROLLED MANNER.
7. CUT REINFORCEMENT AT CUT 4.
8. LOWER THE OTHER END OF BEAM IN A CONTROLLED MANNER.

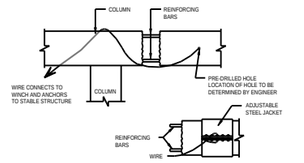
NOTE : THE TIE WIRE ARE INDICATIVE. IF THERE ARE PERMANENT ANCHORS OR LIFTING MACHINES AVAILABLE THE WIRE ARRANGEMENTS MAY BE SIMPLIFIED TO SUIT.

DEMOLITION OF MAIN BEAM



ALTERNATE CONNECTION TO BEAM

PLAN

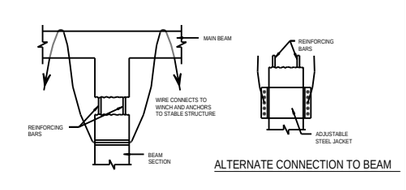


ALTERNATE CONNECTION TO BEAM

ELEVATION

NOTES :
THE TIE WIRE ARRANGEMENT IS ILLUSTRATION PURPOSE. IT MAY BE SIMPLIFIED TO SUIT DEPENDING ON THE AVAILABILITY OF STRUCTURAL ANHOR.

DETAILS FOR SECURING EXTERNAL BEAMS BEFORE DISMANTLING



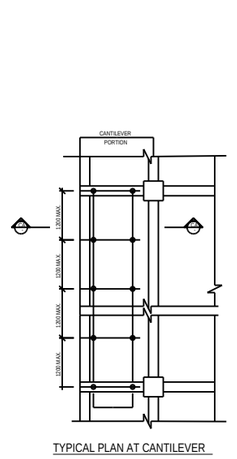
ALTERNATE CONNECTION TO BEAM

ELEVATION

ALTERNATE CONNECTION TO BEAM

NOTES :
THE TIE WIRE ARRANGEMENT IS ILLUSTRATION PURPOSE. IT MAY BE SIMPLIFIED TO SUIT DEPENDING ON THE AVAILABILITY OF STRUCTURAL ANHOR.

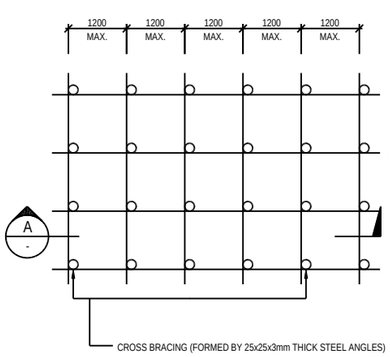
DETAILS FOR SECURING SECONDARY BEAMS BEFORE DISMANTLING



TYPICAL PLAN AT CANTILEVER

SECTION CA

TYPICAL SECTION AT CANTILEVER



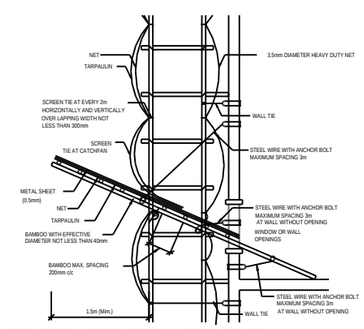
TYPICAL PLAN FOR PROPPING

N.T.S.

TYPICAL DETAILS OF PROPPING

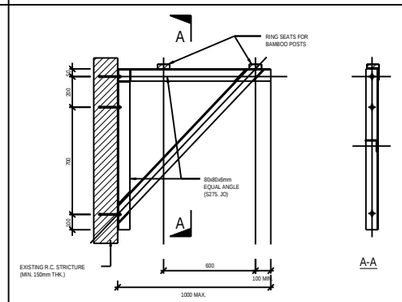
N.T.S.

ALL PROPS SHALL HAVE CAPACITY OF 25kN PER LEG WITH BRACING AT REQUIRED SPACING TO MANUFACTURER'S RECOMMENDATION



TYPICAL DETAIL FOR BAMBOO CATCHFAN & SCREEN COVER

NOTES :
1. BAMBOO FOR THE CONSTRUCTION OF SCAFFOLD, AND CATCHFAN SHALL HAVE AN EFFECTIVE DIAMETER NOT LESS THAN 40mm.
2. METAL SHEET, NET AND TARPAULIN SHALL BE FASTENED TO THE BAMBOO DECK AT 4 CORNERS OF THE SHEET OR AT SPACING NO LESS THAN 1.5m APART WHICHEVER IS LESS.



TYPICAL DETAIL FOR STEEL BRACKET

* ALL JOINTS TO BE 5mm F.W. ALL ROUND

NOTES ON ANCHOR BLOTS:
1. ANCHOR BLOTS SHALL BE INSTALLED STRICTLY IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATION

TYPE	MIN. EMBEDMENT TO SOUND CONCBITS (mm)	MIN. SPACING (mm)	MIN. EDGE DISTANCE (mm)	RECOMMENDED LOAD		TEST LOAD TENSION (KN)
				TENSION (KN)	SHEAR (KN)	
HST M12	70	60	75	4.0	11.7	6.0

BD REF :

BIM REF :

REV	DATE	AMENDMENT

PROJECT

CIC SAMPLE PROJECT

DRAWING TITLE

DEMOLITION DETAILS (BY HAND HELD TOOLS)

SCALE

DRAWING NO. D003

REV. NO.

SOURCE ---

90mm (W) x 40mm (H) space for COMPANY LOGO

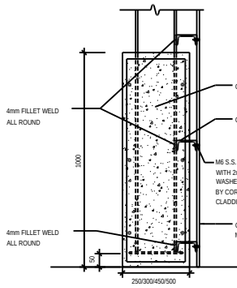
90mm (W) x 60mm (H) space for AP/RSE/RGE's signature/ and stamp chop

BD's OFFICAL USE

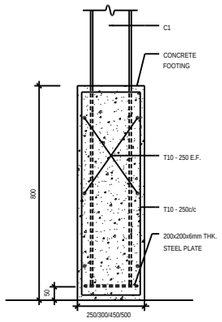
90mm (W) x 150mm (H) space for BD's approval stamp / certification of copies of approved plans (PNAP ADM-10 APP A)

MEMBER SIZE:

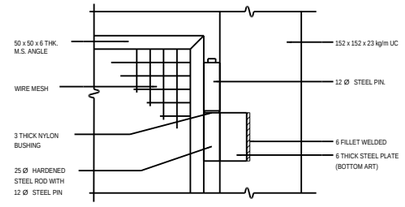
CONCRETE FOORING (TYPE 1 TO V) REBAR SIZE, SPACING	T10 @ 250 BW
C1	152 x 152 x 23 kg/m UC
C2	203 x 203 x 46 kg/m UC
B1	152 x 89 x 16 kg/m UB
B2	203 x 133 x 25 kg/m UB
B3	254 x 146 x 31 kg/m UB
B4	457 x 191 x 74 kg/m UB
B5	178 x 102 x 19 kg/m UB
SB1,MB1	305 x 165 x 54 kg/m UB
CH1	127 x 64 x 12.9 kg/m CHANNEL @ 300c/c
CH2	76 x 38 x 6.7 kg/m CHANNEL @ 600c/c
SP1	6mm STEEL PLATE IF GRADE S275 OR EQUIVALENT
SP2	3mm STEEL PLATE IF GRADE S275 OR EQUIVALENT
STIFFENER PLATE	6mm STEEL PLATE IF GRADE S275 OR EQUIVALENT



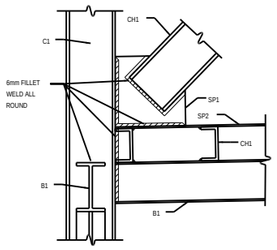
DETAILS OF HOARDING FOOTING
(WITH CORRUGATED STEEL SHEET)
SCALE 1:10



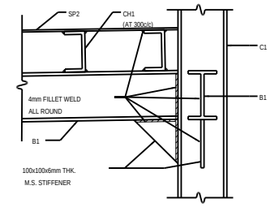
DETAILS OF HOARDING FOOTING
SCALE 1:10



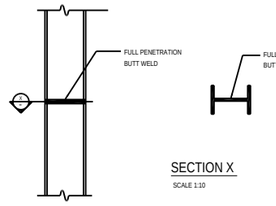
DETAIL 2
SCALE 1:10



DETAIL 1
SCALE 1:10

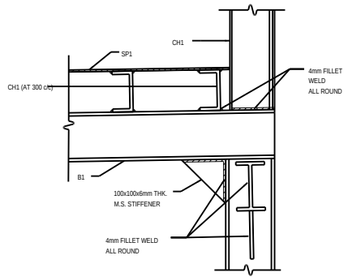


DETAIL 3
SCALE 1:10

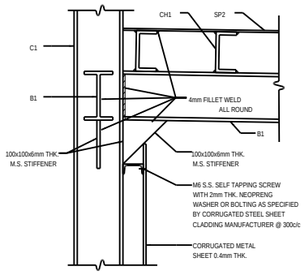


CONNECTION DETAIL
OF STEEL POST
SCALE 1:10

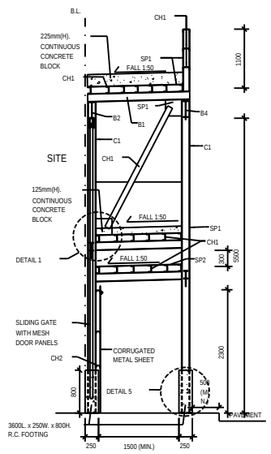
SECTION X
SCALE 1:10



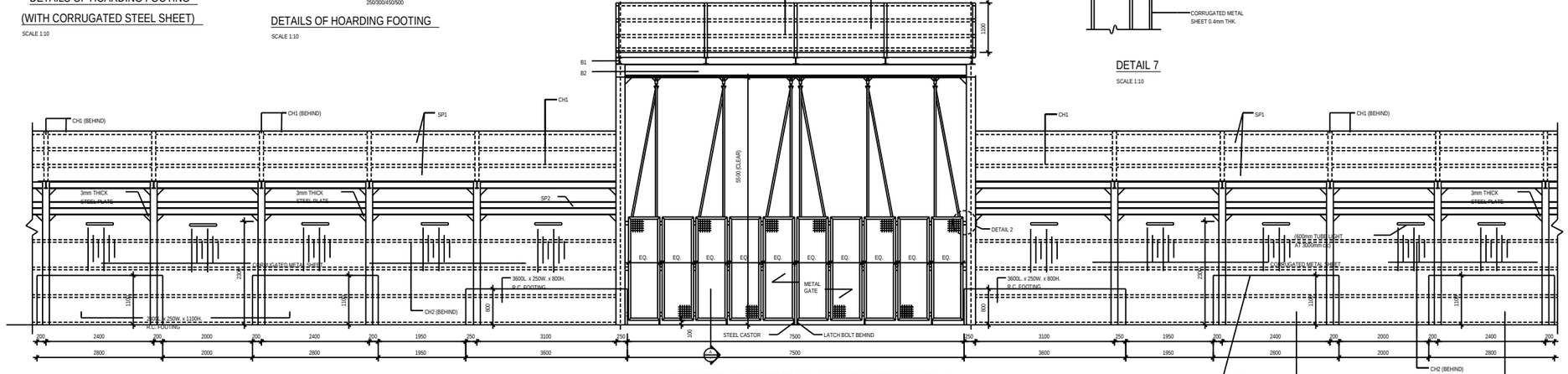
DETAIL 4
SCALE 1:10



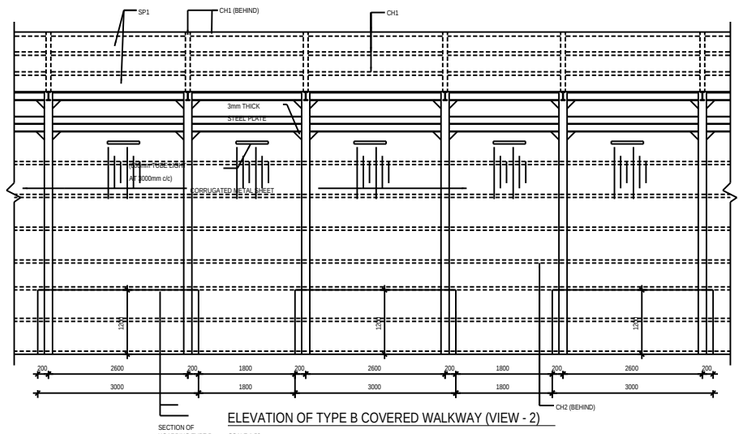
DETAIL 7
SCALE 1:10



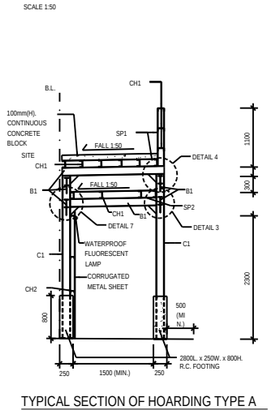
SECTION A
(GANTRY)
SCALE 1:50



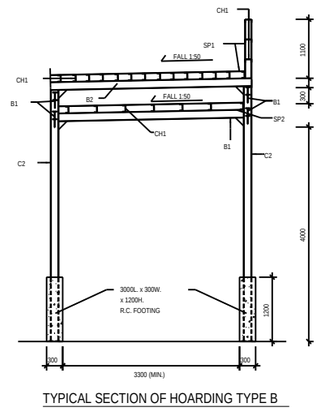
ELEVATION OF COVERED WALKWAY & GANTRY 1 (VIEW -1)
SCALE 1:50



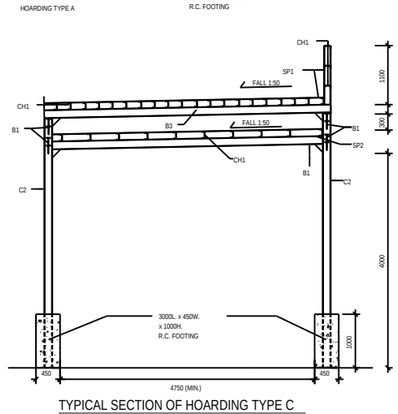
ELEVATION OF TYPE B COVERED WALKWAY (VIEW - 2)
SCALE 1:50



TYPICAL SECTION OF HOARDING TYPE A
SCALE 1:50



TYPICAL SECTION OF HOARDING TYPE B
SCALE 1:50



TYPICAL SECTION OF HOARDING TYPE C
SCALE 1:50

REV	DATE	AMENDMENT

BD REF :

BIM REF :

PROJECT

CIC SAMPLE PROJECT

DRAWING TITLE

DETAIL FOR DEMOLITION WORKS (1/2)

SCALE

DRAWING NO. D004

REV. NO.

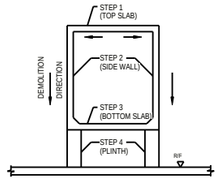
SOURCE ---

90mm (W) x 40mm (H) space for COMPANY LOGO

90mm (W) x 60mm (H) space for AP/RSE/RGE's signature/ and stamp chop

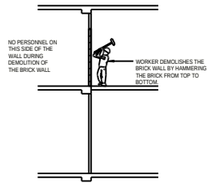
BD's OFFICAL USE

90mm (W) x 150mm (H) space for BD's approval stamp / certification of copies of approved plans (PNAP ADM-10 APP A)



DEMOLITION PROCEDURE FOR WATER TANK

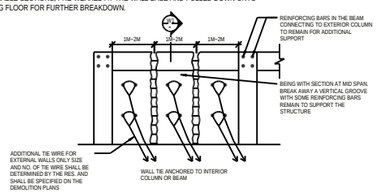
1. ENSURE NO WATER INSIDE THE WATER TANK.
2. USE HAND APPLIANCE TO HACK OFF THE CONCRETE OF THE WATER TANK STEP BY STEP AND IN THE DEMOLITION DIRECTION AS SHOWN ABOVE.



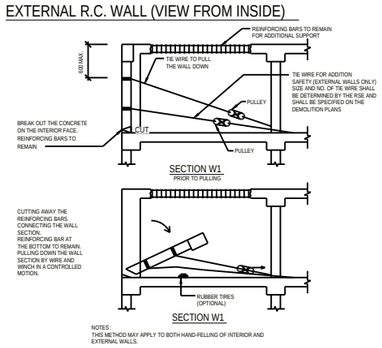
DEMOLITION OF BRICK WALL

FELLING OF R.C. WALL (MANUAL METHOD)

1. REINFORCEMENT CONCRETE WALLS MAY BE DEMOLISHED BY CUTTING DOWN THE WALL INTO MANAGEABLE SECTIONS, PRE-WEAKED AT THE WALL BASE AND PULLED DOWN ONTO BUILDING FLOOR FOR FURTHER BREAKDOWN.

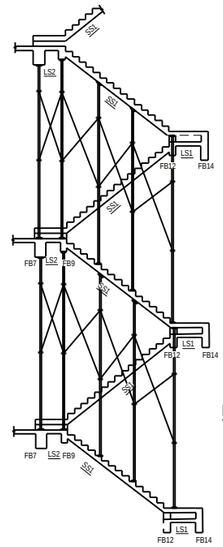


EXTERNAL R.C. WALL (VIEW FROM INSIDE)



NOTES :
THIS METHOD MAY APPLY TO BOTH HAND-FELLING OF INTERIOR AND EXTERNAL WALLS.

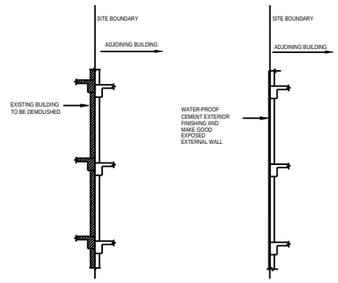
FELLING OF REINFORCED CONCRETE WALL



SEQUENCE FOR DEMOLITION OF STAIRCASE:

1. ERECT THE STEEL PROPS AT 1.2m c/c MAX. IN BOTH DIRECTION UNDERNEATH THE STAIRCASE BEFORE DEMOLITION.
2. DEMOLITION OF STAIR FLIGHT SS1 OF STAIRCASE.
3. DEMOLITION OF UPPER LANDING LS2
4. DEMOLITION OF LOWER LANDING LS1
5. DEMOLITION THE SUPPORTING BEAM FB9&FB12
6. THE MAIN BEAM FB7 AND FB14 SHALL BE DEMOLISHED UNTIL DEMOLISHED ALL THE SUPPORTING MEMBER.

DEMOLITION SEQUENCE OF STAIRCASE



NOTES:
CEMENT EXTERIOR FINISHING SHALL BE APPLIED IN TWO COATS :
(i) THE FIRST COAT SHALL HAVE A MINIMUM THICKNESS OF 10mm WITH A CEMENT-LIME-SAND MIX RATIO OF 1:2:9
(ii) THE SECOND COAT SHALL HAVE A MINIMUM THICKNESS OF 10mm WITH A CEMENT-LIME-SAND MIX RATIO OF 1:3:6

TYPICAL DETAIL FOR CEMENT EXTERIOR FINISHING TO ADJOINING EXTERAL WALL

N.T.S.

BD REF :

BIM REF :

REV	DATE	AMENDMENT

PROJECT

CIC SAMPLE PROJECT

DRAWING TITLE

DETAIL FOR DEMOLITION WORKS (2/2)

SCALE

DRAWING NO. D005

REV. NO.

SOURCE ---

90mm (W) x 40mm (H) space for COMPANY LOGO

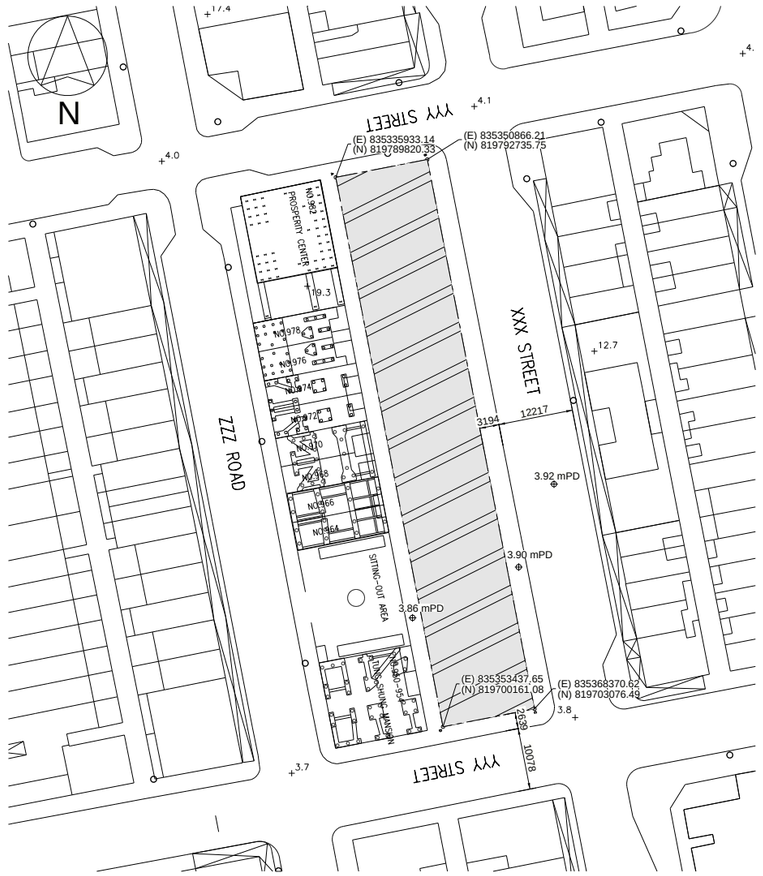
90mm (W) x 60mm (H) space for AP/RSE/RGE's signature/ and stamp chop

BD's OFFICAL USE

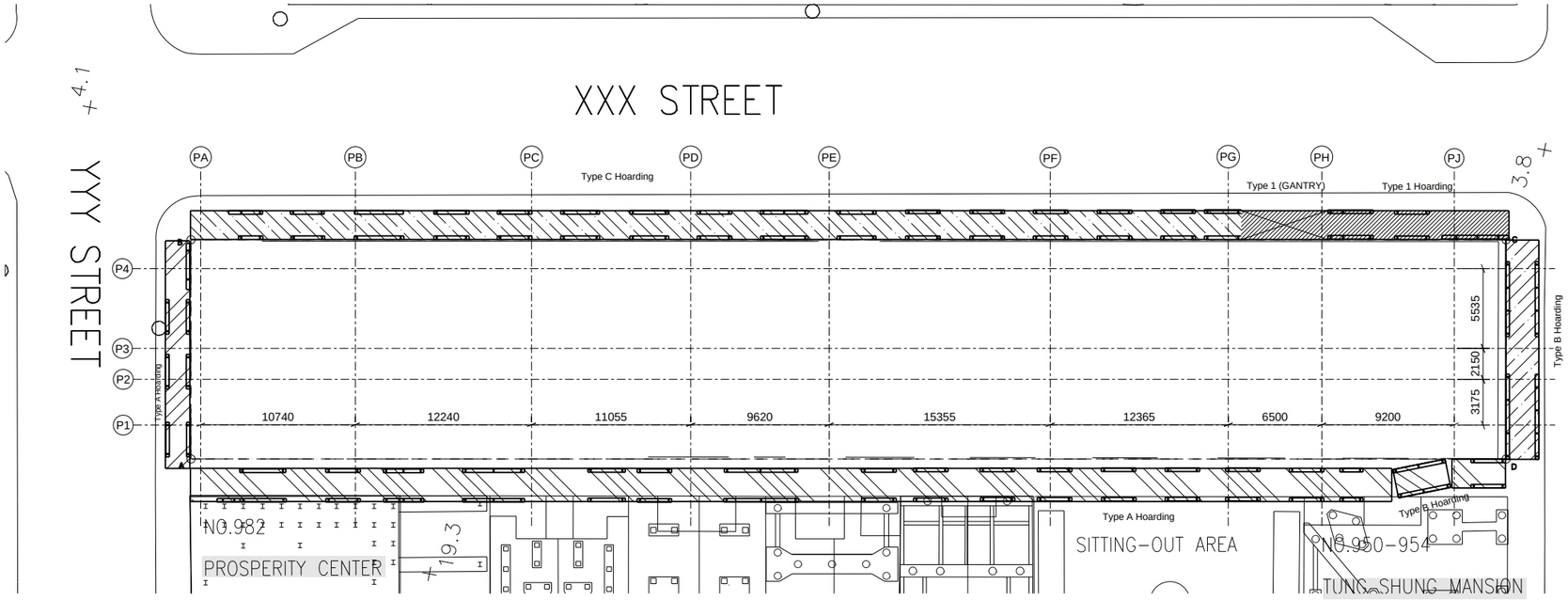
90mm (W) x 150mm (H) space for BD's approval stamp / certification of copies of approved plans (PNAP ADM-10 APP A)

LEGEND

- Proposed Covered Walkway
- Proposed Gantry
- Concrete Footing
- Site Boundary
- Pedestrain Railing
- Manhole



BLOCK PLAN (1:500)



Plan EGL (1:200)

Tetla Structures

BD REF :

BIM REF :

REV	DATE	AMENDMENT

PROJECT

CIC SAMPLE PROJECT

DRAWING TITLE

HOARDING LAYOUT PLAN

SCALE

DRAWING NO. H001

REV. NO.

SOURCE ---

90mm (W) x 40mm (H) space
for COMPANY LOGO

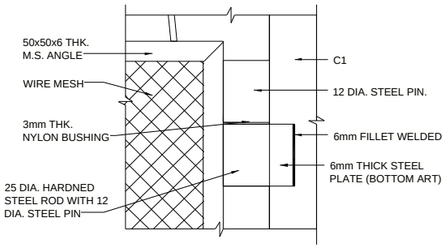
90mm (W) x 60mm (H) space
for AP/RSE/RGE's
signature/ and stamp chop

BD's OFFICAL USE

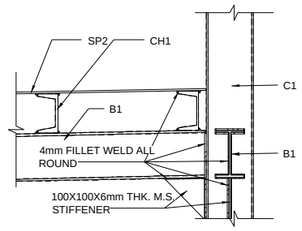
90mm (W) x 150mm (H) space
for BD's approval stamp /
certification of copies of
approved plans
(PNAP ADM-10 APP A)

MEMBER SIZE:

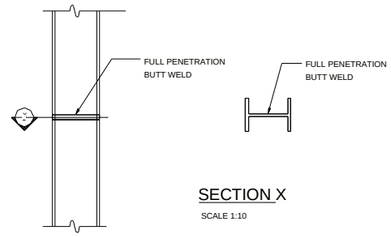
CONCRETE FOORING (TYPE 1 TO V) REBAR SIZE, SPACING	T10 @ 250 BW
C1	152 x 152 x 23 kg/m UC
C2	203 x 203 x 46 kg/m UC
B1	152 x 89 x 16 kg/m UB
B2	203 x 133 x 25 kg/m UB
B3	254 x 146 x 31 kg/m UB
B4	457 x 191 x 74 kg/m UB
B5	178 x 102 x 19 kg/m UB
SB1,MB1	305 x 165 x 54 kg/m UB
CH1	127 x 64 x 12.9 kg/m CHANNEL @ 300c/c
CH2	76 x 38 x 6.7 kg/m CHANNEL @ 600c/c
SP1	6mm STEEL PLATE IF GRADE S275 OR EQUIVALENT
SP2	3mm STEEL PLATE IF GRADE S275 OR EQUIVALENT
STIFFENER PLATE	6mm STEEL PLATE IF GRADE S275 OR EQUIVALENT



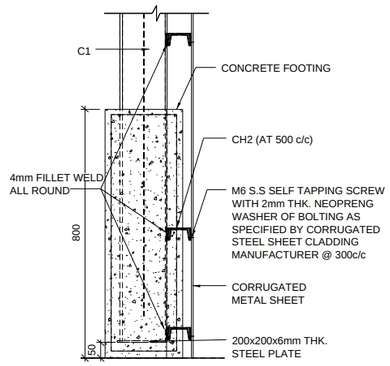
DETAIL 2
1 : 10



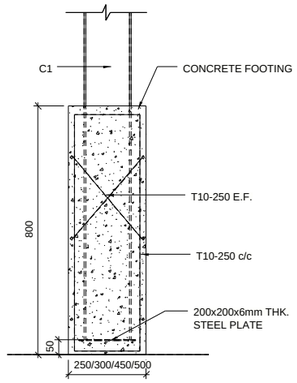
DETAIL 3
1 : 10



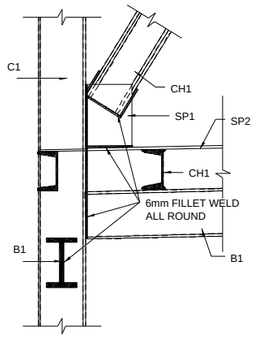
CONNECTION DETAIL
OF STEEL POST
SCALE 1:10



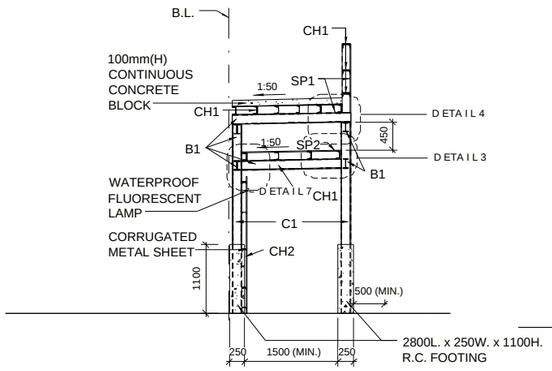
DETAIL 8
1 : 10



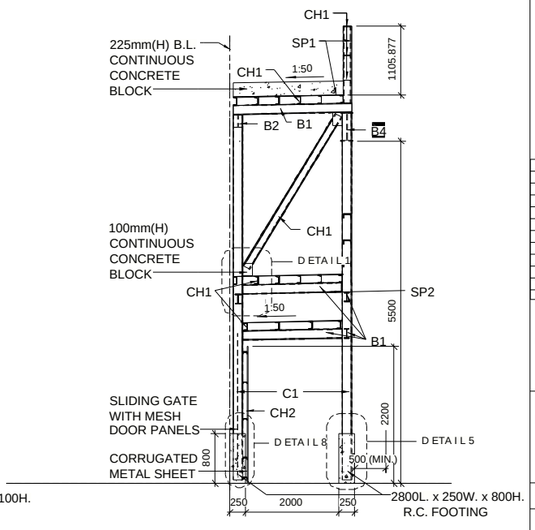
DETAIL 5
1 : 10



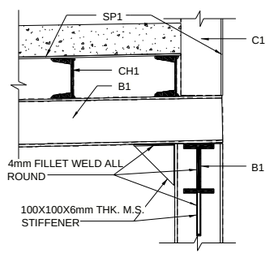
DETAIL 1
1 : 10



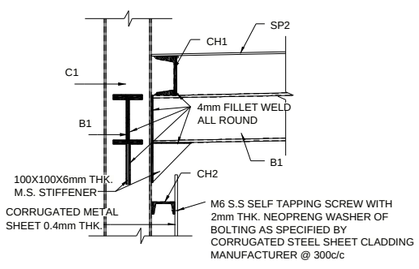
1 TYPICAL SECTION OF HOARDING TYPE A
1 : 50



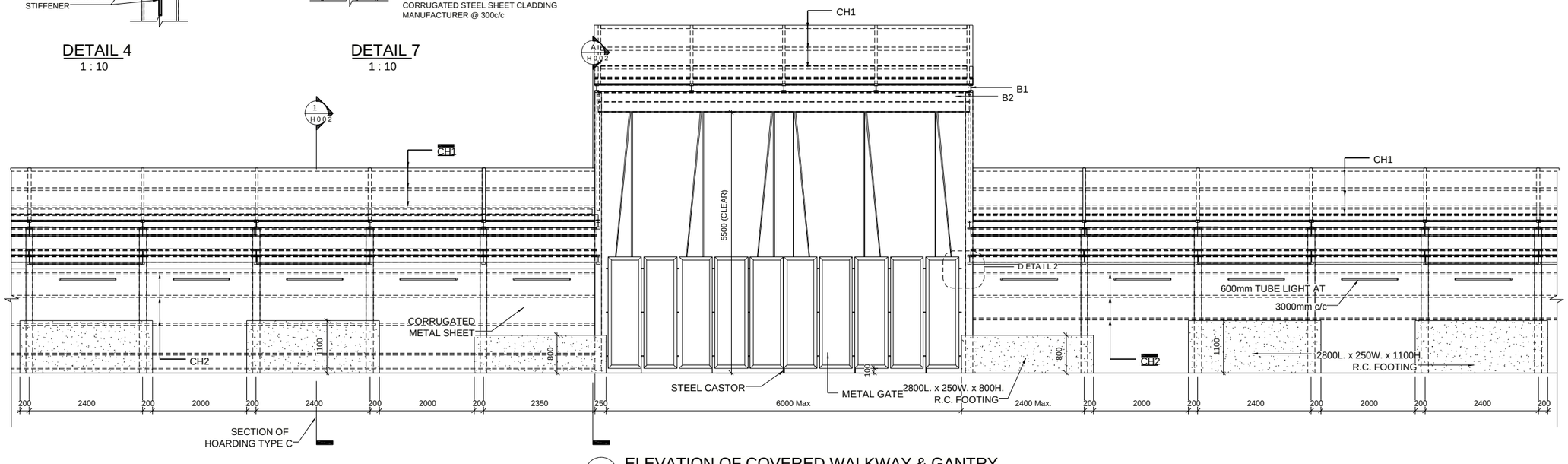
A SECTION A (GANTRY)
1 : 50



DETAIL 4
1 : 10



DETAIL 7
1 : 10



2 ELEVATION OF COVERED WALKWAY & GANTRY
1 : 50

BD REF :

BIM REF :

REV	DATE	AMENDMENT

PROJECT

CIC SAMPLE PROJECT

DRAWING TITLE
H002 HOARDING TYPICAL DETAILS

SCALE

DRAWING NO. REV. NO.

SOURCE ---

90mm (W) x 40mm (H) space
for COMPANY LOGO

90mm (W) x 60mm (H) space
for AP/RSE/RGE's
signature/ and stamp chop

BD's OFFICAL USE

90mm (W) x 150mm (H) space
for BD's approval stamp /
certification of copies of
approved plans
(PNAP ADM-10 APP A)

Tekla Structures

GENERAL NOTES:

1. ALL DIMENSIONS ARE IN mm AND LEVELS IN mPD.
2. ALL DESIGN SHALL COMPLY WITH HONG KONG BUILDING (CONSTRUCTION) REGULATION 1990 EDITION AND STRUCTURAL DESIGN OF STEEL IS IN ACCORDANCE WITH THE CODE OF PRACTICE FOR THE STRUCTURAL USE OF STEEL 2011.
3. THIS SET OF DRAWINGS SHALL BE READ IN CONJUNCTION WITH THE FOUNDATION PLAN.
4. THE CONTRACTOR SHALL CHECK ALL RELEVANT DRAWINGS AND VERIFY LEVELS AND DIMENSIONS IN ADVANCE OF THE WORK AND WORK AND REPORT ANY DISCREPANCY TO THE ENGINEER IMMEDIATELY.
5. ALL EXCAVATION SHALL BE BACKFILLED TO THE PROPOSED GROUND LEVEL AFTER COMPLETION OF FOUNDATION CONSTRUCTION.
6. THE CONSTRUCTION SEQUENCE FOR EXCAVATION AND LATERAL SUPPORT, REFER TO DRG. NO. S-ELS-006 TO 007.
7. THE INSTALLATION OF SHEET PILE SHALL BE WALL CARRIED OUT TO ACCORDING TO APPROVAL DRAWINGS PRIOR TO THE COMMENCEMENT OF EXCAVATION AND LATERAL SUPPORT WORKS.

NOTES ON CONSTRUCTION MATERIAL

1. STRUCTURAL STEEL MEMBERS
   a. ALL STRUCTURAL STEEL MEMBERS SHALL BE GRADE S355 (CLASS 1) WELDABLE STRUCTURAL STEEL AND COMPLY WITH TO BS EN 10025:2004.
   b. ALL WELDING SHALL COMPLY WITH THE CODE OF PRACTICE FOR STRUCTURAL USE OF STEEL 2005, BS EN 1011-1:2009, BS EN 1011-2:2001 & BS EN 499:1995.
   c. ALL CONNECTIONS SHALL BE 10mm FILLET WELDS ALL ROUNDED UNLESS OTHERWISE SPECIFIED.
   d. SAMPLES OF WELDING MATERIALS USED SHALL BE TESTED & TEST RESULTS SHALL BE SUBMITTED TO RSE FOR APPROVAL. ALL WORKS, MATERIALS AND TESTING SUCH AS TESTING OF STEEL BAR SHALL COMPLY WITH GENERAL SPECIFICATION FOR CIVIL ENGINEER WORKS 1992 EDITION AND HONG KONG BUILDING(CONSTRUCTION) REGULATION 1990 EDITION UNLESS OTHERWISE STATED IN THE DRAWING.

NOTES FOR EXCAVATION AND LATERAL SUPPORT (ELS) WORKS (TEMPORARY)

1. THE CONTRACTOR SHALL TAKE FULL RESPONSIBILITY FOR THE ERECTION, MAINTENANCE AND REMOVAL OF ALL TEMPORARY WORKS DURING CONSTRUCTION.
2. NECESSARY PRECAUTIONS SHALL BE TAKEN TO PREVENT DAMAGE TO EXISTING FOUNDATIONS, DRAINS, PAVEMENTS, FEATURES, SERVICES ETC. SHOULD ANY DAMAGE OCCUR, NOTIFY THE ARCHITECT AND RELEVANT AUTHORITIES CONCERNED IMMEDIATELY AND MAKE GOOD BY THE CONTRACTOR AT NO EXTRA COST AND NO EXTENSION OF TIME.
3. ALL TEMPORARY WORKS SHALL BE WITHIN THE SITE BOUNDARY.
4. DURING SUBSTRUCTURE CONSTRUCTION, THE GROUNDWATER LEVEL SHALL BE KEPT BELOW THE FINAL FORMATION LEVEL.
5. THE CONTRACTOR SHALL INCREASE THE FREQUENCY OF MONITORING AS INSTRUCTED BY THE ENGINEER SHOULD ANY UNDUE GROUND MOVEMENT BE OBSERVED.
6. MAX. ANGLE FOR TEMPORARY SOIL CUT SLOPE SHALL BE REFERRED TO PLANS AND SECTIONS. BUT IN NO CIRCUMSTANCE BE GREATER THAN 20?IN MD LAYER.

NOTES ON STRUCTURAL STEELWORK

1. ALL STRUCTURAL STEELWORK SHALL BE COMPLED WITH CODE OF PRACTICE FOR THE STRUCTURAL USE OF STEEL 2011.
2. ALL LEVEL SHOWN ARE IN METERS AND OTHER DIMENSIONS SHOWN ARE IN MILLIMETERS UNLESS OTHERWISE STATED.
3. ALL STRUCTURAL STEEL SECTION SHALL BE WELDABLE STRUCTURAL STEEL TO BS EN 10025:2004 UNLESS OTHERWISE NOTED.
4. DESIGN SURCHARGE:
   a) BACK SERVICE LANE (2.0m WIDE) : 10kPa
   b) RECLAMATION STREET (9.0m WIDE) : 20kPa
   c) FOOTPATH ALONG RECLAMATION STREET (2.0m WIDE) : 5kPa
   d) BEARING PRESSURE AT HOARDING FOOTPATH (0.45m WIDE) : 20kPa
   e) D.L. & L.L. OF EXISTING BUILDING VIA PILING SYSTEM : (REFER TO RECORD PLAN) DATUM FOR SURCHARGE AT 2/3 OF THE LENGTH OF PILE MEASURED FROM GROUND LEVEL
   f) LIVE LOAD FOR EACH LAYER OF WALING/ STRUT : 2kPa

NOTES ON WELDING

1. THE CONTRACTOR SHALL SUBMIT TO AP/ RSE HIS PROPOSED PROCEDURE FOR WELDING. WELDING PROCEDURE WILL BE TESTED IN ACCORDANCE WITH BS EN ISO 15614-1:2004+A1:2008.
2. THE CONTRACTOR SHALL ONLY USE QUALIFIED WELDERS WHO HAVE DEMONSTRATED THEIR COMPETENCE IN WELDING TO THE AGREED PROCEDURE. EACH WELDER WILL BE TESTED AS DESCRIBED IN BS EN 287-1:2004.
3. ALL WELDS SHALL MEET THE ACCEPTANCE CRITERIA LAID DOWN IN BS EN 1011-1:2009 & BS EN 1011-2:2001.
4. UPON REQUESTED BY THE ARCHITECT WELDS WILL BE TESTED BY RADIOGRAPHIC EXAMINATION TO BS EN 1435:1997 OR ULTRASONIC EXAMINATION TO BS EN 1714:1998
5. UNLESS OTHERWISE APPROVED, ALL SPLICES TO BE CONTINUOUS FULL-STRENGTH FULL PENETRATION BUTT WELDS.
6. UNLESS OTHERWISE STATED, ALL FILLET WELDS SHALL BE 8mm ALL ROUND.
7. ALL IMPROPER MATERIALS (e.g. SLAG, DIRT, IRREGULARITIES, OIL etc.) TO BE REMOVED FROM JOINTS PRIOR TO WELDING.
8. ALL WELDING SHALL COMPLY WITH BS EN 1011, P.T. 1:2009, P.T. 2:2001.
9. SAMPLES OF ALL MATERIALS USED SHALL BE TESTED & TEST RESULTS SHALL BE SUBMITTED TO RSE FOR APPROVAL. ALL WORKS, MATERIALS AND TESTING SUCH AS TESTING OF STEEL BAR SHALL COMPLY WITH GENERAL SPECIFICATION FOR CIVIL ENGINEER WORKS 1992 EDITION AND HONG KONG BUILDING (CONSTRUCTION) REGULATION UNLESS OTHERWISE STATED IN THE DRAWING.

NOTES ON SITE SUPERVISION

THE TCP T5 SITE SUPERVISION PERSONNEL UNDER THE RGE'S STREAM SHALL SUBMIT REGULAR REPORTS OF HER/HIS/THEIR FINDINGS AND RECOMMENDATIONS TO THE RGE. THE RGE SHALL FORMALLY SUBMIT THESE REPORTS TO THE BD AND PROVIDE A COPY TO THE GEO AT MONTHLY INTERVALS OR MORE FREQUENTLY AS NECESSARY
TYPICAL CONTENTS OF THE REGULAR REPORTS PREPARED BY THE TCP T5 SITE SUPERVISION PERSONNEL INCLUDE THE FOLLOWING:

(1) PROGRESS OF THE WORKS
(2) RESULTS OF MONITORING DURING CONSTRUCTION
(3) SITE OBSERVATIONS
(4) INSPECTION RECORDS
(5) REVIEW

STANDARD FOR FILLING WORK

1. FILL MATERIAL SHALL BE GRADED, CONTAINING NO PARTICLES COARSER THAN 200mm AND THE PERCENTAGE BY MASS PASSING 75mm BS TEST SIEVE SHALL BE 75% TO 100%.
2. THE IN SITU FIELD DRY DENSITIES OF COMPACTED MATERIALS FORMING THE EARTH FILL SLOPE SHALL BE NOT LESS THAN 95% OF THE MAXIMUM DRY DENSITY DESCRIBED IN ITEM (2) BELOW.
3. THE MAXIMUM DRY DENSITY AND OPTIMUM MOISTURE CONTENTS SHALL BE DETERMINED IN ACCORDANCE WITH THE STANDARD GIVEN IN GEO SPEC 3 CLAUSE 10.1 & 10.2. EACH SOIL TYPE SHALL BE TESTED WHEN FIRST USED THEREAFTER AT THE SAME TIME AS EVERY SET OF FIELD DENSITY TESTS ARE OBTAINED. RECORDS SHALL BE KEPT, IDENTIFYING ON DRAWINGS THE SOIL TYPE, PLAN LOCATION AND ELEVATION REFERENCE TO PRINCIPAL DATUM OF EACH TEST TOGETHER WITH THE MAXIMUM DRY DENSITY AND OPTIMUM MOISTURE CONTENTS. GRAPHS OF DRY DENSITY VS MOISTURE CONTENTS, LABORATORY TEST RECORD SHEETS AND A COMPLETE SOIL DESCRIPTION ARE TO BE KEPT IN A COMPANION FOLDER.
4. THE IN SITU FIELD DENSITY AND MOISTURE CONTENTS SHALL BE DETERMINED IN ACCORDANCE WITH THE STANDARD GIVEN IN GEO SPEC 3 CLAUSE 11.1 & PNAP 55 TO DETERMINE THE RELATIVE COMPACTION ACHIEVED. THE NUMBER OF DETERMINATIONS FOR EACH BATCH OF FILL MATERIAL SHALL BE AS STATED IN TABLE 1 BELOW. RECORDS SHALL BE KEPT, IDENTIFYING ON DRAWINGS THE SOIL TYPE, PLAN LOCATION AND ELEVATION REFERENCE TO PRINCIPAL DATUM OF EACH TEST TOGETHER WITH DRY DENSITY OF SOIL TESTED, MOISTURE CONTENTS AND RELATIVE COMPACTION ACHIEVED (%). THE FIELD SHEETS, CALCULATION SHEETS AND A COMPLETE SOIL DESCRIPTION ARE TO BE KEPT IN A COMPANION FOLDER.
5. ALL TESTS SHALL BE CARRIED OUT BY OR UNDER THE SUPERVISION OF THE GEOTECHNICAL ENGINEER, OR BY AN INDEPENDENT TESTING AGENCY.

NOTES ON PROTECTION OF EARTHWORKS AGAINST HEAVY RAINFALL

1. SURFACE WATER FLOWING INTO AND OUT OF THE SITE SHALL BE INTERCEPTED AND CONDUCTED FROM THE SITE TO AN INDICATED SAFE DISCHARGE POINT. AT EACH INTERSECTION AND ABRUPT CHANGE IN DIRECTION OF SURFACE DRAINAGE, CHANNELS AND ACCESSIBLE CATCH PIT SHALL BE PROVIDED. ALL DRAINAGE WORKS SHALL BE KEPT CLEAR OF DEBRIS.
2. WHERE PARTIALLY COMPLETED DRAINAGE WORKS DISCHARGE WORKS DISCHARGE WITHIN THE SITE, A TEMPORARY CONDUIT SHALL BE PROVIDED TO THE DISCHARGE POINT.
3. DURING EXCAVATION, A METHOD OF WORKING SHALL BE ADOPTED IN WHICH THE MINIMUM AMOUNT OF BARE SOIL IS EXPOSED AT ANY TIME. EXCAVATION TO FORM THE FINAL FACE SHALL BE FOLLOWED UP IMMEDIATELY WITH SURFACE PROTECTION AND DRAINAGE WORKS AND THE FACE PANEL SIZE SHALL BE SMALL ENOUGH TO PERMIT THIS.
4. WHERE TEMPORARY BARE EARTH SLOPE FACES ARE UNAVOIDABLE, THEY SHALL BE PROTECTED WITH HEAVY DUTY SHEETING ADEQUATELY SECURED AT THE EDGES, SEALED AT THE CREST, AND LAPPED AT JOINTS. WHERE SLOPE FACES ARE TO BE TEMPORARILY EXPOSED FOR MORE THAN TWO WEEKS, TEMPORARY DRAINS SHALL BE INSTALLED IN ADDITION TO SURFACING.
5. TRENCHES ON/OR ADJACENT TO SLOPES SHALL BE EXCAVATED WITH EXTREME CARE IN SHORT SECTIONS AT A TIME. PRECAUTIONS SHALL ALWAYS BE TAKEN TO PREVENT WATER ENTERING AND CONNECTING IN THE TRENCHES.

NOTES ON SHEET PILING

FOR REFERENCE ONLY

1. STEEL SHEET PILES TO COMPLY WITH BS EN 1993-5 2007 GRADE S355.
2. UPON COMPLETION OF INSTALLING SHEET PILE WALLS, A RECORD PLAN FOR SHEET PILES SHALL BE SUBMITTED TO THE BUILDING AUTHORITY VIA THE R.S.E. FOR CONSENT APPLICATION.
3. IN CASE ROCK OR OBSTRUCTION DUE TO BOULDER OR CORESTONE IS ENCOUNTERED, PREBORING SHOULD BE CARRIED OUT.
4. TOLERANCE - THE MAXIMUM PERMISSIBLE DEVIATION FROM THE VERTICAL AT ANY LEVEL OF A FINISHED PILE IS 1 IN 75.
5. THE SHEET PILE WALLS SHALL BE INSTALLED BY PRESS-IN, NO VIBRO DRAWING IS ALLOWED DURING INSTALLATION.

NOTES ON EXISTING SERVICES, UTILITIES AND STRUCTURES

1. BEFORE CONSTRUCTION COMMENCES, THE CONTRACTOR SHALL CONSULT THE VARIOUS SERVICES AND UTILITY AUTHORITIES FOR THE EXTENT OF WORKS TO BE CARRIED OUT.
2. THE CONTRACTOR SHALL EXERCISE DUE CARE DURING THE WORKS ON SITE TO AVOID CAUSING DAMAGE TO ADJACENT STRUCTURES PAVETMENT, UTILITIES/SERVICES, PRIVATE AND GOVERNMENT PROPERTIES.
3. SHOULD ANY DAMAGE OCCUR TO THE ADJACENT STRUCTURES, PAVEMENT, UTILITIES/SERVICES,
   PRIVATE AND GOVERNMENT PROPERTIES DUE TO THE CONTRACTOR'S WORKS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY COST INCURRED FROM THE DAMAGE. THE CONTRACTOR SHALL REPAIR, REINSTATE AND MAKE GOOD ANY DAMAGE DUE TO THE CONTRACTOR'S WORKS TO THEIR ORIGINAL CONDITIONS OR TO THE SATISFACTION OF THE CM, UNLESS OTHERWISE SPECIFIED.

PRECAUTIONARY MEASURES TO PREVENT THE OCCURRENCE OF OVER BREAK DURING PREBORING

1. A PROCEDURE SHALL BE CARRIED OUT TO MONITOR THE CONDITION OF OVER BREAK. IF THE DRILL BIT IS FOUND NOT TO PROPAGATE AFTER A CONSIDERABLE AMOUNT OF DRILLING, THE OPERATOR OF THE DRILLING RIG SHALL STOP THE DRILLING PROCESS AND INFORM THE ENGINEER IMMEDIATELY. THE RGE/RSE SHALL REVIEW THE GEOLOGY OF THE SPECIFIC LOCATION. PROPOSAL TO LIMIT ANY OVER BREAK OF SOIL SHALL BE SUBMITTED TO AND AGREED BY THE RSE/RGE PRIOR TO ANY FURTHER DRILLING WORKS MAY COMMENCE.
2. SHOULD ANY UNDUE OVER BREAK OF SOIL OBSERVED DURING THE DRILLING OPERATIONS, THE DRILLING AT THAT LOCATION SHOULD BE STOPPED AND THE RSE SHALL BE INFORM IMMEDIATELY. THE MONITORING DATA AND METHOD OF PREBORING SHALL BE REVIEWED. PROPOSAL TO LIMIT ANY FURTHER OVER BREAK OF SOIL SHALL BE SUBMITTED AND AGREED WITH RSE PRIOR TO ANY FURTHER DRILLING WORKS MAY COMMENCE.

PRECAUTIONARY MEASURES FOR PREBORING METHOD

1. (a) THE AMOUNT OF AIR SUPPLY TO LIMIT THE PRESSURE OF DRILLINGS SHOULD BE MONITORED.
   (b) THE ADVANCEMENT RATE OF DRILL BIT SHOULD BE MONITORED DURING THE BORING.
2. THE OVERBREAK SHOULD NOT BE ALLOWED.
3. THE DRILL BIT SHOULD BE ADVANCED SIMUTANOUSLY WITH THE STEEL CASING.

DEPROPPING SEQUENCE OF STRUTS

ALL STRUT SHALL NOT BE REMOVED UNTIL CONSTRUCTION UP TO THE GROUND FLOOR OF THE SUPERSTRUCTURE HAS BEEN COMPLETED AND THE REQUIRED 28-DAY CONCRETE STRENGTH HAS BEEN ACHIEVED.
STAGE 1 : CAST PILE CAPS, STRAP/ GROUND BEAM (UNDER SEPARATE SUBMISSION)
STAGE 2 : CAST BASEMENT WALL, COLUMN, WALL, BEAM & SLAB OF B1/F & G/F (UNDER SEPARATE SUBMISSION)
STAGE 3 : REMOVE ALL STRUTS WHEN G/F SLAB AND BASEMENT WALL ACHIEVE 28 DAYS OF STREMGTH

NOTES ON PRE-BORING FOR INSTALLATION OF SHEET PILES

1. THE PRE-BORED HOLES SHALL BE SUNK ALONG THE ALIGNMENT OF THE SHEET PILE WALL USING SYMMETRIX DRILLING METHOD. THE PRE-BORED HOLES SHALL BE SUPPORTED BY TEMPORARY STEEL CASING ALONG THE FULL DEPTH OF THE EXCAVATION.
2. THE PRE-BORED HOLES SHALL BE DRILLED IN ACCORDANCE WITH THE FOLLOWING REQUIREMENTS: -
   a) DEVIATION FROM THE CORRECT LINE FOR THE LOCATION NOT GREATER THAN 20mm.
   b) DEVIATION FROM VERTICALITY OF INDIVIDUAL PRE-BORED HOLES IN ANY DIRECTION SHALL BE LESS THAN 1:100.
   c) DRILL 250mm MINIMUM DIAMETER HOLES FROM EXISTING GROUND LEVEL TO THE REQUIRED LEVEL BY SYMMETRIX DRILLING METHOD.
3. AFTER DRILLING THROUGH TO THE REQUIRED DEPTH OF OBSTRUCTIONS THE INTERIOR OF EACH CASING SHALL BE FILLED WITH APPROVED GRANULAR BACKFILL MATERIAL SHALL BE TOPPED UP IMMEDIATELY.
4. UPON COMPLETION SHEET PILE WALL SHALL BE INSTALLED TO THE REQUIRED TOE LEVEL BY THE METHOD APPROVED BY THE RSE. THROUGH A GUIDE FRAME AT GROUND LEVEL TO ENSURE PROPER PITCHING, VERTICALITY AND ALIGNMENT OF SHEET PILE WALL.
5. NO WITHSTANDING THE ABOVE-MENTIONED MINIMUM PRE-BORING REQUIREMENTS, IT IS THE CONTRACOTR'S RESPONSIBILITY TO PROVIDE ANY ADDITIONAL PRE-BORING OR ALTERNATIVE MEASURES TO ENSURE THAT ALL SHEET PILE WALLS ARE TO BE PRESSED IN FREE OF OBSTRUCTIONS TO ACHIEVE THE REQUIRED TOE LEVELS SPECIFIED.
6. THE CONTRACTOR SHALL SUBMIT A DETAILED METHOD STATEMENT TOGETHER WITH THE PLANT AND EQUIPMENT FOR PRE-BORING to AP, RSE & RGE FOR APPROVAL BEFORE COMMENCEMENT OF WORKS. THE PROPOSED METHOD AND SEQUENCE OF PRE-BORING SHALL BE ARRANGED SO AS TO MINIMIZE THE CONSTRUCTION NOISE DURING PRE-BORING.
7. SHALL ANY UNDUE SETTLEMENT OCCUR DUE TO PRE-BORING, THE CONTRACTOR SHALL SUBMIT A REMEDIAL PROPOSAL FOR THE APPROVAL OF THE RSE TO PREVENT FURTHER UNDUE SETTLEMENT PRIOR TO THE RE-COMMENCEMENT OF THE PRE-BORING WORKS.
8. THE CONTRACTOR SHALL KEEP RECORD OF EACH PRE-BORED HOLES FOR ENGINEER INSPECTION.

SOIL PARAMETER

SOIL PARAMETER		
	Ø' (DEGREE)	C' (kpa)
FILL	33	1
MD	33	1
ALL	32	2
CDG	34	5

SCHEDULE OF VERTICAL TIE

ITEM	MEMBER MARK	GRADE	MEMBER SIZE
VERTICAL_TIE	D4	S355	UBP356*368*174

SCHEDULE OF HORIZONTAL TIE

ITEM	MEMBER MARK	GRADE	MEMBER SIZE
HORIZONTAL_TIE	T1	S355	UC203*203*46

SCHEDULE OF MAIN STRUT

PILE TYPE	LAYER	STRUT MEMBER SIZE	STRUT LEVEL	HORIZONTAL LOAD (kN/m)	DESIGN LOAD FOR STRUT (kN)
A	1	UC305*305*97	+3.254	86	569
A	2	UC305*305*97	+1.754	130	860
A	3	UC356*368*177	+0.284	251	1661
A	4	UC356*368*177	-1.216	452	2990
A	5	UC356*368*202	-2.713	640	4234
A	6	UC356*406*235	-4.210	824	5451
A	7	UC356*406*287	-5.703	805	5326
A	8	UC356*406*287	-7.203	961	6358
B	1	UC305*305*97	+3.254	156	1032
B	2	UC356*368*177	+0.284	410	2713
B	3	UC356*368*177	-2.716	411	2719
B	4	UC356*368*202	-4.213	600	3969
B	5	UC356*368*202	-5.713	623	4122
B	6	UC356*406*235	-7.210	528	3493
C	1	UC305*305*97	+3.254	130	860
C	2	UC356*368*177	+0.284	420	2779
C	3	UC356*368*202	-2.713	673	4452
C	4	UC356*406*287	-5.703	1032	6827

SCHEDULE OF WALING

PILE TYPE	LAYER	WALING MEMBER SIZE	COMPRESSION (kNm) =1.4*Fh* (1.414*3.15)	SHEAR (kNm) =1.4*Fh* (0.6*3.15)	MOMENT (kNm) =1.4*Fh* (3.15*2/9)
A	1	UB533*210*92	531	228	100
A	2	UB533*210*92	803	344	151
A	3	UB610*305*179	1550	665	291
A	4	UB610*305*179	2791	1196	524
A	5	UB610*305*238	3952	1694	741
A	6	UB610*305*238	5088	2181	9541
A	7	UB610*305*238	4871	2131	932
A	8	UB914*305*289	5934	243	113
AA	1	UB533*210*92	464	199	87
AA	2	UB533*210*92	1186	509	223
AA	3	UB610*305*179	1760	755	330
AA	4	UB610*305*238	3020	1294	567
AA	5	UB610*305*238	3662	1570	687
AA	6	UB610*305*238	3705	1588	695
AA	7	UB610*305*238	3884	1665	729
B	1	UB533*210*92	964	413	181
B	3	UB610*305*179	2532	1085	475
B	3	UB610*305*179	2538	1088	476
B	5	UB610*305*179	2538	1088	476
B	6	UB610*305*238	3705	1588	695
B	7	UB610*305*238	3874	1649	722
B	8	UB610*305*238	3260	1398	612
C	1	UB533*210*92	803	344	151
C	3	UB610*305*179	2594	1112	487
C	5	UB610*305*238	4156	1781	780
C	7	UB914*305*289	6372	2731	1195

SCHEDULE OF SEONDARY STRUT AND CORNER STRUT

PILE TYPE	LAYER	STRUT MEMBER SIZE	STRUT LEVEL
A	1	UC305*305*97	+3.254
A	2	UC305*305*97	+1.754
A	3	UC356*368*177	+0.284
A	4	UC356*368*177	-1.216
A	5	UC356*368*202	-2.713
A	6	UC356*406*235	-4.210
A	7	UC356*406*287	-5.703
A	8	UC356*406*287	-7.203
B	1	UC305*305*97	+3.254
B	2	UC356*368*177	+0.284
B	3	UC356*368*177	-2.716
B	4	UC356*368*202	-4.213
B	5	UC356*368*202	-5.713
B	6	UC356*406*235	-7.210
C	1	UC305*305*97	+3.254
C	2	UC356*368*177	+0.284
C	3	UC356*368*202	-2.713
C	4	UC356*406*287	-5.703

SECTION PROPERTIES OF WALING

ITEM	GRADE	SECTION AREA (cm²)	MOMENT OF INERTIA (cm4)	WEIGHT (kg/m)	SECTION MODULUS (cm³)	DEPTH D (mm)	WIDTH B (mm)	WEB THICKNESS t (mm)	FLANGE THICKNESS T (mm)
UB533*210*92	S355	118	55333	92	2076	533.1	209.3	10.1	15.6
UB610*305*179	S355	228	151434	178	4906	620.2	307.1	14.1	23.6
UB610*305*238	S355	304	207747	238	6564	635.8	311.4	18.4	31.4
UB914*305*289	S355	369	504850	289	10897	926.6	307.7	19.5	32.0

SECTION PROPERTIES OF STRUTS

ITEM	GRADE	SECTION AREA (cm²)	MOMENT OF INERTIA (cm4)	WEIGHT (kg/m)	SECTION MODULUS (cm³)	DEPTH D (mm)	WIDTH B (mm)	WEB THICKNESS t (mm)	FLANGE THICKNESS T (mm)
UC305*305*97	S355	123	22184	96	1442	307.9	305.3	9.9	15.4
UC356*368*177	S355	226	57040	177	3099	368.2	372.6	14.4	23.8
UC356*368*202	S355	258	66255	202	3538	374.6	374.7	16.5	27.0
UC356*406*235	S355	300	79103	235	4153	381.0	394.8	18.4	30.2
UC356*406*287	S355	366	99817	287	5073	393.6	399.0	22.6	36.5

SECTION PROPERTIES OF SHORT STRUT / SPACER

ITEM	GRADE	SECTION AREA (cm²)	MOMENT OF INERTIA (cm4)	WEIGHT (kg/m)	SECTION MODULUS (cm³)	DEPTH D (mm)	WIDTH B (mm)	WEB THICKNESS t (mm)	FLANGE THICKNESS T (mm)
152X89X24	S355	30.4	1168	29.05	153	152.4	88.9	7.1	11.6

SECTION PROPERTIES OF HORIZONTAL TIE

ITEM	GRADE	SECTION AREA (cm²)	MOMENT OF INERTIA (cm4)	WEIGHT (kg/m)	SECTION MODULUS (cm³)	DEPTH D (mm)	WIDTH B (mm)	WEB THICKNESS t (mm)	FLANGE THICKNESS T (mm)
UC203*203*46	S355	58.8	4565	46.18	449	203.2	203.6	7.2	11.0

SECTION PROPERTIES OF VERTICAL TIE

ITEM	GRADE	SECTION AREA (cm²)	MOMENT OF INERTIA (cm4)	WEIGHT (kg/m)	SECTION MODULUS (cm³)	DEPTH D (mm)	WIDTH B (mm)	WEB THICKNESS t (mm)	FLANGE THICKNESS T (mm)
UBP356*368*174	S355	221.5	5100	172.32	2820	361.4	378.5	20.3	20.4

BD REF :

BIM REF :

REV	DATE	AMENDMENT

PROJECT
CIC SAMPLE PROJECT

DRAWING TITLE
EXCAVATION & LATERAL SUPPORT GENERAL NOTES

SCALE AS SHOWN@A1

DRAWING NO. E001

REV. NO.

SOURCE ---

90mm (W) x 40mm (H) space for COMPANY LOGO

90mm (W) x 60mm (H) space for AP/RSE/RGE's signature/ and stamp chop

BD's OFFICAL USE

90mm (W) x 150mm (H) space for BD's approval stamp / certification of copies of approved plans (PNAP ADM-10 APP A)

Tekla Structures

LEGEND:

- SITE BOUNDARY
- BH1, BH1(P) — EXISTING BOREHOLE
- PROPOSED SHEET PILE
- PROPOSED SHORT STRUT
- 4.5 — EXISTING LEVEL
- PROPOSED MAX. 30° OPEN CUT SLOPE
- KA1 / KA1 / SA1 / SA1 — PROPOSED STRUT
- +2.90 — PROPOSED EXCAVATION LEVEL
- PROPOSED BASEMENT WALL (UNDER SEPARATE SUBMISSION)
- T1 — PROPOSED TIE
- GAS — GAS PIPE
- S WAT — SALT WATER PIPE
- ELEC — ELECTRIC CABLE
- FOUL — FOUL WATER PIPE
- F WAT — FRESH WATER PIPE

SHEET PILE SCHEDULE

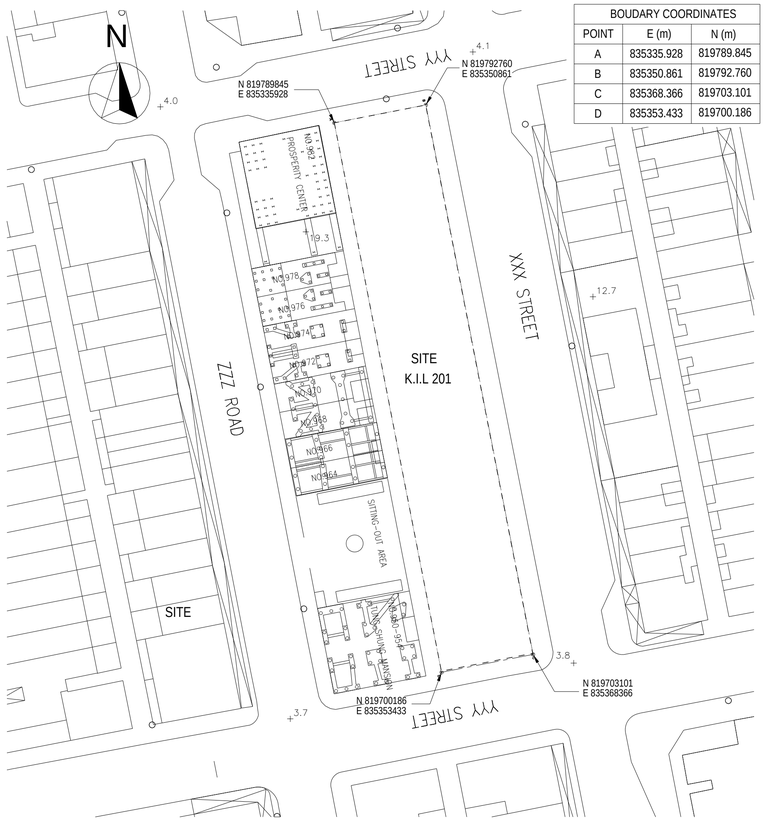
SHEET PILE TYPE	MEMBER SIZE	TOE LEVEL (mPD)	MAX RETAINING HEIGHT (m)	FINAL EXCAVATION LEVEL (mPD)	MIN. EMBEDMENT LENGTH (m)	GRADE
A	FSP-VIL-BOX	-23.000	12.675	-10.325	14.225	S275
AA	FSP-VIL	-18.900	11.275	-7.375	11.525	S275
B	FSP-VIL	-18.900	12.175	-8.075	10.825	S275
C	FSP-IV	-18.900	12.175	-8.075	10.825	S275
D	CHS508.0*16.0	-18.900	11.275	-7.375	11.525	S275

SHEET PILE SECTION PROPERTIES

ITEM	DIMENSION (mm) w	h	t	SECTION AREA (PER PILE) (cm²)	MOMENT OF INERTIA (PER PILE) (cm4)	WEIGHT (PER PILE) (kg/m)	SECTION MODULUS (PER PILE) (cm³)	SECTION AREA (PER 1m PILE) (cm²)	MOMENT OF INERTIA (PER 1m PILE) (cm4)	WEIGHT (PER 1m PILE) (kg/m)	SECTION MODULUS (PER 1m PILE) (cm³)
FSP-IV	400	170	15.5	97	4670	76.1	362	242.5	38600	153.00	2270
FSP-VIL	500	225	27.6	153	11400	120.0	680	306.0	86000	300.00	3820
FSP-VIL-BOX	500	450	27.6	306	22800	240.0	1360	306.0	172000	600.00	7640

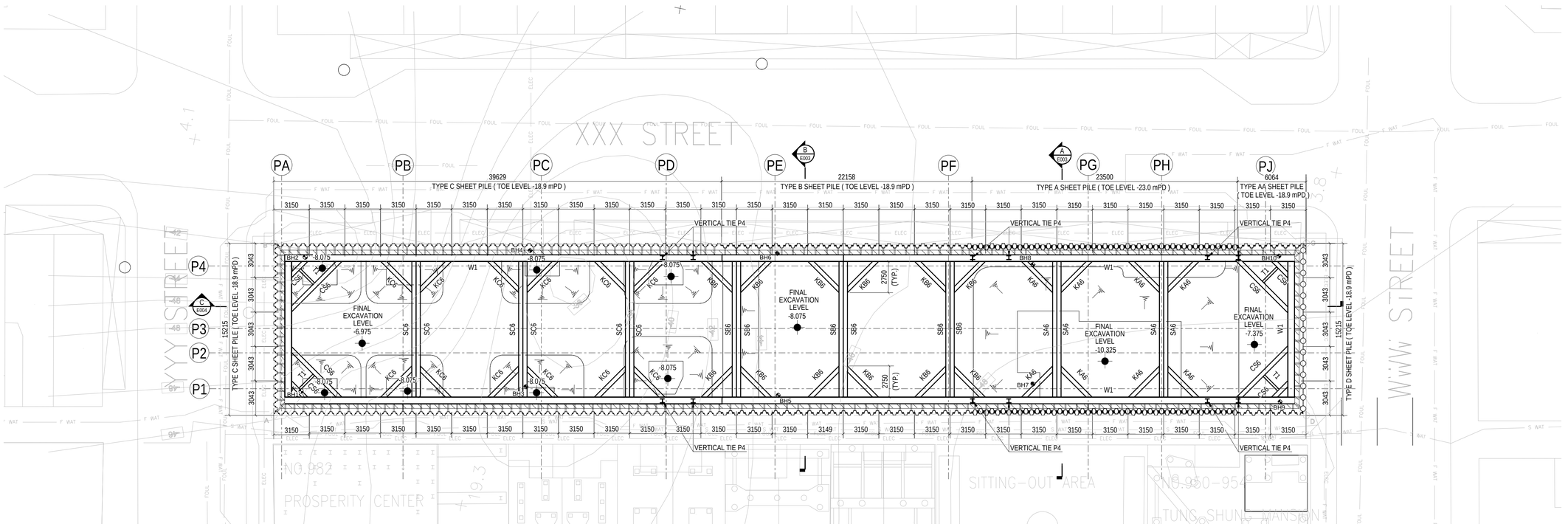
SHEET PILE SECTION PROPERTIES

ITEM	DIMENSION (mm) d	t	SECTION AREA (PER PILE) (cm²)	MOMENT OF INERTIA (PER PILE) (cm4)	WEIGHT (PER PILE) (kg/m)	SECTION MODULUS (PER PILE) (cm³)	SECTION AREA (PER 1m PILE) (cm²)	MOMENT OF INERTIA (PER 1m PILE) (cm4)	WEIGHT (PER 1m PILE) (kg/m)	SECTION MODULUS (PER 1m PILE) (cm³)
CHS508.0*16.0	508.0	16.0	247	74909	194	2949	618.27	74909	390.00	2949



BOUDARY COORDINATES		
POINT	E (m)	N (m)
A	835335.928	819789.845
B	835350.861	819792.760
C	835368.366	819703.101
D	835353.433	819700.186

BLOCK PLAN
1:500



ELS LAYOUT PLAN

Tekla Structures

BD REF :

BIM REF :

REV	DATE	AMENDMENT

PROJECT
CIC SAMPLE PROJECT

DRAWING TITLE
EXCAVATION & LATERAL SUPPORT LAYOUT PLAN

SCALE AS SHOWN@A1

DRAWING NO. E002

REV. NO.

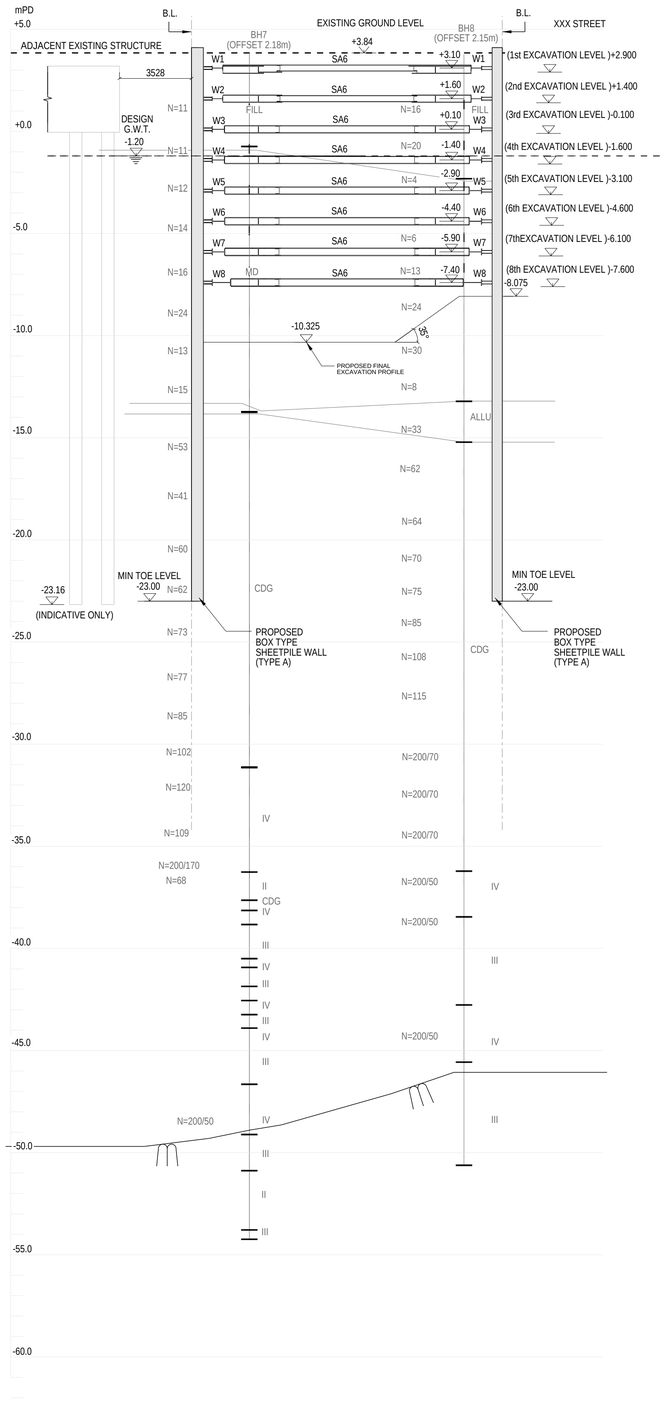
SOURCE ---

90mm (W) x 40mm (H) space for COMPANY LOGO

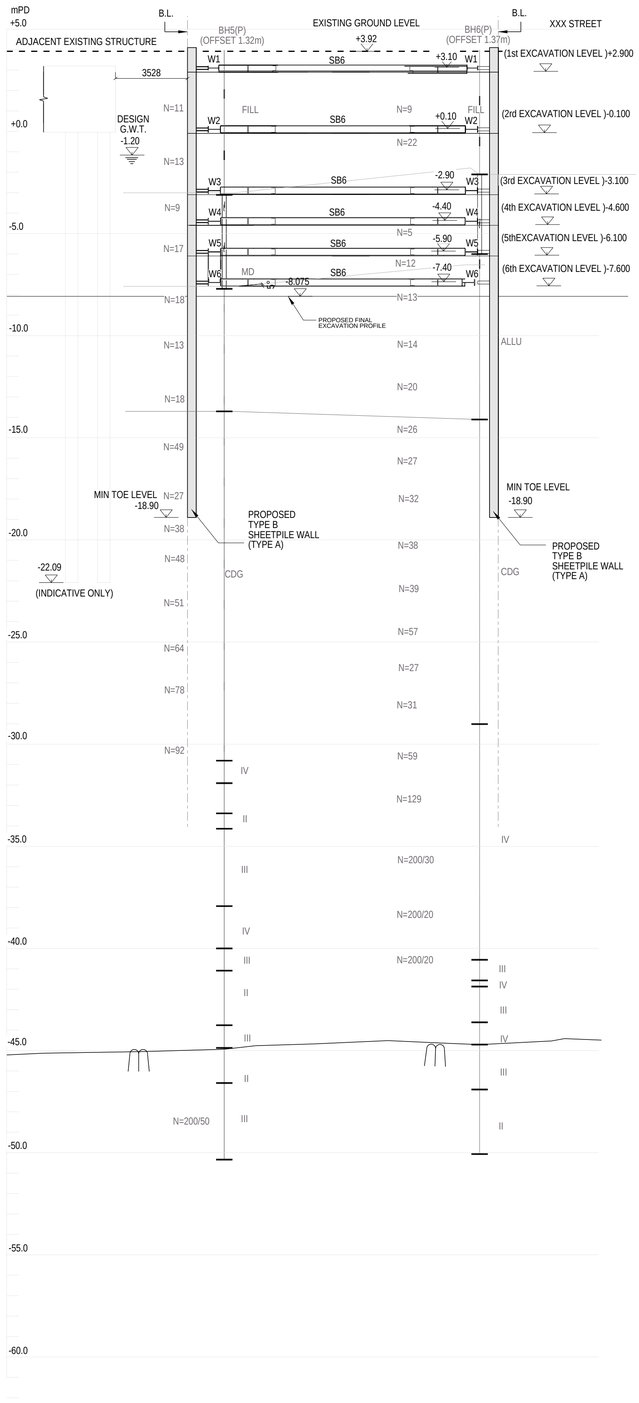
90mm (W) x 60mm (H) space for AP/RSE/RGE's signature/ and stamp chop

BD's OFFICAL USE

90mm (W) x 150mm (H) space for BD's approval stamp / certification of copies of approved plans (PNAP ADM-10 APP A)



A ELS SECTION A
1:150



B ELS SECTION B
1:150

LEGEND AND NOTES:

— - —	BOUNDARY LINE
FILL	FILL
CDG	COMPLETELY DECOMPOSED GRANITE
IV	HIGHLY DECOMPOSED GRANITE
III	MODERATELY DECOMPOSED GRANITE
II	SLIGHTLY DECOMPOSED GRANITE
N=28	SPT N VALUE
	PROPOSED SHEET PILE
	PROPOSED WALING
	PROPOSED SHORT STRUT
	PROPOSED STRUT
	PROPOSED EXCAVATION PROFILE

BD REF :

BIM REF :

REV	DATE	AMENDMENT

PROJECT
CIC SAMPLE PROJECT

DRAWING TITLE
EXCAVATION & LATERAL SUPPORT SUPPORT SECTIONS (1 OF 2)

SCALE AS SHOWN@A1

DRAWING NO. E003

REV. NO.

SOURCE ---

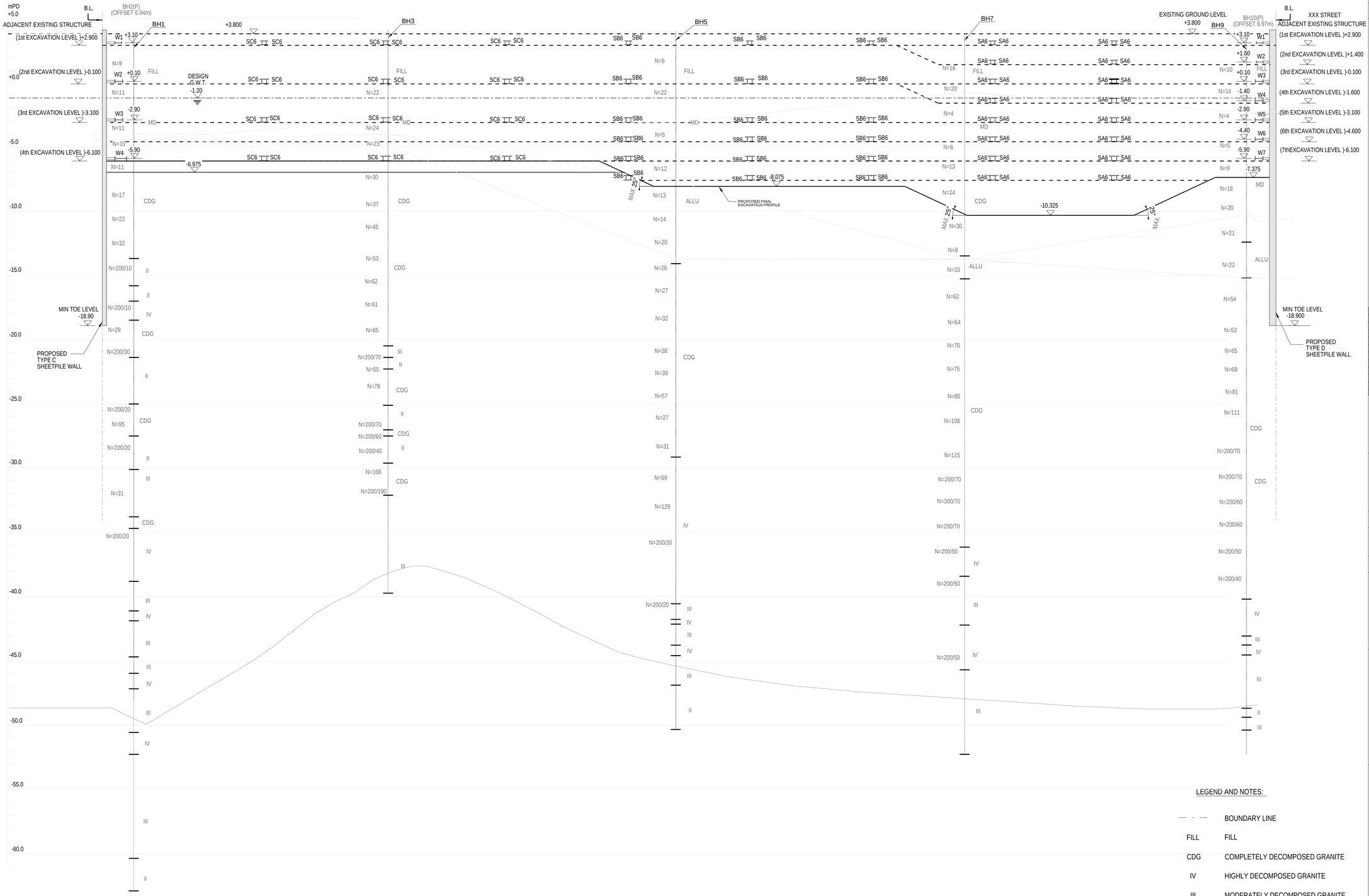
90mm (W) x 40mm (H) space for COMPANY LOGO

90mm (W) x 60mm (H) space for AP/RSE/RGE's signature/ and stamp chop

BD's OFFICAL USE

90mm (W) x 150mm (H) space for BD's approval stamp / certification of copies of approved plans (PNAP ADM-10 APP A)

Tekla Structures



ELS SECTION C

1:150

LEGEND AND NOTES:

— - —	BOUNDARY LINE
FILL	FILL
CDG	COMPLETELY DECOMPOSED GRANITE
IV	HIGHLY DECOMPOSED GRANITE
III	MODERATELY DECOMPOSED GRANITE
II	SLIGHTLY DECOMPOSED GRANITE
N=28	SPT N VALUE
	PROPOSED SHEET PILE
	PROPOSED WALING
	PROPOSED SHORT STRUT
	PROPOSED STRUT
	PROPOSED EXCAVATION PROFILE

BD REF :

BIM REF :

REV	DATE	AMENDMENT

PROJECT

CIC SAMPLE PROJECT

DRAWING TITLE

EXCAVATION & LATERAL SUPPORT SUPPORT SECTIONS (2 OF 2)

SCALE AS SHOWN@A1

DRAWING NO. E004

REV. NO.

SOURCE ---

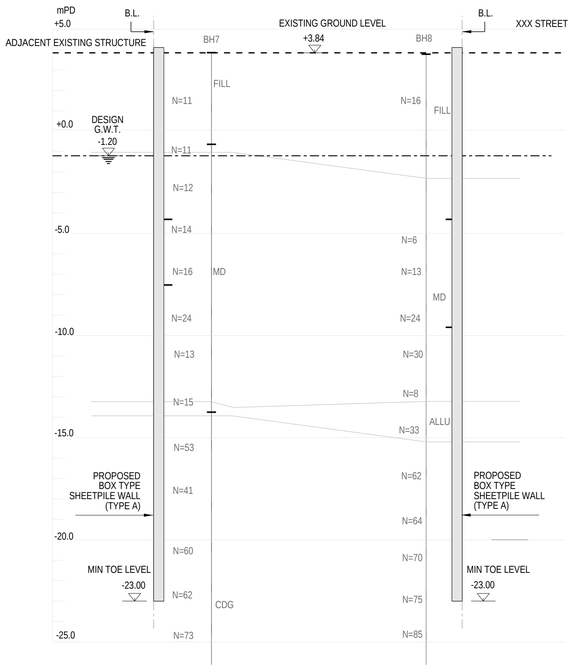
90mm (W) x 40mm (H) space for COMPANY LOGO

90mm (W) x 60mm (H) space for AP/RSE/RGE's signature/ and stamp chop

BD's OFFICAL USE

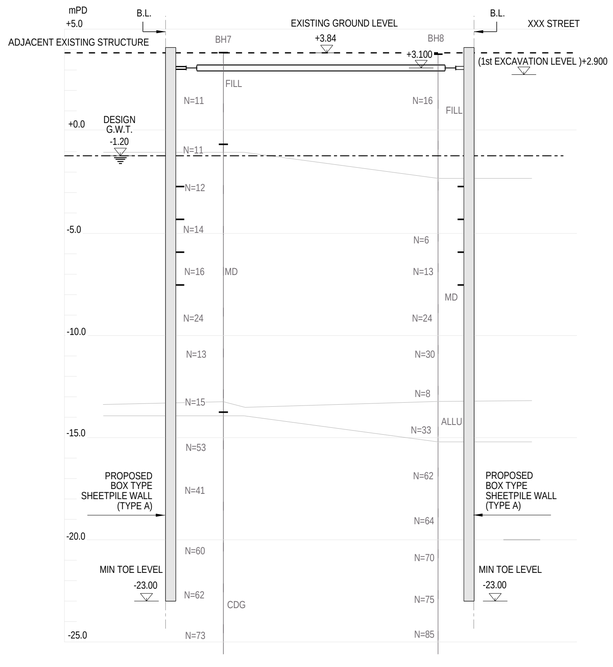
90mm (W) x 150mm (H) space for BD's approval stamp / certification of copies of approved plans (PNAP ADM-10 APP A)

Tetra Structures



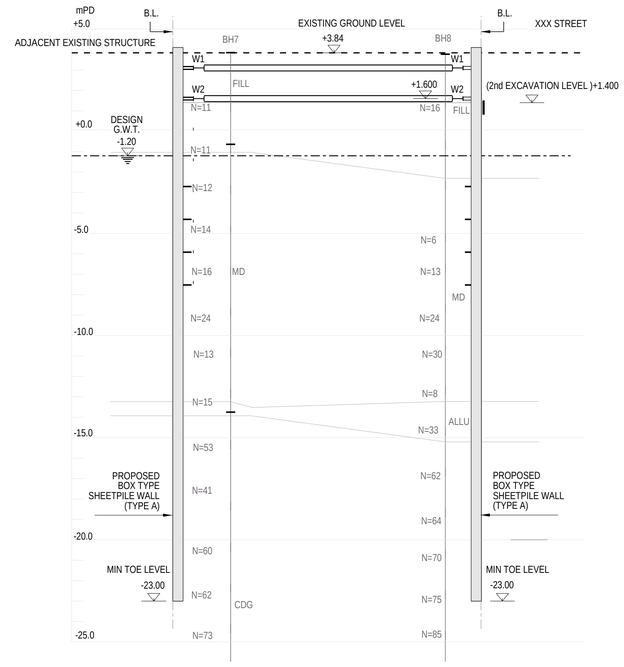
1. INSTALL MONITORING CHECKPOINTS AS SHOWN ON DRAWING NO. E008 AND TAKE INITIAL READING
2. CARRY OUT INSTALLATION OF SHEET PILES AS SHOWN ON PLAN TO REQUIRED LEVEL.
3. CARRY OUT PUMPING TEST AS SHOWN ON DWG NO.: E009. (TYPE A)

0 STAGE 0
1:150



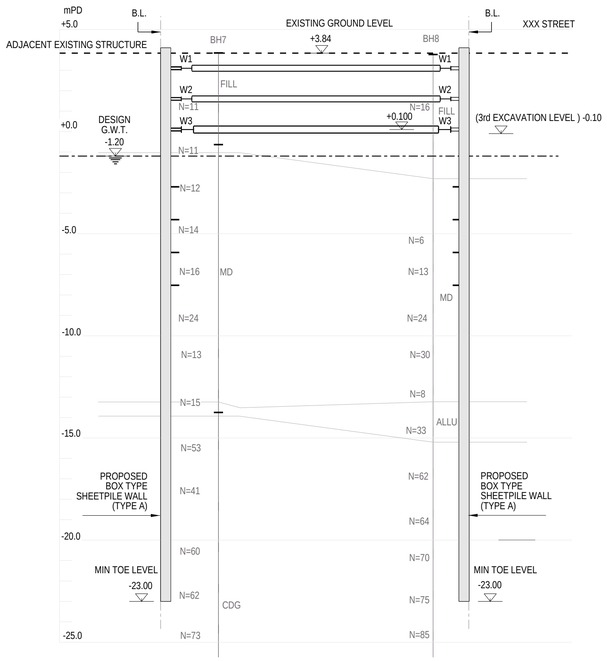
1. DEWATER AND EXCAVATE TO +2.90mPD.
2. INSTALLATION OF THE 1st LAYER WAILINGS, STRUTS & TIES
3. CARRY OUT PRELOADING FOR MAIN STRUTS OF TYPE AA, A, B & C (REFER TO STRUT PRELOAD SCHEDULE IN DWG. NO.: E001.)

1 STAGE 1
1:150



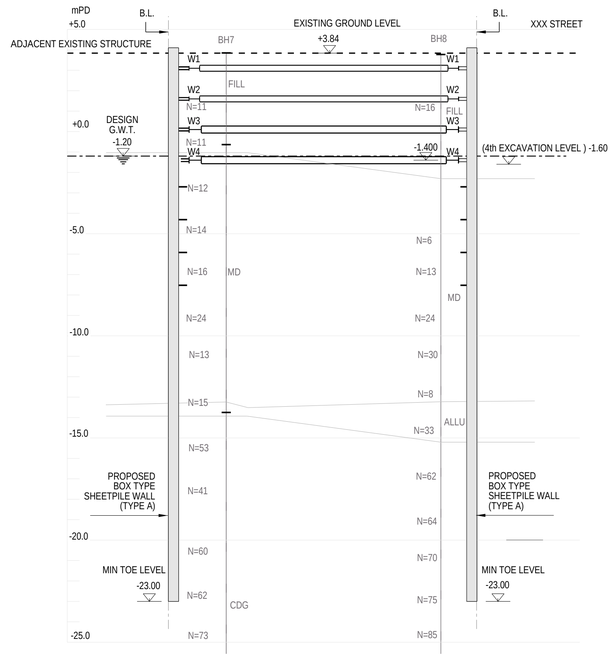
1. DEWATER AND EXCAVATE TO +1.4mPD.
2. INSTALLATION OF THE 2nd LAYER WAILINGS, STRUTS & TIES
3. CARRY OUT PRELOADING FOR MAIN STRUTS OF TYPE A & AA (REFER TO STRUT PRELOAD SCHEDULE IN DWG. NO.: E001)

2 STAGE 2
1:150



1. DEWATER AND EXCAVATE TO -0.10mPD.
2. INSTALLATION OF THE 3rd LAYER WAILINGS, STRUTS & TIES
3. CARRY OUT PRELOADING FOR MAIN STRUTS OF TYPE AA, A, B & C (REFER TO STRUT PRELOAD SCHEDULE IN DWG. NO.: E001)

3 STAGE 3
1:150



1. DEWATER AND EXCAVATE TO -1.60mPD.
2. INSTALLATION OF THE 4th LAYER WAILINGS, STRUTS & TIES
3. CARRY OUT PRELOADING FOR MAIN STRUTS OF TYPE A & AA (REFER TO STRUT PRELOAD SCHEDULE IN DWG. NO.: E001)

4 STAGE 4
1:150

LEGEND AND NOTES:

— - —	BOUNDARY LINE
FILL	FILL
CDG	COMPLETELY DECOMPOSED GRANITE
IV	HIGHLY DECOMPOSED GRANITE
III	MODERATELY DECOMPOSED GRANITE
II	SLIGHTLY DECOMPOSED GRANITE
N=28	SPT N VALUE
	PROPOSED SHEET PILE
	PROPOSED WALING
	PROPOSED SHORT STRUT
	PROPOSED STRUT
	PROPOSED EXCAVATION PROFILE

BD REF :

BIM REF :

REV	DATE	AMENDMENT

PROJECT
CIC SAMPLE PROJECT

DRAWING TITLE
EXCAVATION & LATERAL SUPPORT CONSTRUCTION SEQUENCE (1 OF 2)

SCALE AS SHOWN@A1

DRAWING NO. E005

REV. NO.

SOURCE ---

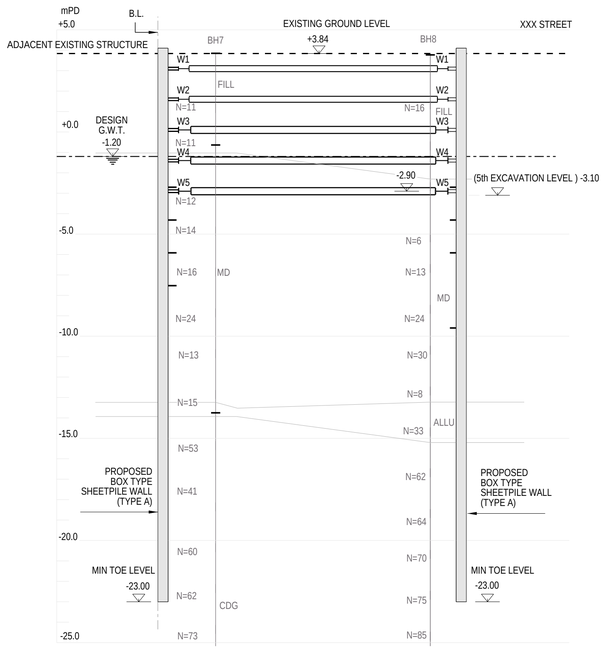
90mm (W) x 40mm (H) space for COMPANY LOGO

90mm (W) x 60mm (H) space for AP/RSE/RGE's signature/ and stamp chop

BD's OFFICAL USE

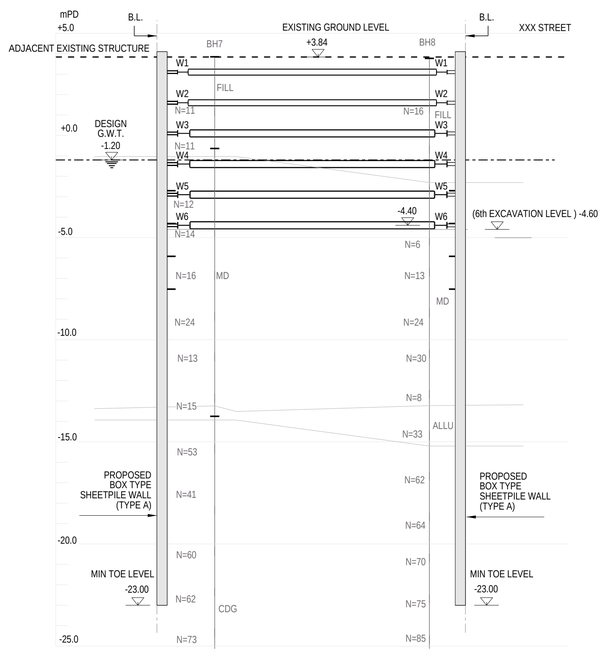
90mm (W) x 150mm (H) space for BD's approval stamp / certification of copies of approved plans (PNAP ADM-10 APP A)

Tekla Structures



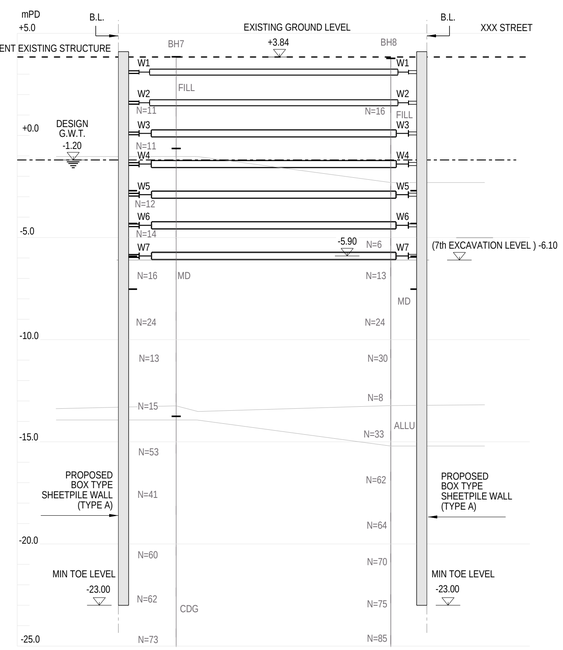
1. DEWATER AND EXCAVATE TO -3.10mPD.
2. INSTALLATION OF THE 5th LAYER WAILINGS, STRUTS & TIES
3. CARRY OUT PRELOADING FOR MAIN STRUTS OF TYPE AA, A, B & C (REFER TO STRUT PRELOAD SCHEDULE IN DWG. NO.: E001)

5 STAGE 5
1:150



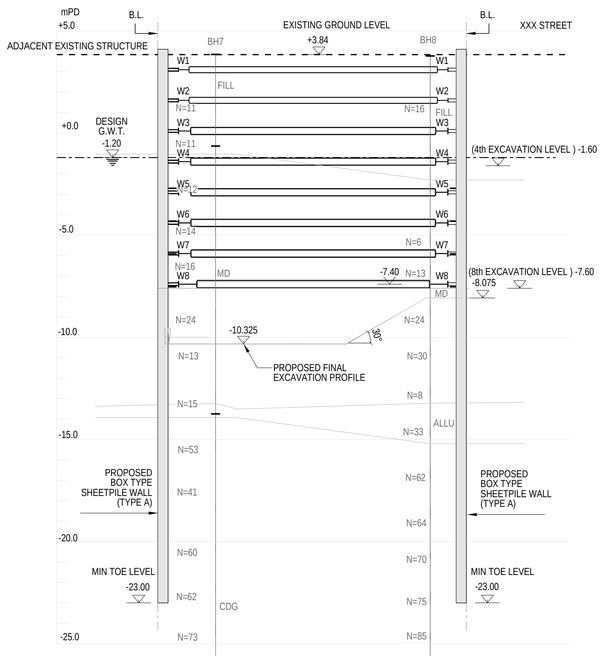
1. DEWATER AND EXCAVATE TO -4.60mPD.
2. INSTALLATION OF THE 6th LAYER WAILINGS, STRUTS & TIES
3. CARRY OUT PRELOADING FOR MAIN STRUTS OF TYPE AA, A & B (REFER TO STRUT PRELOAD SCHEDULE IN DWG. NO.: E001)

6 STAGE 6
1:150



1. DEWATER AND EXCAVATE TO -6.10mPD.
2. INSTALLATION OF THE 7th LAYER WAILINGS, STRUTS & TIES
3. CARRY OUT PRELOADING FOR MAIN STRUTS OF TYPE AA, A, B & C (REFER TO STRUT PRELOAD SCHEDULE IN DWG. NO.: E001)

7 STAGE 7
1:150



1. DEWATER AND EXCAVATE TO -7.60mPD.
2. INSTALLATION OF THE 8th LAYER WAILINGS, STRUTS & TIES
3. CARRY OUT PRELOADING FOR MAIN STRUTS OF TYPE A & B (REFER TO STRUT PRELOAD SCHEDULE IN DWG. NO.: E001)
4. DEWATER AND EXCAVATE TO FINAL EXCAVATE PROFILE (i.e.: -8.075/-10.325mPD) WITH TEMPORARY CUT SLOPE(25° MAX). (REFER TO ELS LAYOUT PLAN IN DWG. NO.: E002).
5. CARRY OUT REMAINING PILE CAP CONSTRUCTION (UNDER SEPARATE SUBMISSION) AND BACKFILL TO PILE CAP TOP
6. CARRY OUT BASEMENT CONSTRUCTION (UNDER SEPARATE SUBMISSION)
7. ALL STRUT SHALL NOT BE REMOVED UNTIL CONSTRUCTION UP TO G/F.

8 STAGE 8
1:150

LEGEND AND NOTES:

— - —	BOUNDARY LINE
FILL	FILL
CDG	COMPLETELY DECOMPOSED GRANITE
IV	HIGHLY DECOMPOSED GRANITE
III	MODERATELY DECOMPOSED GRANITE
II	SLIGHTLY DECOMPOSED GRANITE
N=28	SPT N VALUE
	PROPOSED SHEET PILE
	PROPOSED WALING
	PROPOSED SHORT STRUT
	PROPOSED STRUT
	PROPOSED EXCAVATION PROFILE

BD REF :

BIM REF :

REV	DATE	AMENDMENT

PROJECT
CIC SAMPLE PROJECT

DRAWING TITLE
EXCAVATION & LATERAL SUPPORT CONSTRUCTION SEQUENCE (2 OF 2)

SCALE AS SHOWN@A1

DRAWING NO. E006

REV. NO.

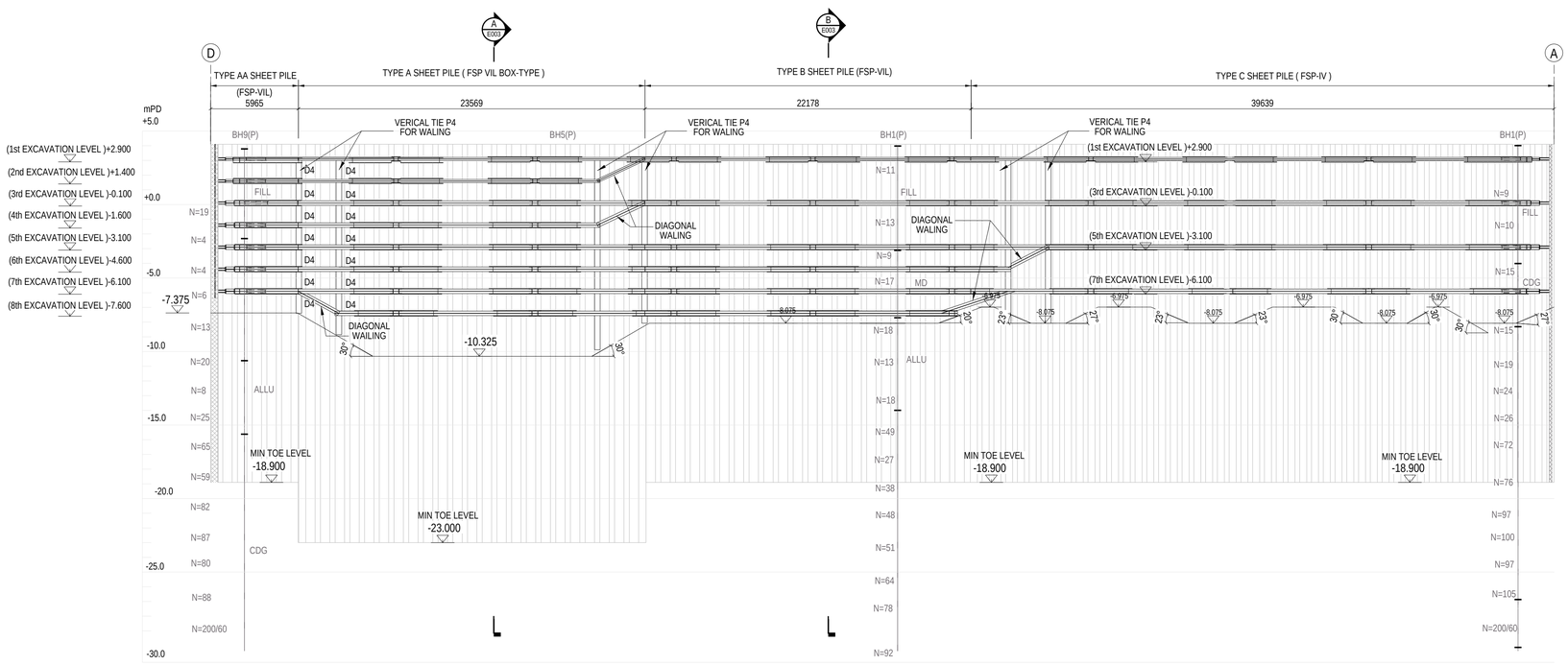
SOURCE ---

90mm (W) x 40mm (H) space for COMPANY LOGO

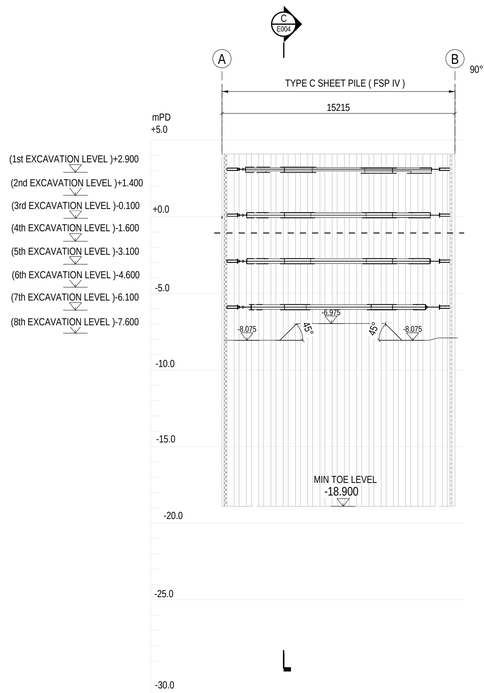
90mm (W) x 60mm (H) space for AP/RSE/RGE's signature/ and stamp chop

BD's OFFICAL USE

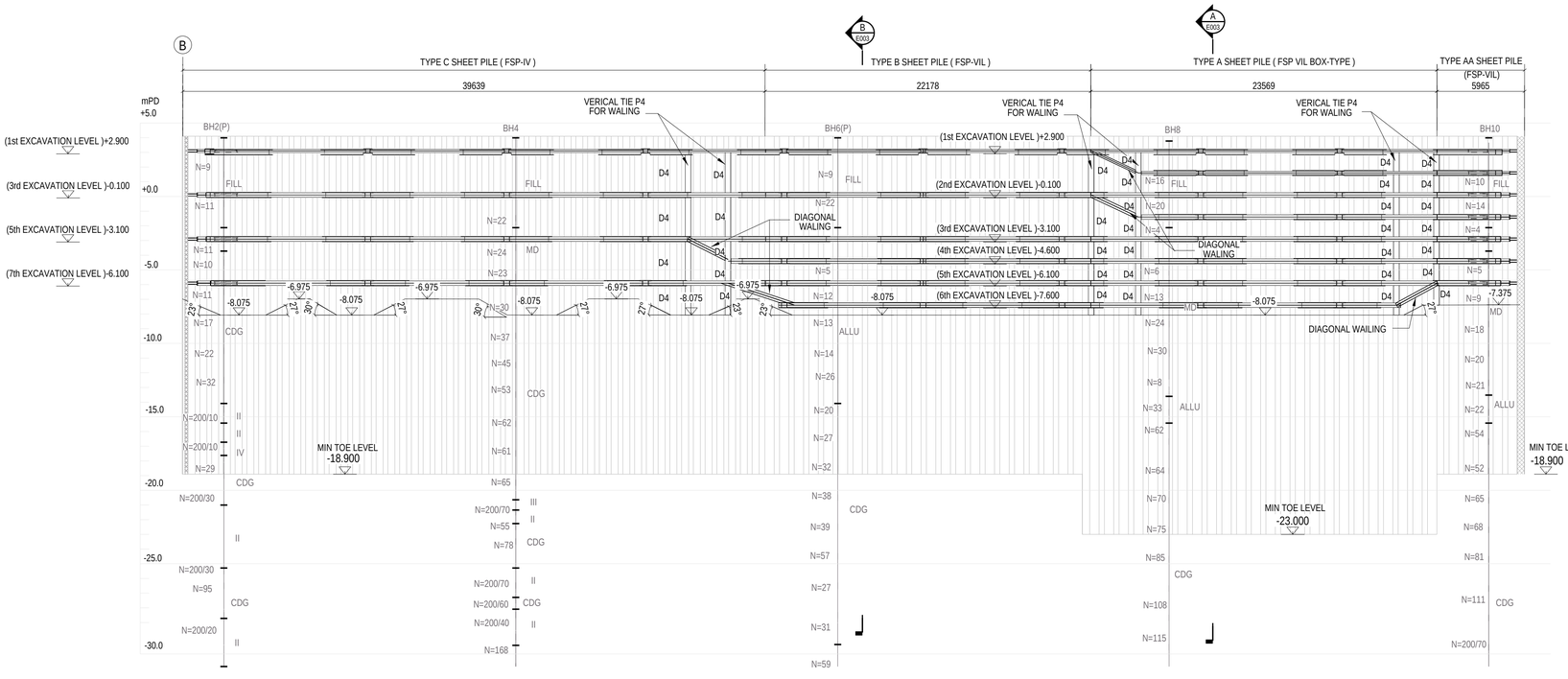
90mm (W) x 150mm (H) space for BD's approval stamp / certification of copies of approved plans (PNAP ADM-10 APP A)



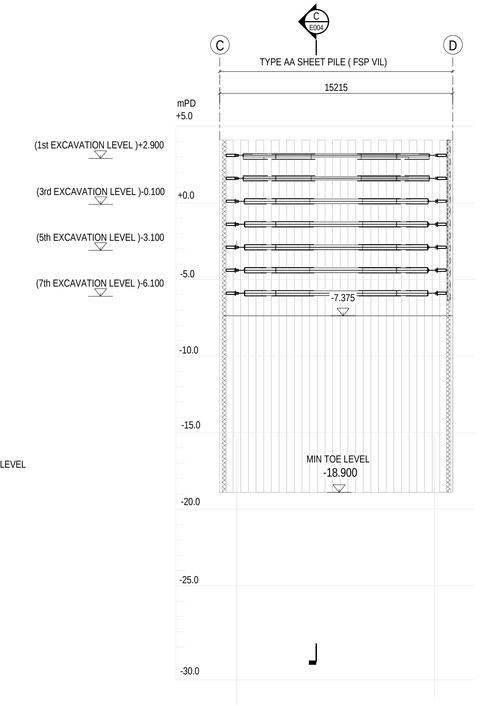
1 ELS ELEVATION D-A
1:200



2 ELS ELEVATION A-B
1:200



3 ELS ELEVATION B-C
1:200



4 ELEVATION C-D
1:200

BD REF :

BIM REF :

REV	DATE	AMENDMENT

PROJECT
CIC SAMPLE PROJECT

DRAWING TITLE
EXCAVATION & LATERAL SUPPORT ELEVATION

SCALE AS SHOWN@A1

DRAWING NO. E007

REV. NO.

SOURCE ---

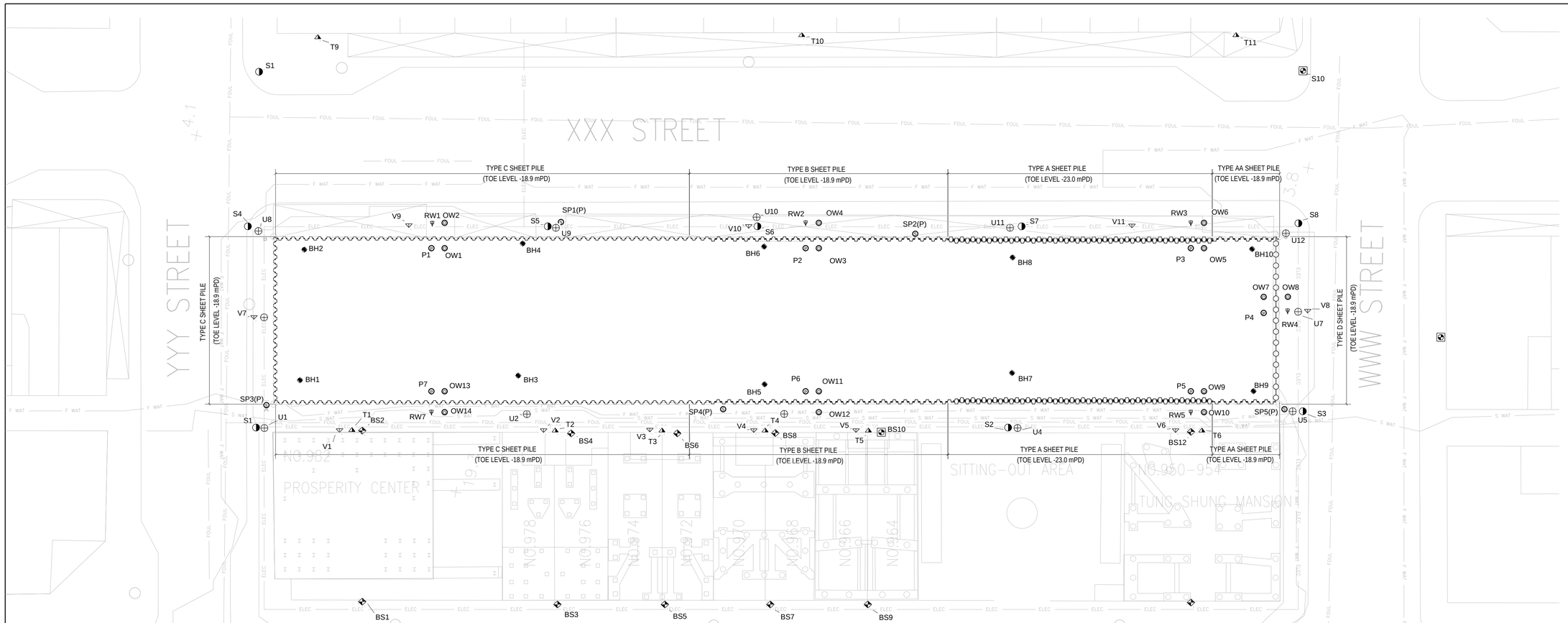
90mm (W) x 40mm (H) space for COMPANY LOGO

90mm (W) x 60mm (H) space for AP/RSE/RGE's signature/ and stamp chop

BD's OFFICAL USE

90mm (W) x 150mm (H) space for BD's approval stamp / certification of copies of approved plans (PNAP ADM-10 APP A)

Tekla Structures



ELS MONITORING PLAN
1:200

NOTES ON EXISTING UTILITIES

1. THE POSITION OF EXISTING UTILITIES SHOWN ON THIS DRAWING IS APPROXIMATE ONLY.EXACT LOCATION AND DEPTH OF THE UTILITIES MUST BE ASCERTAINED BY TRIAL PITS ON SITE. EXTREME CARE MUST BE TAKEN DURING EXCAVATIONS IN THE PROXIMITY OF THE UTILITIES. PRECAUTIONS SHALL BE TAKEN TO PREVENT DAMAGE TO ANY OF THE UTILITIES.
2. THE INFORMATION INDICATED IS GIVEN IN GOOD FAITH AND NO GUARANTEE IS GIVEN AS TO ITS ACCURACY OR COMPLETENESS. THE USE OF THIS INFORMATION BY THE CONTRACTOR OR ANY OTHER PARTY SHALL NOT RELIEVE HIM OF ANY OF HIS OBLIGATIONS OR RESPONSIBILITY UNDER THE CONTRACT.
3. THE CONTRACTOR SHALL ARRANGE FOR ANY REALIGNMENT OF THE EXISTING UTILITIES AT THE WORKING LOCATION PRIOR TO THE CONSTRUCTION OF WORKS, IF REQUIRED.
4. THE CONTRACTOR SHALL PROVIDE TEMPORARY SUPPORT TO THE EXISTING UTILITIES DURING THE CONSTRUCTION WORKS, IF REQUIRED.
5. THE CONTRACTOR'S PARTICULAR ATTENTION IS DRAWN TO THE EXISTENCE OF UNDERGROUND SERVICE WITHIN AND AROUND THE SITE. HE SHALL PROTECT AND MAINTAIN ALL THOSE WORKS DURING THE ENTIRE CONTRACT PERIOD. NECESSARY PRECAUTIONS AND MONITORING SHALL BE TAKEN TO PREVENT DAMAGE TO THE EXISTING UPPER GROUND SERVICE.
6. THE CONTRACTOR SHALL IDENTIFY AND ESTABLISH HIMSELF THE TYPES AND EXACT LAYOUT/LOCATION OF THE EXISTING SERVICES BEFORE CARRYING OUT ANY CONSTRUCTION WORKS ON SITE. HE SHALL ALSO PLAN AND ARRANGE HIS WORKS TAKING INTO ACCOUNT THE EXISTENCE OF ALL SUCH WORKS THAT MAY AFFECT THE CONSTRUCTION SEQUENCE OF HIS WORKS. SHALL ANY SERVICES FALL WITHIN THE SITE, THE CONTRACTOR SHALL PROPOSE AND SUBMIT A METHOD STATEMENT ON PROTECTING OR DIVERTING THE EXISTING UTILITIES FOR ARCHITECT'S APPROVAL AT NO EXTRA COST. IF NECESSARY, THE CONTRACTOR SHALL MODIFY THE DESIGN OF ELS WORKS AND/OR PROVIDE TEMPORARY SUPPORTS FOR THE SERVICES AND SUBMIT THE METHOD STATEMENT FOR THE SERVICES AND SUBMIT THE METHOD STATEMENT FOR ARCHITECT'S APPROVAL. SHOULD ANY DAMAGE OCCUR, NOTIFY THE ARCHITECT'S AND RELEVANT AUTHORITIES CONCERNED IMMEDIATELY AND MAKE GOOD BY THE CONTRACTOR AT NO EXTRA COST.

NOTES ON MONITORING

1. INSTALL ALL CHECK POINTS AS SHOWN ON PLAN.
2. INITIAL READINGS OF CHECK POINTS AND BENCH MARKS SHALL BE SUBMITTED TO BUILDINGS DEPT. BEFORE COMMENCEMENT OF THE WORK.
3. ALL CHECK POINTS SHALL BE PROPERLY MAINTAINED AND MONITORED ON DAILY INTERVAL AND THE READINGS SHALL BE SUBMITTED TO THE AP/RSE/RGE AND BUILDING AUTHORITY BI-WEEKLY. ANY DEFECTIVE MONITORING DEVICES SHALL BE REPLACED ASAP.
4. THE LEVEL SHALL BE REPORTED IN mPD AND THE CHECK POINTS SHALL BE SURVEYED ACCORDING TO HONG KONG METRIC GRID.
5. EXISTING PIEZOMETERS/STANDPIPES INSTALLED ON SITE PREVIOUSLY SHOULD BE MONITORED ON DAILY BASIS CONTINUOUSLY THROUGHOUT THE CONSTRUCTION. THE READINGS SHOULD BE SUBMITTED TO RSE / RGE / BA ON BIWEEKLY BASIS. INITIAL READING SHOULD ALSO BE SUBMITTED BEFORE THE COMMENCEMENT OF WORKS.
6. CHECK POINT READINGS TO BE KEPT ON SITE FOR INSPECTION.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR APPLICATION OF EXCAVATION PERMIT FOR INSTALLATION OF MONITORING CHECK POINTS OUTSIDE SITE BOUNDARY. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR SEEKING CONSENT FROM THE ADJACENT LOT OWNERS FOR INSTALLATION OF MONITORING CHECK POINT AT ADJACENT LOTS / BUILDINGS.

ALERT LEVEL

RESPONSE ACTION:
a. RC TO NOTIFY AND SUBMIT WRITTEN REPORT TO AP/RSE/RGE.
b. AP/RSE/RGE TO ASSESS EFFECT OF MOVEMENTS AND PREDICT FUTURE MOVEMENTS.
c. AP/RSE/RGE TO AGREE WITH RC ON THE SUITABLE ACTION PLAN WHICH MAY INCLUDE THE INSTALLATION OF ADDITIONAL CHECK POINTS AND/OR INCREASING MONITORING FREQUENCY, AND THE REMEDIAL/MITIGATING MEASURES TO BE TAKEN UPON REACHING THE "ALARM LEVEL".

FOR REFERENCE ONLY

ALARM LEVEL

RESPONSE ACTION:
a. RC TO NOTIFY AND SUBMIT UPDATED REPORT TO AP/RSE/RGE AND NOTIFY THE BD IMMEDIATELY.
b. AP/RSE/RGE AND RC TO CONDUCT JOINT SITE INSPECTION TO DETERMINE IF ANY CONSTRUCTION ACTIVITIES SHOULD BE TEMPORARILY SUSPENDED.
c. RC TO IMPLEMENT THE NECESSARY REMEDIAL/MITIGATING MEASURES IN ACCORDANCE WITH THE AGREED ACTION PLAN.
d. AP/RSE/RGE AND RC TO DISCUSS THE INSTRUMENT RESPONSE AND REVIEW THE EFFECTIVENESS OF THE RESPONSE ACTION.
e. AP/RSE/RGE TO AGREE WITH RC ON THE EMERGENCY PLAN DETAILING THE MEASURES TO BE TAKEN UPON REACHING "ACTION LEVEL".
f. ANY CONSTRUCTION ACTIVITIES MAY BE SUSPENDED IF THE RESPONSE ACTION HAS BEEN IMPLEMENTED AND ON THE ADVICE OF THE AP/RSE/RGE AS NECESSARY.
g. AP/RSE/RGE TO REVIEW THE METHOD STATEMENTS OF PILING/ELS WORKS TO DETERMINE WHETHER MODIFICATION TO THE CONSTRUCTION METHODS IS REQUIRED TO PREVENT ACTION LEVEL FROM BEING REACHED.

ACTION LEVEL

RESPONSE ACTION:
a. ALL WORKS THAT WILL CAUSE GROUND MOVEMENT ARE TO BE CEASED.
b. RC TO NOTIFY AND CARRY OUT A JOINT SITE INSPECTION WITH THE RSE/RGE IMMEDIATELY. THE BD AND THE RELEVANT PARTIES SHOULD BE NOTIFIED IMMEDIATELY.
c. RC TO IMPLEMENT THE NECESSARY EMERGENCY MEASURES IN ACCORDANCE WITH WITH THE AGREED EMERGENCY PLAN.
d. RC TO SUBMIT AN INCIDENT REPORT TO RSE/RGE AND THE BD DETAILING THE FULL HISTORY OF THE MOVEMENTS AND REMEDIAL/EMERGENCY MEASURES IMPLEMENTED.
e. RSE/RGE TO REVIEW THE INCIDENT AND AGREE WITH RC ON FURTHER REMEDIAL AND PREVENTIVE MEASURES TO ENABLE RESUMPTION OF THE SUSPENDED WORKS.
f. CONSTRUCTION ACTIVITIES SHOULD NOT BE RESUMED UNTIL THE NECESSARY REMEDIAL AND PREVENTIVE MEASURES HAVE BEEN COMPLETED TO THE SATISFACTION OF THE BD.
g. IF THE TRIGGER VALUES AND RESPONSE ACTION ARE REVISED, THE AMENDED PLANS SHOULD BE SUBMITTED TO THE BD FOR APPROVAL. THE SUSPENDED CONSTRUCTION ACTIVITIES SHOULD NOT BE RESUMED UNTIL THE AMENDED PLANS ARE APPROVED BY

INSTRUMENT	CRITERION	ALERT	ALARM	ACTION
GROUND SETTLEMENT CHECK POINT	TOTAL SETTLEMENT	12mm	18mm	25mm
UTILITY SETTLEMENT CHECK POINT	TOTAL SETTLEMENT	12mm	18mm	25mm
TILTING CHECK POINT	ANGULAR DISTORTION	1:1000	1:750	1:500
VIBRATION CHECK POINT (VB1 TO VB3)	PEAK PARTICLE VELOCITY	7.5mm/s	10mm/s	15mm/s
BUILDING SETTLEMENT CHECK POINT	TOTAL SETTLEMENT	12mm	18mm	25mm
STANDPIPE	RISE OF GROUND WATER LEVEL	+2.00mPD	+2.50mPD	+3.10mPD
PIEZOMETER		+3.00mPD	+3.50mPD	+4.10mPD
STANDPIPE	DRAIN OF GROUND WATER LEVEL	-0.25mPD	-0.40mPD	-0.47mPD
PIEZOMETER		-0.40mPD	-0.[illegible]mPD	-0.[illegible]mPD

THE "ACTION LEVEL" RESPONSE ACTION SHOULD BE TAKEN IF ANY OF THE FOLLOWING SITUATION OCCURS:
1. ANY MONITORING STATION HAS A READING REACHING THE SERVICEABILITY LIMIT.
2. UNDUE SETTLEMENT AS INDICATED IN ANY CHECK POINTS (E.G. AN INCREASE OF 5mm BETWEEN TWO CONSECUTIVE DAILY READINGS).
3. SIGN OF DISTRESS OR DAMAGES OBSERVED IN ANY ADJACENT STRUCTURES AND/OR UTILITIES.

MASTER CONSTRUCTION SEQUENCE

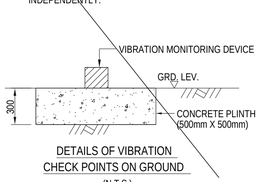
1. INSTALL MONITORING CHECK POINTS AND TAKE INITIAL READINGS.
2. CONSTRUCT BORED PILES FOUNDATION.
3. CARRY OUT EXCAVATION AND LATERAL SUPPORT WORKS. (UNDER SEPARATE SUBMISSION)
4. CARRY OUT THE CONSTRUCTION OF PILE CAP AND FOOTING. (UNDER SEPARATE SUBMISSION)
5. CONSTRUCTION OF SUPERSTRUCTURE. (UNDER SEPARATE SUBMISSION)

NOTE : ITEM 2, 3, 4, 5 CAN BE CARRIED OUT CONCURRENTLY AND INDEPENDENTLY.

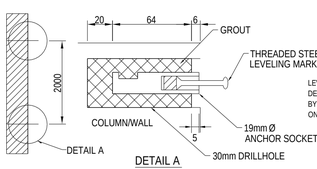
LEGEND AND NOTES:

- BOUNDARY LINE
- BH2(P) — BORED HOLE (WITH PIEZOMETER) (BH1 (P), BH2 (P) AND BH5 (P) BH6 (P), BH9 (P) AND BH10 (P) 6NOS.)
- BH2 — BORED HOLE (BH3, BH4, BH7 AND BH8 4 NOS.)
- 4.15 — EXISTING GROUND LEVEL
- GAS — GAS PIPE
- S WAT — SALT WATER PIPE
- ELEC — ELECTRIC CABLE
- FOUL — FOUL WATER PIPE
- F WAT — FRESH WATER PIPE

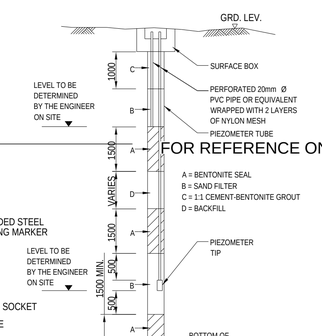
INSTRUMENT SCHEDULE		
SYMBOL	TYPE	NUMBER
BS1	BUILDING SETTLEMENT MARKER (BS1-BS12)	12
T1	BUILDING TILTING CHECK POINT WITH VERTICAL DISPLACEMENT (T1-T11)	11
S1	GROUND SETTLEMENT CHECK POINT (S1-S10)	10
OW1	OBSERVATION WELL (OW1-OW14)	14
P1	PUMP WELL (P1 TO P7)	7
RW1	RECHARGE WELL (RW1-RW7)	7
SP1(P)	STANDPIPE (WITH PIEZOMETER) (SP1(P) TO SP5(P))	5
U1	UTILITY SETTLEMENT MONITORING POINT ON GROUND (U1-U12)	12
V1	VIBRATION CHECK POINT (V1-V11)	11



DETAILS OF VIBRATION CHECK POINTS ON GROUND
(N.T.S.)

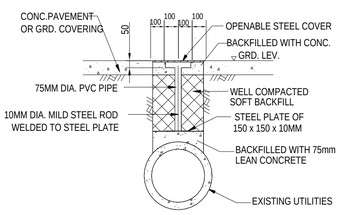


DETAIL A
DETAILS OF TILTING CHECKPOINT
(N.T.S.)
(ALSO FUNCTION AS BUILDING SETTLEMENT CHECKPOINT)

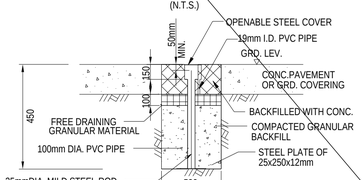


STANDPIPE DETAILS
(N.T.S.)

FOR REFERENCE ONLY



DETAILS OF UTILITY SETTLEMENT CHECK POINT
(N.T.S.)



DETAILS OF SETTLEMENT CHECK POINTS ON GROUND
(N.T.S.)

REV	DATE	AMENDMENT

BD REF :

BIM REF :

PROJECT
CIC SAMPLE PROJECT

DRAWING TITLE
EXCAVATION & LATERAL SUPPORT WORKS MONITORING PLAN

SCALE AS SHOWN@A1

DRAWING NO. E008

REV. NO.

SOURCE ---

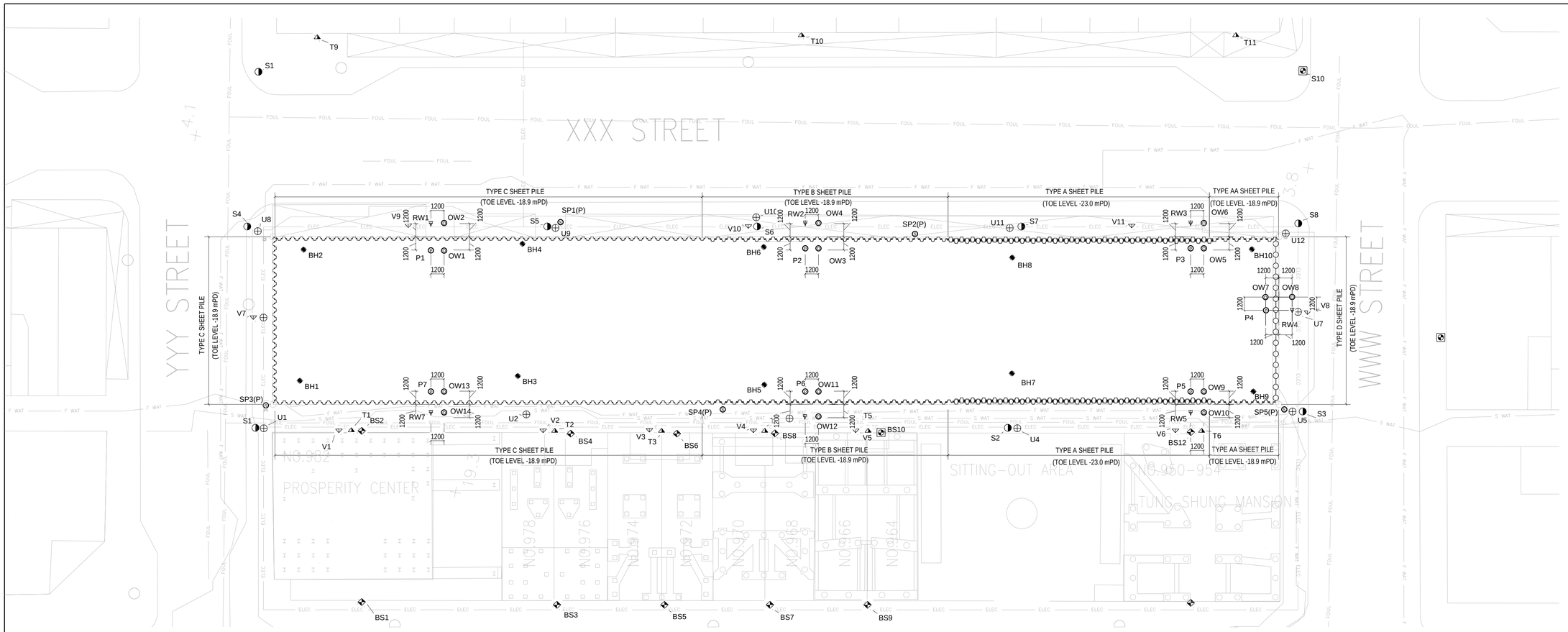
90mm (W) x 40mm (H) space for COMPANY LOGO

90mm (W) x 60mm (H) space for AP/RSE/RGE's signature/ and stamp chop

BD's OFFICAL USE

90mm (W) x 150mm (H) space for BD's approval stamp / certification of copies of approved plans (PNAP ADM-10 APP A)

Tekla Structures



(I) PUMPING TEST PROCEDURES

1. INSTALL THE DEWATERING WELLS (P1-P7), STANDPIPES AND OBSERVATION WELLS (OW1-OW15) AS SHOWN IN DWG. NO. ELS-13.
2. THE PROPOSED TOE LEVEL OF THE DEWATERING WELL AND OBSERVATION WELLS ARE AS FOLLOWS:

HOLE	PROPOSED TOE LEVEL (mPD)	PROPOSED LEVEL OF WATER LEVEL CONTROL ELECTRODES	
		CUT-ON LEVEL (mPD)	CUT-OUT LEVEL (mPD)
DEWATERING WELL (P1-P7)	-15.00	-12.50	-13.50
OBSERVATION WELL (OW1-OW15)	-15.00	N/A	N/A

3. BEFORE INSERTION OF THE SUBMERSIBLE PUMP, THE DEWATERING WELLS SHALL BE CLEANED, FLUSHED AND THE DEPTH OF THE WELL SHALL BE ACCURATELY MEASURED
4. THE DEWATERING WELLS INCLUDING DISCHARGE PIPES SHALL THEN BE COMPLETED AND TESTED TO BE FUNCTIONAL
5. THE PROPOSED DEWATERING PUMP TO BE INSTALLED IS 'MASTRA' MODEL R95-S-08 WITH A MINIMUM DISCHARGE CAPACITY OF 10CU.M/HR/WELL UNDER A DELIVERY HEAD OF 46M AND BE ABLE TO LOWER WATER LEVEL WITHIN 1M ABOVE THE PUMP.
6. FLOW METER AND GATE VALVE TO CONTROL FLOW SHALL BE INCOPORATED INTO EACH DEWATERING WELL.
7. BEFORE COMMENCEMENT OF PUMP TEST, WATER LEVELS IN ALL DEWATERING WELLS, STANDPIPES, OBSERVATION WELLS SHALL BE MEASURED AT 4 HOURS INTERVALS FOR A PERIOD OF 72 HOURS. THE LOWEST MEASURED LEVELS IN THE PUMP WELL AND STANDPIPES SHALL BE USED AS INITIAL READINGS FOR THE PUMPING TEST.
8. ALL DEWATERING PUMPS SHALL BE SWITCHED ON SIMULTANEOUSLY.
9. STEADY STATE SHALL BE DEFINED AS SUCH THAT THE RATE OF GROUNDWATER DRAW DOWN BOTH INSIDE AND OUTSIDE THE SITE IS LESS THEN 0.1M OVER AN HOUR.
10. THE WATER LEVEL IN THE PUMP WELL SHALL BE MAINTAINED AT THE SPECIFIED LEVEL FOR AT LEAST 72 HOURS.
11. SHOULD THE SPECIFIED STEADY STATE IN GROUNDWATER DRAWDOWN NOT BE REACHED, PUMPING SHALL BE CONTINUED UNTIL SUCH A STATE IS REACHED OR AS DIRECTED BY THE ENGINEER.THE MINIMUM TEST PERIOD IS 7 DAYS.
12. DURING THE TEST THE WATER LEVELS IN ALL DEWATERING WELL, OBSERVATION WELLS AS SHOWN ON DWG. NO. ELS-13 SHALL BE REACHED AT REGULAR INTERVALS WHICH SHOWN BELOW (II) WATER LEVEL MEASURMENT.
13. ALL MONITORING DATA SHALL BE PRODUCED IN BOTH TABULAR AND GRAPHICAL FORM DURING THE COURSE OF THE PUMPING TEST AND SUBMIT TO ENGINEER FOR BUILDINGS DEPARTMENT'S APPROVAL.
14. WATER LEVELS SHALL BE MONITORIED AFTER CESSATION OF PUMPING UNTIL RECOVERY TO INITIAL LEVELS IS COMPLETED

(II) WATER LEVEL MEASUREMENT

DURING THE PUMPING AND RECOVERY TESTS, THE WATER LEVELS IN THE DEWATERING WELLS, OBSERVATION WELLS AND STANDPIPES SHALL BE MEASURED AT THE FOLLOWING INTERVALS:

TIME FROM COMMENCEMENT OF PUMPING TEST (mins)	INTERVAL BETWEEN READINGS (mins)
0-30	5
30-60	10
60-120	15
120-360	30
360-END OF TEST	60

DURING THE RECOVERY PHASE, THE READINGS SHALL BE TAKEN CONTINUOUSLY UNTIL THE WATER LEVEL IN ALL OBSERVATION WELLS AND STANDPIPES HAVE RECOVERED TO THEIR PRE-TEST LEVELS OR FOR A PERIOD OF TWO DAYS, WHICHEVER IS THE SOONER. PRIOR TO TERMINATING READINGS, THE ARCHITECT SHALL BE NOTIFIED.

(III) MONITORING OF CHECKPOINTS

1. DURING THIS TEST AND UNTIL ALL STANDPIPES/ OBSERVATION WELLS HAVE RECOVERED TO THEIR PRE-TEST LEVELS, ALL SETTLEMENT CHECKPOINTS TILTING CHECK POINTS AND UTILITY CHECK POINTS AS SHOWN ON THE DRAWING NO. ELS-01 SHALL BE MONITORIED ONCE PER DAY. THE RESULTS SHALL BE PRODUCED IN ACCORDANCE WITH NOTE (I) 13.

(IV) PUMP TEST CRITERIA

THE PUMPING TEST SHALL BE CONSIDERED ACCEPTABLE IF THE FOLLOWING CRITERIA ARE MET WHEN THE DESIGNATED WATER LEVEL IS ACHIEVED INSIDE THE SITE:

a. NO UNDUE SETTLEMENT OR MOVEMENT OF ANY SETTLEMENT CHECKPOINTS OR TILTING CHECKPOINTS AS STATED IN APPROVED EXCAVATION AND LATERAL SUPPORT WORKS PLAN OR NO DEFECT/DAMAGE TO ADJACENT GROUND/ STRUCTURES/ UTILITIES.
b. THE GROUND SETTLEMENT DURING DEWATERING SHOULD NOT EXCEED 5.0mm.

(V) ASSESSMENT REPORT

1. AFTER COMPLETION OF THE PUMPING TEST, THE CONTRACTOR SHALL PREPARE AN ASSESSMENT REPORT BASED ON THE TEST RESULT'S DISCUSSING THE ASSUMED AND ACTUAL CONDITIONS ON SITE. INTERPERT THE RESULTS AND ASSESS THE EFFECTS TO THE SURROUNDING STRUCTURES AND UTILITIES. THIS REPORT SHALL BE SUBMITTED TO THE AP/RSE/RGE FOR VERIFICATION OF THE WATER CUT-OFF EFFECTIVENESS OF THE SHEET PILE WALL. THIS REPORT SHALL BE SUBMITTED TO BD'S SATISFACTION AFTER REVIEWED AND APPROVED BY AP/RSE/RGE.

(VI) CONTINGENCY MEASURES

1. 2 NUMBERS OF RECHARGE WELL WOULD BE PROVIDED AS CONTINGENCY MEASURES IF GROUNDWATER DRAWDOWN EXCEEDING THE LIMIT AND UNSATISFACTORY PERFORMANCE DURING RECOVERY PHASE WERE FOUND. THE LOCATION OF RECHARGE WELL ARE SHOWN AT DWG. NO. ELS-13

GENERAL NOTES ON PUMPING TEST

1. THE PUMPING WELLS SHOWN ARE MINIMUM REQUIREMENT ONLY. NOTWITHSTANDING THESE MINIMUM REQUIREMENTS, IT IS THE CONTRACTOR'S RESPONSIBILITY TO TAKE WHATEVER ADDITIONAL MEASURES THAT ARE NECESSARY TO ENSURE THE WATER LEVEL INSIDE THE SITE CAN BE LOWERED TO THE TO THE DESIGNATED LEVEL WITHOUT EXCEEDING THE DRAWDOWN AND SETTLEMENT CRITERIA STATED IN THIS DRAWING.
2. INSTALLATION RECORDS AND RESPONSE TEST RESULTS OF THE PIEZOMETERS, STANDPIPES, PUMPING WELLS AND OBSERVATION WELLS SHALL BE SUBMITTED PRIOR TO THE COMMENCEMENT OF THE PUMPING TEST.
3. THE PUMPING WELLS AND OBSERVATION WELLS FORM PART OF THE DEWATERING SYSTEM FOR THE FURTURE EXCAVATION.
4. THE TARGET GROUNDWATER TABLES TO BE LOWERED WITHIN THE SITE, AS RECORD BY OBSERVATION WELLS

	TARGET						
OBSERVATION WELL	P1	P2	P3	P4	P5	P6	P7
DRAWDOWN LEVEL (mPD)	-8.075	-8.075	-8.075	-7.375	-10.325	-8.075	-8.075

5. THE PUMPING TEST SHALL BE STOPPED IN CASE THE GROUNDWATER DRAWDOWN OUTSIDE THE SITE EXCEEDS 2.0m. THE CONTRACTOR SHALL INVESTIGATE THE CAUSE OF THE DRAWDOWN AND IMPROVEMENT MEASURES SHALL BE PROPOSED AND IMPLEMENTED. CONTINGENCY MEASURES SUCH AS INSTALLATION OF RECHARGE WELLS BEHIND SHEET PILE WALLS MAY BE REQUIRED.
6. COMPLETE PUMPING TESTS RESULT SHALL BE SUBMITTED TO BD AFTER THE SUCCESSFUL COMPLETION.
7. PUMP WELLS AND OBSERVATION WELLS SHALL BE PROTECTED FROM DAMAGE. WORKS SHALL BE CARRIED OUT WITH DUE CARE IN PROXIMITY OF THOSE WELLS.
8. IN CASE THE PUMP/OBSERVATION WELL HAS BEEN DAMAGED DURING ANY TIME OF THE CONSTRUCTION WORKS, THE CONTRACTOR SHALL INFORM AP/RSE/RGE IMMEDIATELY AND REINSTATEMENT SHALL BE CARRIED OUT WITHOUT DELAY.

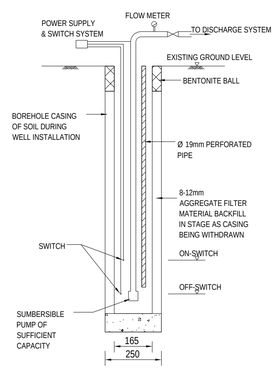
NOTES FOR PARTIAL PUMPING TEST

1. PARTIAL PUMPING TEST SHALL BE CARRIED OUT AFTER INSTALLATION OF PILES AND BEFORE COMMENCEMENT OF BULK EXCAVATION.
2. INSTALL PUMP WELL, OBSERVATION WELL, RECHARGING WELL AND PIEZOMETER.
3. THE PUMPING TEST PROPOSAL TO BE SUBMITTED SEPARATELY.
4. THE CRITERIA OF PUMPING TEST REFERS TO THE DWG. NO. ELS-13.
5. AFTER COMPLETION OF THE PARTIAL PUMPING TEST, AN ASSESSMENT REPORT SHALL BE PREPARED BY CONTRACTOR. THIS REPORT SHOULD BE SUBMITTED TO BUILDING AUTHORITY.

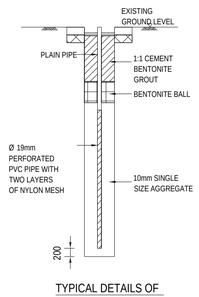
MEASURED GROUNDWATER DRAWDOWN

	ALERT LEVEL	ALARM LEVEL	ACTION LEVEL
OBSERVATION WELLS (OW2, OW4, OW6, OW6, OW8, OW10, OW12, OW14)	0.75m BELOW THE LOWEST MEASURED GROUND WATER TABLE (RECORDS WITHIN 72 HOURS PRIOR TO THE CARRYING OUT OF PUMPING TEST)	0.80m BELOW THE LOWEST MEASURED GROUND WATER TABLE (RECORDS WITHIN 72 HOURS PRIOR TO THE CARRYING OUT OF PUMPING TEST)	0.87m BELOW THE LOWEST MEASURED GROUND WATER TABLE (RECORDS WITHIN 72 HOURS PRIOR TO THE CARRYING OUT OF PUMPING TEST)

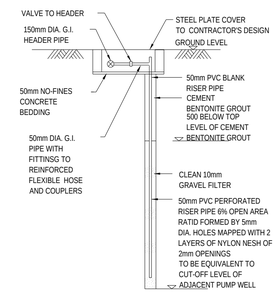
FOR REFERENCE ONLY



TYPICAL DETAILS OF PUMP WELL
(N.T.S.)



TYPICAL DETAILS OF OBSERVATION WELL
(N.T.S.)



TYPICAL DETAILS OF RECHARGE WELL
(N.T.S.)

1 ELS PUMPING TEST SETTING OUT PLAN

1 : 200

INSTRUMENT SCHEDULE		
SYMBOL	TYPE	NUMBER
BS1	BUILDING SETTLEMENT MARKER (BS1-BS12)	12
T1	BUILDING TILTING CHECK POINT WITH VERTICAL DISPLACEMENT (T1-T11)	11
S1	GROUND SETTLEMENT CHECK PONT (S1-S10)	10
OW1	OBSERVATION WELL (OW1-OW14)	14
P1	PUMP WELL (P1 TO P7)	7
RW1	RECHARGE WELL (RW1-RW7)	7
SP1(P)	STAND PIPE (WITH PIEZOMETER) (SP1(P) TO SP5 (P)	5
U1	UTILITY SETTLEMENT MONITORING POINT ON GROUND (U1-U2)	12
V1	VIBRATION CHECKPOINT (V1-V11)	11

LEGEND AND NOTES:

- BOUNDARY LINE
- BH2(P) — BORED HOLE (WITH PIEZOMETER) (BH1 (P), BH2 (P) AND BH5 (P) BH6 (P), BH9 (P) AND BH10 (P) 6NOS.)
- BH2 — BORED HOLE (BH3, BH4, BH7 AND BH8 4 NOS.)
- 4.15 — EXISTING GROUND LEVEL
- GAS — GAS PIPE
- S WAT — SALT WATER PIPE
- ELEC — ELECTRIC CABLE
- FOUL — FOUL WATER PIPE
- F WAT — FRESH WATER PIPE

BD REF :

BIM REF :

REV	DATE	AMENDMENT

PROJECT
CIC SAMPLE PROJECT

DRAWING TITLE
EXCAVATION & LATERAL SUPPORT WORKS PUMPING TEST SETTING OUT PLAN

SCALE AS SHOWN@A1

DRAWING NO. E009

REV. NO.

SOURCE ---

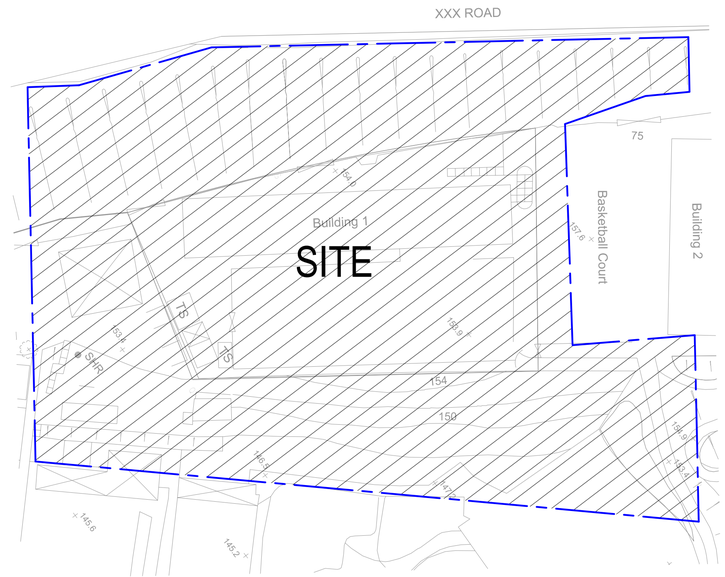
90mm (W) x 40mm (H) space for COMPANY LOGO

90mm (W) x 60mm (H) space for AP/RSE/RGE's signature/ and stamp chop

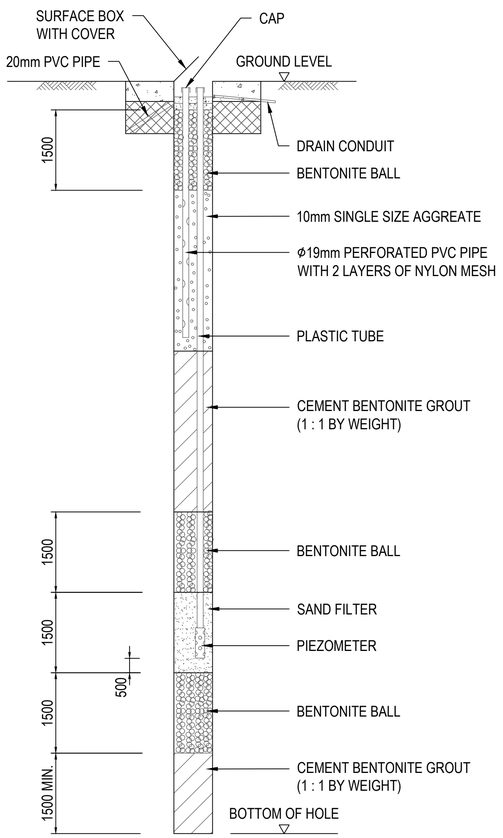
BD's OFFICAL USE

90mm (W) x 150mm (H) space for BD's approval stamp / certification of copies of approved plans (PNAP ADM-10 APP A)

Tekla Structures



BLOCK PLAN
1 : 500



STANDPIPE / PIEZOMETER
N.T.S.

NOTES FOR GI PLAN

1. LEVEL SHALL REFER TO METERS ABOVE PRINCIPAL DATUM, HONG KONG.
2. THE CONTRACTOR SHALL SET OUT THE LOCATIONS OF GI STATIONS PRIOR TO COMMENCEMENT OF THE WORKS. EXACT LOCATIONS ARE TO BE CONFIRMED BY OF WORKS.
3. THE CONTRACTOR SHALL EXERCISE EXTREME CARE SO AS NOT TO DISTURB OR DAMAGE ANY UTILITIES PRIOR TO THE COMMENCEMENT OF ROTARY DRILLING. A HAND EXCAVATED INSPECTION PIT SHALL BE CARRIED OUT AT EACH DRILLHOLE TO LOCATE ANY UNDERGROUND UTILITIES BEFORE DRILLING.
4. ALL WORKS SHALL BE CARRIED OUT IN ACCORDANCE WITH THE RECOMMENDATIONS OF GEOGUIDE 2, CEOGUIDE 3, APP49 AS WELL AS APP24.
5. INSPECTION PIT (APPROXIMATELY 1.2m x 1.2m x 1.5m DEEP) SHALL BE HANG DUG AND ARE CARRIED OUT TO ENSURE THAT THE PROPOSED DRILLING LOCATION WILL NOT INTERECEPT THE EXISTING UNDERGROUND UTILITIES AND FOUNDATION. SHOULD EXISTING UTILITIES AND FOUNDATIONS BE ENCOUNTERED THE DRILLHOLE WILL BE RELOCATED IN THE VICINITY OF THE CONCERNED LOCATION BY THE INSTRUCTION OF THE ENGINEER.
6. PROPOSED BOREHOLES SHALL BE H SIZE IN SOIL AND ROCK AND SHALL BE SUNK BY ROTARY DRILLING METHOD USING WATER AS FLUSHING MEDIUM.
7. MAZIER SAMPLES SHALL BE TAKEN AT 20m INTERNALS COMMENCING AT 0.5m BELOW INSPECTION PIT OF DRILLHOLES.
8. STANDARD PENETRATION TEST (SPT) WITH LINER SAMPLES SHALL BE CARRIED OUT AT 2.0m INTERNALS. IF SPT ARE CARRIED OUT AT LEVEL SAME AS THE LEVEL FOR MAZIER SAMPLING. THE SPT SHOULD BE CARRIED OUT AFTER MAZIER SAMPLING.
9. ROCKHEAD SHAL BE DEFINED AS THE SURFACE OF CAT I(C) OR BETTER ROCK WITH TOTAL CORE RECOVERY (TCR OF THE DESIGNATED GRADE) GREATER THAN 85%. THE DEFINITION OF TOTAL CORE RECOVERY IS IN ACCORDANCE WITH CODE OF PRACTICE FOR FOUNDATIONS, 2017.

PROPOSED GROUND INVESTIGATION PLAN
1 : 250

LEGEND:

- SITE BOUNDARY
- PROPOSED VERTICAL DRILLHOLE WITH STANDPIPE / PIEZOMETER
- AVAILABLE EXISTING DRILLHOLES NEARBY THE PROJECT SITE

PROPOSED DRILLHOLE SCHEDULE		
MARK	EASTHING	NORTHING
DH1(P/S)	832043.740	813811.230
DH2(P/S)	832029.510	813821.270
DH3(P/S)	832062.200	813841.590
DH4(P/S)	832046.550	813852.060

EXISTING DRILLHOLE SCHEDULE		
MARK	EASTHING	NORTHING
GIU_REPORT_04934_BH2278	832057.107	813825.725
GIU_REPORT_04934_BH2279	832056.999	813847.010
GIU_REPORT_04934_BH2280	832026.548	813804.907
GIU_REPORT_04934_BH2281	832025.530	813829.383
GIU_REPORT_04934_BH2283	832017.296	813862.569
GIU_REPORT_04934_BH2283	832017.296	813862.569

BD REF :

BIM REF :

REV	DATE	AMENDMENT

PROJECT
CIC SAMPLE PROJECT

DRAWING TITLE
PROPOSED GROUND INVESTIGATION PLAN

SCALE As indicated@A1

DRAWING NO. G001

REV. NO.

SOURCE ---

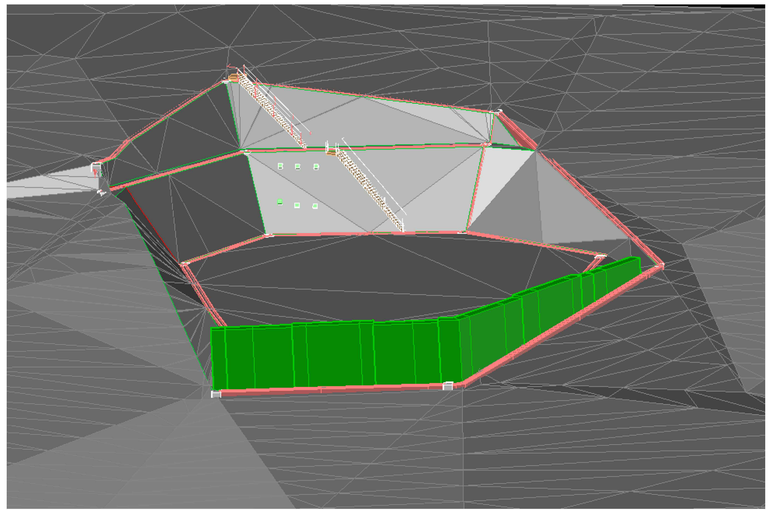
90mm (W) x 40mm (H) space for COMPANY LOGO

90mm (W) x 60mm (H) space for AP/RSE/RGE's signature/ and stamp chop

BD's OFFICAL USE

90mm (W) x 150mm (H) space for BD's approval stamp / certification of copies of approved plans (PNAP ADM-10 APP A)

SITE FORMATION BLOCK PLAN
NTS.



OVERVIEW IN 3D (FOR INFORMATION ONLY)
NTS.

NOTES

1. THE CONTRACTOR SHALL MAINTAIN AND PROTECT ALL EXISTING FACILITIES AND DRAINAGE SYSTEM WITHIN AND NEARBY THE SITE UNLESS OTHERWISE INSTRUCTED BY THE SUPERVISOR.
2. ANY UTILITIES SHOWN ON THIS PLAN ARE INDICATIVE ONLY.THE CONTRACTOR IS RESPONSIBLE FOR CONFIRMING THE EXACT LOCATIONS AND ALIGNMENT ON SITE.
3. IF THE CUT SLOPE TO BE LAST FOR MORE THAN A YEAR, SHOTCRETE OR SIMILAR SLOPE SURFACE PROTECTIVE MEASURE SHALL BE APPLIED.
4. TEMPORARY DRAINAGE REFER TO TEMPORARY DRAINAGE MANAGEMENT PLAN.
5. IF THE LOADING OR GROUNDWATER CONDITIONS ARE DEVIATED FROM THE DESIGN ASSUMPTIONS, FURTHER DESIGN OR CHECKING SHALL BE REQUIRED TO CONFIRM THE MAXIMUM CUT SLOPE ANGLE.
6. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH THE SPECIFICATIONS AND THE PARTICULAR REQUIREMENTS WHICH ARE SHOWN ON INDIVIDUAL DRAWINGS.
7. UNLESS OTHERWISE SPECIFIED, THESE GENERAL NOTES ARE APPLICABLE TO ALL GEOTECHNICAL WORKS OF SITE FORMATION.
8. ALL WORKS SHALL BE CARRIED OUT IN ACCORDANCE WITH THE GENERAL SPECIFICATION FOR CIVIL ENGINEERING WORKS 2006 OR OTHERWISE SPECIFIED.
9. THE BOTTOM OF THE EXCAVATION SHALL BE KEPT DRY. WATERFLOW INTO THE EXCAVATION SHALL BE PUMPED TO SAFE DISCHARGE POINT TO AVOID PONDING AT BASE OF EXCAVATION.
10. ALL EXCAVATION WORK SHALL NOT REDUCE THE REQUIRED STABILITY OF THE SLOPE.
11. IF DURING EXECUTION OF THE WORKS, THE GROUND CONDITIONS ARE FOUND TO BE SUBSTANTIALLY DIFFERENT FROM THE DESIGN, THE ENGINEER MAY CHANGE THE DESIGN AND THE EXTENT OF THE WORKS IN ORDER TO ADDRESS THE ACTUAL GROUND CONDITIONS.
12. DURING THE EXECUTION OF WORKS, RECORDS SHALL BE SUBMITTED TO THE ENGINEER OF THE GROUND ENCOUNTERED. THESE RECORDS SHALL INCLUDE THE LEVELS OF SOIL AND ROCK ACROSS THE SLOPE FACE, THE OCCURRENCE OF GROUNDWATER AND THE LOCATIONS OF ANY VOIDS OR WEAK OR WET GROUND.
13. REGULAR CLEAN-UP OF DIESEL AND OIL SPILLS SHALL BE CARRIED OUT TO PREVENT CONTAMINATION OF SURFACE DRAINAGE WATER.

DIMENSIONS, LEVELS & SETTING-OUT

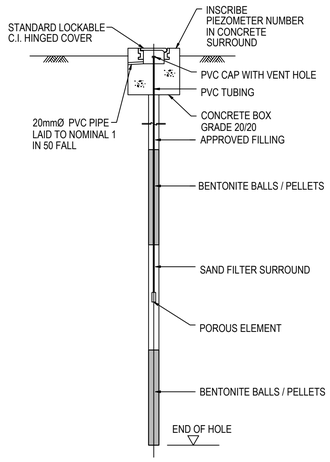
1. COORDINATES ARE BASED ON HONG KONG METRIC GRID (1980) UNLESS OTHERWISE SPECIFIED.
2. LEVELS ARE IN METRES RELATIVE TO HONG KONG PRINCIPAL DATUM (mPD) UNLES OTHERWISE SPECIFIED.
3. DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SPECIFIED.
4. SETTING OUT DIMENSIONS, LEVELS, COORDINATES ARE TO BE CALCULATED BY THE CONTRACTOR. NO INFORMATION SHOULD BE SCALED PHYSICALLY OR ELECTRONICALLY FROM THE DRAWINGS OR FILES.
5. SETTING OUT OF ALL SLOPES SHALL BE VERIFIED BY THE CONTRACTOR AND AGREED WITH THE ENGINEER ON SITE.

UTILITIES

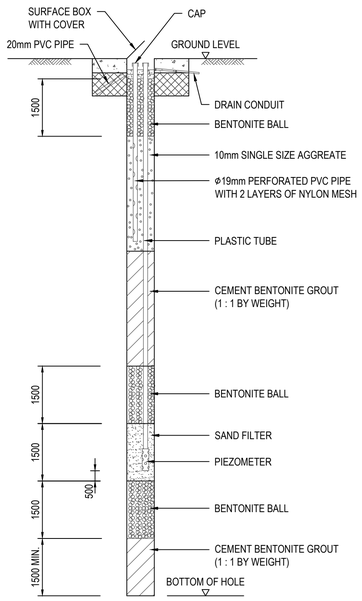
1. PRIOR TO COMMENCEMENT OF THE WORKS, THE CONTRACTOR SHALL CONFIRM THE EXACT LOCATIONS OF THE EXISTING UTILITIES AFFECTING OR TO BE AFFECTED BY THE WORKS USING INSPECTION PITS OR OTHER MEANS AS RECOMMENDED BY THE RELEVANT UTILITY / SERVICES COMPANIES OR PARTIES CONCERNED.
2. THE CONTRACTOR SHALL EXERCISE EXTREME CARE NOT TO DAMAGE ANY EXISTING UTLITIES OR SERVICES WITHIN OR IN THE VICINITY OF THE WORKS SITE AND WORKS AREA AND SHALL PROVIDE NECESSARY PROTECTION AND SUPPORT TO THE EXISTING UTLITIES OR SERVICES ACCORDANCE WITH THE REQUIREMENTS OF THE RELEVANT OF UTILITY / SERVICES COMPANIES OR PARTIES CONCERNED DURING THE EXECUTION WORKS. SHOULD ANY DAMAGE OCCUR TO THE UTILITIES / SERVICES DUE TO THE THE WORKS, SHOULD ANY DAMAGE OCCUR TO THE UTILITIES / SERVICES DUE TO THE CONTRACTOR'S WORKS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY COST INCURRED FROM THE DAMAGE.

THE PROTECTION OF EARTHWORKS AGAINST HEAVY RAINFALL

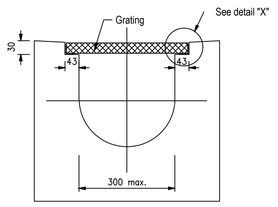
1. SURFACE WATER FLOWING INTO THE SITE FROM UPHILL SHALL BE INTERCEPTED AND CONDUCTED FROM THE SITE TO SAFE DISCHARGE POINT. AT EACH INTERSECTION AND ABRUPT CHANGE IN DIRECTION OF SURFACE DRAINAGE CHANNELS AN ACCESSIBLE CATCHPIT SHALL BE PROVIDED, ALL DRAINAGE WORKS SHALL BE KEPT CLEAR OF DEBRIS.
2. WHERE PARTIALLY COMPLETED DRAINAGE WORKS DISCHARGE WITHIN THE SITE, A TEMPORARY CONDUIT SHALL BE PROVIDED TO THE DISCHARGE POINT.
3. ALL EARTHWORKS SHALL BE GRADED AND SEALED TO ENSURE RUN-OFF AND TO AVOID PONDING.
4. A METHOD OF WORKING SHALL BE ADOPTED IN WHICH THE MINIMUM OF BARE SOIL IS EXPOSED AT ANY TIME. EARTHWORK TO FORM THE FINAL FACE SHALL BE FOLLOWED UP IMMEDIATELY WITH SURFACE PROTECTION AND DRAINAGE WORKS AND THE FACE PANEL SIZE SHALL BE ENOUGH TO PERMIT THIS.
5. EXCAVATION SHALL NOT BE LEFT OPEN ON OR ADJACENT TO SLOPES.
6. IF TRENCHES ON OR ADJACENT TO SLOPE HAVE TO BE EXCAVATED DURING THE WET SEASON, THIS SHALL BE DONE WITH EXTREME CARE IN SHORT SECTIONS AT A TIME. PRECAUTIONS SHALL ALWAYS BE TAKEN TO PREVENT WATER FROM ENTERING AND COLLECTING IN THE TRENCH.
7. WHERE TEMPORARY BARE EARTH SLOPE FACES ARE UNAVOIDABLE, THEY SHALL BE PROTECTED WITH IMPERMEABLE SHEETING WELL-SECURED AGAINST THE WIND. WHERE SLOPE FACES ARE TO BE TEMPORARILY EXPOSED FOR MORE THAN TWO WEEKS TEMPORARY HARD SURFACING SHALL BE PROVIDED AND TEMPORARY DRAINS SHALL BE INSTALLED.



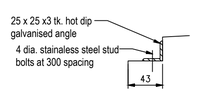
DETAILS OF PIEZOMETER
N.T.S.



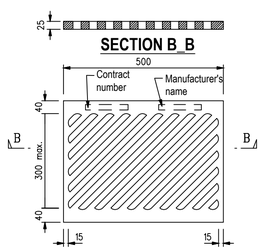
STANDPIPE / PIEZOMETER
N.T.S.



TYPICAL CROSS SECTION OF CHANNEL

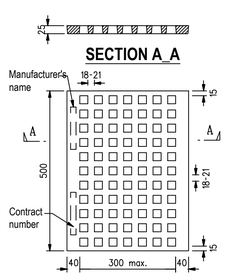


DETAIL "X"
(Scale 1:5)



GRANTING - OBLIQUE BARS PATTERN

(All slots and ribs are 18 in width. Exact no. of slots and ribs to be adjusted to suit channel width)



GRANTING - SQUARE HOLES PATTERN

(All hole are 25 x 25 in size and all ribs are of equal width. Exact no. of holes and ribs to be adjusteed to suit channel width)

BD REF :

BIM REF :

REV	DATE	AMENDMENT

PROJECT
CIC SAMPLE PROJECT

DRAWING TITLE
SITE FORMATION BLOCK PLAN

SCALE As indicated@A1

DRAWING NO. T001

REV. NO.

SOURCE ---

90mm (W) x 40mm (H) space for COMPANY LOGO

90mm (W) x 60mm (H) space for AP/RSE/RGE's signature/ and stamp chop

BD's OFFICAL USE

90mm (W) x 150mm (H) space for BD's approval stamp / certification of copies of approved plans (PNAP ADM-10 APP A)

LEGEND:

- SITE BOUNDARY
- EL. +5.00 SLOPE BERM / PLATFORM LEVEL
- 225UC U-CHANNEL
- RETAINING WALL
- CATCHPIT WITHOUT COVER
- SN SOIL NAIL
- SOIL CUT SLOPE
- SOIL FILL SLOPE
- ROCK CUT SLOPE
- ROCK FILL SLOPE
- 150 / 151 EXISTING GROUND PROFILE
- 150 / 151 FINAL SITE FORMATION LEVEL
- DH1 PROPOSED VERTICAL DRILLHOLE WITH STANDPIPE / PIEZOMETER
- DH2 AVAILABLE EXISTING DRILLHOLES NEARBY THE PROJECT SITE

SOIL NAIL SCHEDULE

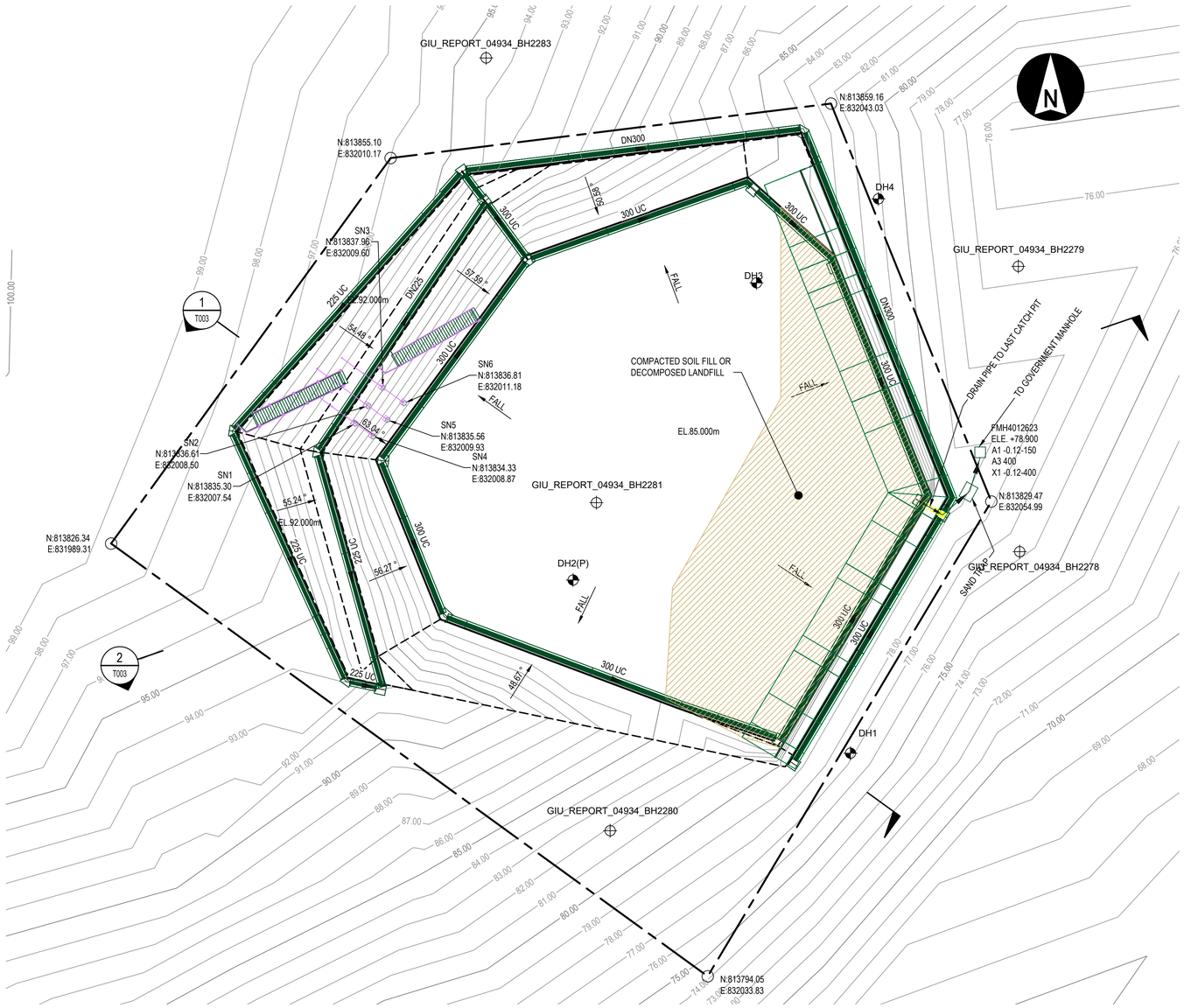
MARK	EASTING	NORTHING	ELEVATION (mPD)	SOIL NAIL DIA.	SOIL NAIL INCLINATION	DESCRIPTION
SN1	832007.543	813835.295	90.856	50	20.00°	Type Nail Head_400x400, Dia 50mm, Inclination(Degree) 20.00, L = 4000
SN2	832008.495	813836.607	90.751	50	20.00°	Type Nail Head_400x400, Dia 50mm, Inclination(Degree) 20.00, L = 5000
SN3	832009.604	813837.956	90.741	50	20.00°	Type Nail Head_400x400, Dia 50mm, Inclination(Degree) 20.00, L = 4000
SN4	832008.869	813834.333	87.817	50	20.00°	Type Nail Head_400x400, Dia 50mm, Inclination(Degree) 20.00, L = 4000
SN5	832009.933	813835.564	87.499	50	20.00°	Type Nail Head_400x400, Dia 50mm, Inclination(Degree) 20.00, L = 5000
SN6	832011.183	813836.811	87.465	50	20.00°	Type Nail Head_400x400, Dia 50mm, Inclination(Degree) 20.00, L = 4000

CATHPIT SCHEDULE

CATCHPIT NAME	EASTING	NORTHING	CATHPIT WIDTH (mm)	CATHPIT LENGTH (mm)	CATHPIT DEPTH (m)	CATCHPIT TOP LEVEL (mPD)	CATCHPIT BOTTOM LEVEL (mPD)	CATCHPIT MATERIAL
PIT_15	831998.530	813834.705	800	800	0.800	97.492	96.692	Concrete Grade 20/20
PIT_14	832015.553	813854.103	800	800	0.800	94.589	93.789	Concrete Grade 20/20
PIT_16	832006.946	813816.170	800	800	0.800	93.997	93.197	Concrete Grade 20/20
PIT_12	832017.175	813851.862	800	800	0.800	92.000	91.200	Concrete Grade 20/20
PIT_11	832004.808	813833.124	800	800	0.800	92.000	91.200	Concrete Grade 20/20
PIT_10	832009.415	813815.479	800	800	0.800	91.994	91.194	Concrete Grade 20/20
PIT_09	832014.243	813821.001	800	800	0.800	85.000	84.200	Concrete Grade 20/20
PIT_06	832037.217	813852.757	800	800	0.800	85.000	84.200	Concrete Grade 20/20
PIT_07	832020.420	813847.490	800	800	0.800	85.000	84.200	Concrete Grade 20/20
PIT_08	832009.615	813832.519	800	800	0.800	85.000	84.200	Concrete Grade 20/20
PIT_05	832043.215	813846.967	800	800	0.800	85.000	84.200	Concrete Grade 20/20
PIT_03	832039.157	813811.679	800	800	0.800	85.000	84.200	Concrete Grade 20/20
PIT_04	832049.642	813829.492	800	800	0.800	85.000	84.200	Concrete Grade 20/20
PIT_13	832040.839	813857.052	800	800	0.800	84.188	83.400	Concrete Grade 20/20
PIT_02	832040.211	813809.921	800	800	0.800	79.445	78.850	Concrete Grade 20/20
PIT_01	832051.335	813828.475	800	800	0.800	79.243	78.700	Concrete Grade 20/20
SAND TRAP	832053.290	813830.186	1200	1200	0.800	78.983	78.223	Concrete Grade 20/20
FMH4012623	832054.156	813833.144	800	800	0.800	79.053	78.100	Concrete Grade 20/20

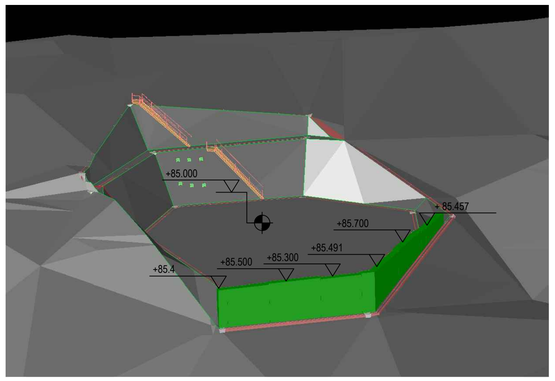
GI SCHEDULE

MARK	EASTING	NORTHING
DH1	832044.484	813810.690
DH2(P)	832023.778	813823.615
DH3	832037.467	813845.788
DH4	832046.564	813852.050



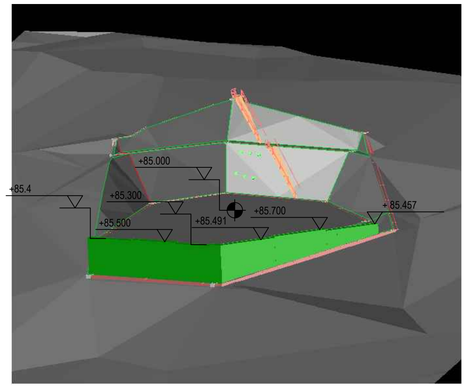
SITE FORMATION LAYOUT PLAN

1:200



3D VIEW FROM SOUTH (FOR INFORMATION ONLY)

NTS.



3D VIEW FROM EAST (FOR INFORMATION ONLY)

NTS.

BD REF :

BIM REF :

REV	DATE	AMENDMENT

PROJECT
CIC SAMPLE PROJECT

DRAWING TITLE
SITE FORMATION LAYOUT PLAN

SCALE As indicated@A1

DRAWING NO. T002

REV. NO.

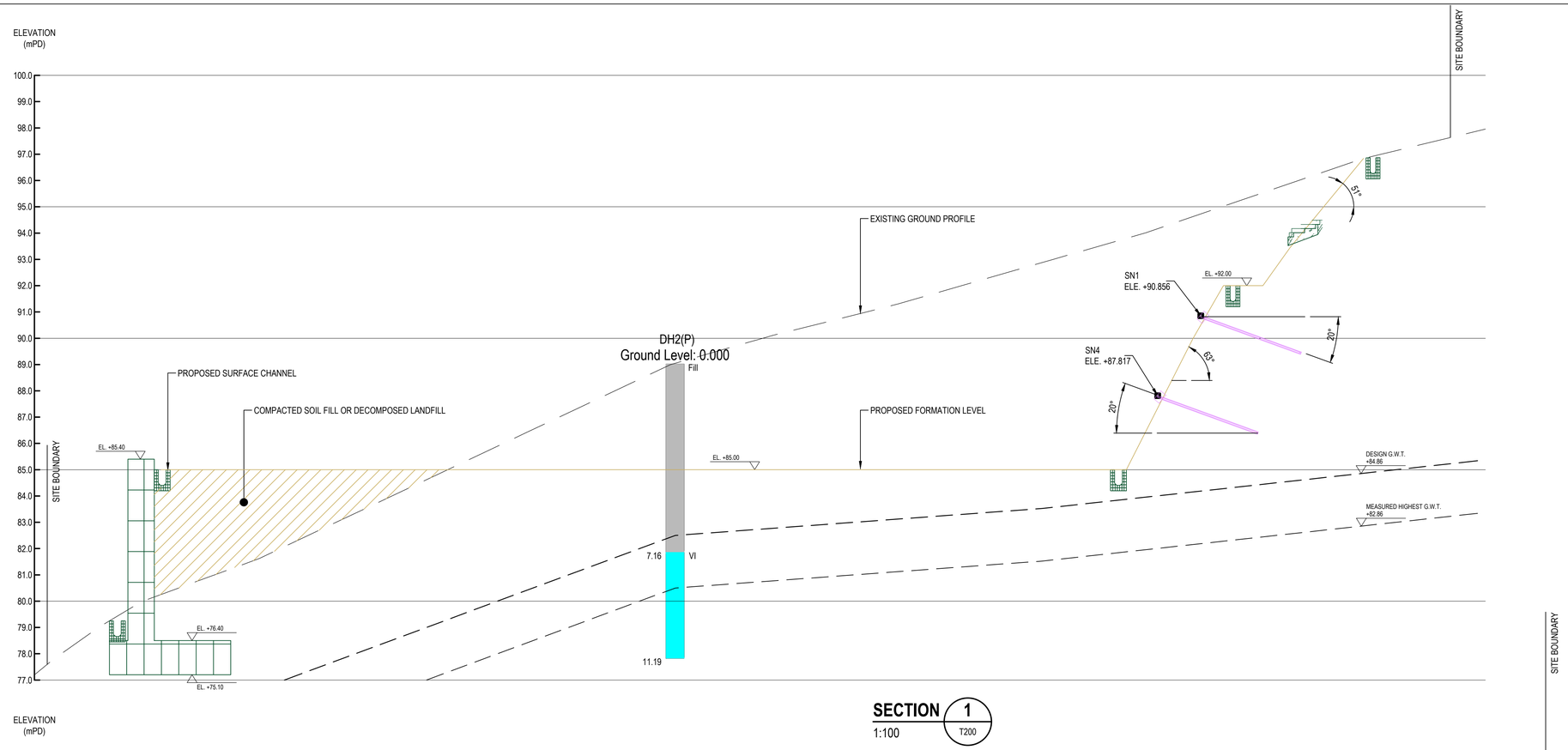
SOURCE ---

90mm (W) x 40mm (H) space for COMPANY LOGO

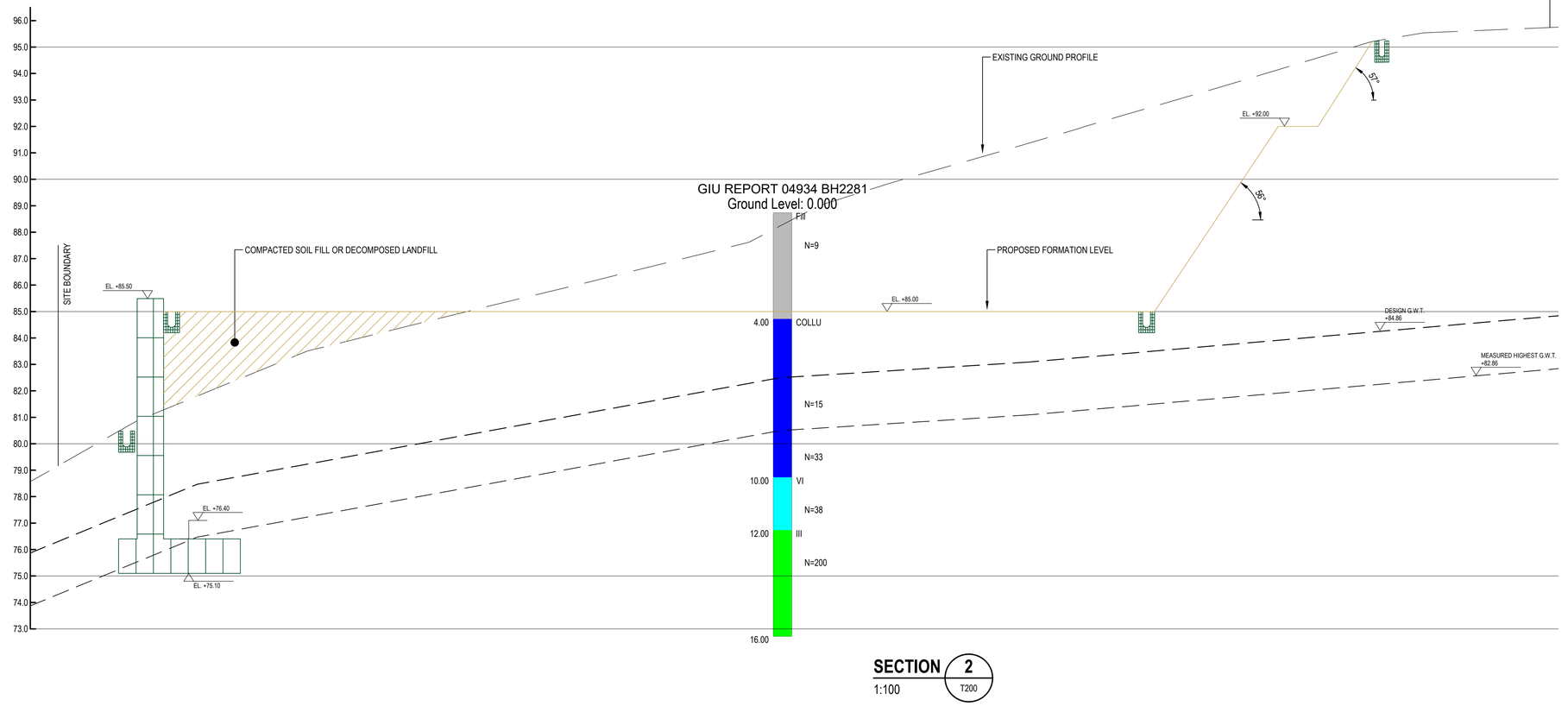
90mm (W) x 60mm (H) space for AP/RSE/RGE's signature/ and stamp chop

BD's OFFICAL USE

90mm (W) x 150mm (H) space for BD's approval stamp / certification of copies of approved plans (PNAP ADM-10 APP A)



SECTION 1
1:100 T200



SECTION 2
1:100 T200

BD REF :

BIM REF :

REV	DATE	AMENDMENT

PROJECT
CIC SAMPLE PROJECT

DRAWING TITLE
SITE FORMATION SECTION

SCALE 1 : 100@A1

DRAWING NO. T003

REV. NO.

SOURCE ---

90mm (W) x 40mm (H) space
for COMPANY LOGO

90mm (W) x 60mm (H) space
for AP/RSE/RGE's
signature/ and stamp chop

BD's OFFICAL USE

90mm (W) x 150mm (H) space
for BD's approval stamp /
certification of copies of
approved plans
(PNAP ADM-10 APP A)

GENERAL NOTES

1. THE WHOLE DRAINAGE INSTALLATION SHALL COMPLY WITH THE REQUIREMENTS OF THE BUILDINGS ORDINANCE AND BUILDING REGULATIONS AND THE CURRENT REGULATIONS OF HONG KONG ENVIRONMENTAL PROTECTION DEPARTMENT.
2. ALL DIMENSIONS AND PIPE SIZES SHOWN ON THE DRAWINGS ARE IN mm UNLESS OTHERWISE STATED.
3. WHERE THE WASTE PIPE FROM A WASTE FITMENT IS CONNECTED TO A SOIL PIPE, THE TRAP PROVIDED FOR EACH FITMENT SHALL HAVE A WATER SEAL NOT LESS THAN 80mm AND BE VENTED BY MEANS OF ANTISYPHONAGE PIPE OR ANTISYPHONAGE TRAP.
4. HORIZONTAL VENT PIPE SHALL BE INSTALLED IN A MANNER THAT THERE IS A CONTINUOUS FALL BACK AT A GRADIENT OF NOT LESS THAN 1 IN 300 INTO THE DISCHARGE PIPE SYSTEM.
5. UNLESS OTHERWISE STATED GRADIENT OF DRAIN PIPES SHALL BE AS FOLLOWS:-

⌀100	FALL 1 : 40
⌀150	FALL 1 : 70
⌀225	FALL 1 : 100
⌀300 OR ABOVE	FALL 1 : 150

6. ALL UNDERGROUND PIPES SHALL BE PROVIDED WITH PIPE HAUNCHING OR SURROUNDED BY CONCRETE AS SHOWN ON DETAILS DRAWINGS. THE DRAINAGE SUB-CONTRACTOR SHALL CHECK THE SITE BEFORE CONSTRUCTION AND RECTIFY THE PROPOSED PIPE ROUTING.
7. INSPECTION PANELS OF ADEQUATE SIZE SHALL BE PROVIDED AT PIPE DUCTS AND SHAFTS FOR INSPECTION AND MAINTENANCE OF PIPES.
8. ALL BACK INLET TRAPPED GULLIES SHALL BE VENTILATED BY MEANS OF 80mm DIA. VENT PIPE.
9. ALL SOIL WASTE AND VENT STACKS SHALL BE CARRIED UP TO THE ROOF AND TERMINATED AT NOT LESS THAN 1000mm ABOVE THE ROOF OR AS SHOWN IN DRAWINGS.
10. EVERY ANTI-SYPHONAGE PIPE SHALL BE CONNECTED WITH BRANCH SOIL PIPE OR BRANCH WASTE PIPE AT A POINT NOT MORE THAN 300mm FROM TRAP OUTLET.
11. WHETHER SHOWN ON THE DRAWINGS OR NOT, SUFFICIENT ACCESS SHALL BE PROVIDED BY MEANS OF CLEANING EYES OR OTHER APPROVED METHOD TO ENABLE ALL DRAINAGE PIPES TO BE CLEARED OF ANY OBSTRUCTION. SUCH ACCESS POINTS SHALL BE SO SITED AT TO ALLOW CLEARANCE FOR THE EASY ENTRY OF CLEANING ROD.
12. ALL BENDS IN SOIL PIPES AND WASTE PIPES SHALL HAVE AN OBTUSE ANGLE AND HAVE THE LARGEST PRACTICABLE RADIUS OF CURVATURE. THE BENDS SHALL NOT CHANGE IN ANY WAY OF THE SECTION OF THE PIPE AND A CLEANING EYE SHALL BE PROVIDED AT OR NEAR THE BEND.
13. ALL FLOOR DRAINS ARE TO BE COMPLETED WITH FLAT GRATING. THEIR SIZE ARE NOTED AS FOLLOW:

OUTLET SIZE	GRATING SIZE
⌀50	⌀100
⌀80	⌀150
⌀100	⌀225
⌀150	⌀300

FOR REFERENCE ONLY

14. THE SUB-CONTRACTOR SHOULD CHECK AND ALLOW ADEQUATE FALL FOR THE SOIL/WASTE PIPE RUNNING ON FLOOR LEVEL.
15. ALL PIPES PASSING THROUGH EXIT STAIRCASES, FIRE PROTECTED LOBBIES SHALL BE ENCLOSED IN FRR -/60/60 MATERIAL & BASEMENT IN FRR -/120/120 MATERIAL BY MAIN CONTRACTOR.
16. EXPANSION JOINTS SHALL BE PROVIDED FOR PIPEWORK PASSING THROUGH BUILDING EXPANSION JOINTS.
17. UNLESS OTHERWISE STATED, BRANCH PIPE SIZE SHALL BE AS FOLLOWS:

WASTE BRANCH FOR EACH WASH BASIN	32mm
WASTE BRANCH FOR EACH KITCHEN SINK	40mm
WASTE BRANCH FOR EACH FLOOR DRAIN IN TOILET	50mm
WASTE BRANCH FOR EACH SHOWER DRAIN IN TOILET	50mm
WASTE BRANCH FOR EACH BATH IN TOILET	40mm
WASTE BRANCH FOR EACH FLOOR DRAIN IN PLANT RM.	100mm
SOIL BRANCH FOR EACH URINAL	40mm
SOIL BRANCH FOR EACH WATER CLOSET	100mm
VENT BRANCH FOR EACH WATER CLOSET	50mm
VENT BRANCH FOR EACH URINAL	32mm

18. ALL MANHOLE AND BITG FRAMES AND COVERS (INCLUDING CAST IRON COVER AND MATCHING COVER) SHALL BE OF AN APPROVED DESIGN CONFORMING TO THE FOLLOWING REQUIREMENTS, UNLESS OTHERWISE INDICATED:
    a. INDOOR CARPARK AREA/DRIVE WAY -HEAVY DUTY TYPE DOUBLE SEAL
    b. OUTDOOR CARPARK AREA/DRIVE WAY -HEAVY DUTY TYPE SINGLE SEAL
    c.INSIDE BUILDING -MEDIUM DUTY TYPE DOUBLE SEAL
19. ALL UNDERGROUND DRAINS ARE TO BE LAID ON A CONCRETE BED NOT LESS THAN 100mm THICK AND AT LEAST 150mm WIDER THAN THE PIPE BORE AND AUNCHED UP BOTH SIDES WITH CONCRETE TO MEET THE PIPE BARREL TANGENTIALLY.
20. ALL INVERT LEVELS SHOWN ON MANHOLES ARE THE INVERT LEVEL OF THE MAIN CHANNELS IN THE CENTRE OF MANHOLES.
21. ALL UNDERGROUND DRAINS SHALL BE DULY TESTED AND COMPLIED WITH THE REQUIREMENT STATED ON PNRC 11 & PNAP APP-58 PRIOR TO THE BACKFILLING OF TRENCHES.
22. WHETHER SHOWN ON THE DRAWING OR NOT, SUFFICIENT PROTECTIVE GUARD SHALL BE SUPPLIED AND INSTALLED BY MAIN CONTRACTOR.
23. POSITION OF MANHOLES SHALL BE CO-ORDINATE WITH OTHER TRADES/SERVICES. EXACT POSITION AND SET-OUT TO BE DETERMINED ON SITE.
24. CAST IRON AIRTIGHT BOLTED COVER SHALL BE USED TO BACK INLET TRAPPED GULLIES WHICH ARE SITUATED INSIDE BUILDING AND THE AIR TIGHT TRAPPED GULLIES SHALL BE VENTILATED.
25. EVERY STORM WATER PIPE WHICH DISCHARGE TO A CHANNEL OR A TRAP SHALL DISCHARGE AT A POINT NOT MORE THAN 150MM ABOVE THE TOP OF THE CHANNEL OR DISCHARGE INTO A TRAPPED AND VENTED INSPECTION CHAMBER.
26. SIZE OF TRAPS FOR FITMENTS SHALL BE THE SAME AS THE PIPE SIZE NOTED FOR FITMENTS.
27. FACES OF EVERY MANHOLE WITHIN SITE SHALL BE RENDERED WITH CEMENT MORTAR SO AS TO PROVIDE A SMOOTH AND IMPERVIOUS SURFACE.
28. UPON THE COMPLETEION OF DRAINAGE CONNECTION WORKS BY THE SUB-CONTRACTOR. A JOINT INSPECTION WITH D.S.D SHALL BE CARRIED OUT AND THE AS BUILT SEWER AND STORMWATER DRAINS RECORDS WILL BE FURNISHED TO D.S.D.
29. ALL BENDING RADIUS OF THE UNDERGROUND PIPE SHOULD BE GREATER THAN 6 TIMES OF THE PIPE DIA..
30. ALL CONDENSATE DRAIN PIPES SHALL BE CONNECTED TO THE STORM WATER PIPE IS NOT REQUIRED TO CONNECT WITH ANTI SYPHONIC TRAP.
31. UNLESS OTHERWISE SPECIFIED, ALL FINISHED FLOOR GRADIENT SHALL BE 1 IN 100 FALL.
32. UNDERGROUND DRAIN SHALL HAVE AN INTERNAL DIAMETER OF NOT LESS THAN 100mm DIA.
33. BEFORE CONSTRUCTION OF THE DRAINAGE WORKS, THE SUB-CONTRACTOR SHOULD CHECK THE EXACT LOCATION AND INVERT LEVELS OF THE EXISITNG GOVERNMENT PIPELINES AND MANHOLES.
34. ALL PIPES SHALL BE SURROUNDED WITH 150mm CONCRETE WHEN COVER DEPTH IS LESS THAN 900mm UNDER ROAD AND 450mm UNDER FOOTWAY.
35. NO PIPE JOINTS SHALL BE PERMITTED WITHIN THE THICKNESS OF WALLS OR FLOORS.
36. FRESH AIR INLETS SHALL BE STRONG CAST IRON APPROX. 50MM(W)x115MM(H) x140(D) WITH CURVED BACK FIXING EATS CASTED ON FOR CONNECTION PIPE 100MM DIAMETER WITH POLISHED STAINLESS STEEL SKILLED FRONT SCREWED ON AND FITTED WITH THIN ALUMINIUM-FLAP VALVE FIXED AT MINIMUM 2.5M ABOVE GROUND LEVEL OR SHOWN ON THE DRAWINGS.
37. TRAPPED GULLIES SHALL BE WITH HINGED CAST IRON GRATING OR COVER WITH FRAME. CAST IRON GULLY TRAP OF APPROPRIATE SIZE SHALL MATCH WITH THE DRAIN PIPES AND PROVIDE A MIN. 75MM DEEP-WATER SEAL AND WITH MIN. 50MM DIAMETER VENT PIPE FOR SEALED COVER GULLY.
38. FLOOR DRAINS OR VERTICAL GRATINGS SHALL BE SET IN POSITIONS AND SEAL THE CLEARANCE BETWEEN THE FLOOR DRAINS AND THE FLOOR SLABS AFTER INSTALLATION.
39. DRAINAGE WORKS OUTSIDE LOT BOUNDARY ARE FOR BD REFERENCE ONLY.
40. CCTV AND MANHOLE SURVEY SHALL BE CARRIED OUT AT THE EARLY STAGE OF THE CONSTRUCTION AND THE COMPLETION OF THE WHOLE DRAINAGE SERVICES SYSTEM. THE EXTENT OF CCTV SURVEY SHALL SUBJECT TO ARCHITECT/ ENGINEER'S APPROVAL.

EARLY STAGE
- FROM GOVERNMENT MANHOLE FMH4055942 TO FMH4055943
- FROM GOVERNMENT MANHOLE SMH4074523 TO SMH4074524
- FROM GOVERNMENT MANHOLE SMH4074527 TO SMH4074529

COMPLETION OF SYSTEM
- FROM FOUL WATER TERMINAL MANHOLE T.FMH-B01 TO FMH4055942
- FROM GOVERNMENT MANHOLE FMH4055942 TO FMH4055943
- FROM STORM WATER TERMINAL MANHOLE T.SMH-101 TO SMH4074523
- FROM GOVERNMENT MANHOLE SMH4074523 TO SMH4074524
- FROM STORM WATER TERMINAL MANHOLE T.SMH-B01 TO SMH-B13
- FROM GOVERNMENT MANHOLE SMH-B13 TO SMH4074527
- FROM GOVERNMENT MANHOLE SMH4074527 TO SMH4074529

41. SUNKEN TRENCH SHALL BE BACKFILL WITH LIGHT WEIGHT CONCRETE. CLEANSING EYE SHALL BE PROVIDED FOR PIPEWORKS INSIDE SUNKEN TRENCH.

PIPEWORK MATERIAL SCHEDULE

ABOVEGROUND SOIL / WASTE / SOIL & WASTE / RAIN WATER VENT PIPE	ABOVEGROUND: ⌀32 - ⌀40 (INSIDE PIPE DUCT / PODIUM AREA)	GALVANIZED STEEL TUBE TO BS EN 10255 'MEDIUM' GRADE WITH SCREW JOINT FOR INSIDE PIPE DUCT & PODIUM AREA OR UPVC PIPE TO BS EN 465*-1 / BS 4514 FOR INTERNAL AREA.
	⌀50 - ⌀300 (INSIDE PIPE DUCT / PODIUM AREA / WITHIN 2m FROM TRANSFER PLATE)	CAST IRON TO BS 416 / BS 437
	ALL SIZES (INSIDE SUNKEN SLAB / WITHIN SAME COMPARTMENT AREA)	UPVC PIPE TO BS 4514 / BS EN 1329-1
	⌀32 TO ⌀65	UPVC PIPE TO BS 5255 & BS EN 1329
	⌀80 - ⌀150 (EXTERNAL & ABOVE 2m ABOVE TRANSFER PLATE))	UPVC PIPE TO BS 4514 / BS EN 1329-1
	⌀350 AND ABOVE	DUCTILE IRON TO BS EN 598 WITH INTERNAL HIGH ALUMINA CEMENT COATING
PUMPED DRAINAGE PIPE	UP TO ⌀65	G.I. PIPES TO BS EN 10255 MEDIUM GRADE FOR ABOVEGROUND, HEAVY GRADE FOR UNDERGROUND
	⌀80 AND ABOVE	DUCTILE IRON TO BS EN 598 WITH INTERNAL HIGH ALUMINA CEMENT LINING
A/C CONDENSATE DRAIN SYSTEM	EXTERNAL AND ALL SIZES	UPVC PIPES AND FITTINGS TO BS EN 1329-1 / BS 4514
	INSIDE PIPE DUCT / PODIUM AREA / TRANSFER PLATE AND ALL SIZES	G.I. PIPE TO BS EN 10255 MEDIUM GRADE C/W 9mm ELASTOMERIC THERMAL INSULATION CLASS O
UNDERGROUND SOIL / WASTE / SOIL & WASTE / RAIN WATER VENT PIPE	⌀100 - ⌀225	CAST IRON TO BS 437
	⌀250 - ⌀375	CAST IRON TO BS 1211 / BS 4622
	⌀400 AND ABOVE	DUCTILE IRON TO BS EN 598
UNDERGROUND SOIL AND WASTER PIPE CONNECT TO PUBLIC DRAINAGE SYSTEM	ALL SIZE	HIGH DENSITY POLYETHYLENE PIPES TO BS EN 12201-2:2011, PE 100.
UNDERGROUND RAIN WATER PIPE CONNECT TO PUBLIC DRAINAGE SYSTEM	ALL SIZE	CONCRETE PIPE TO BS EN 5911 PART 100 CLASS H

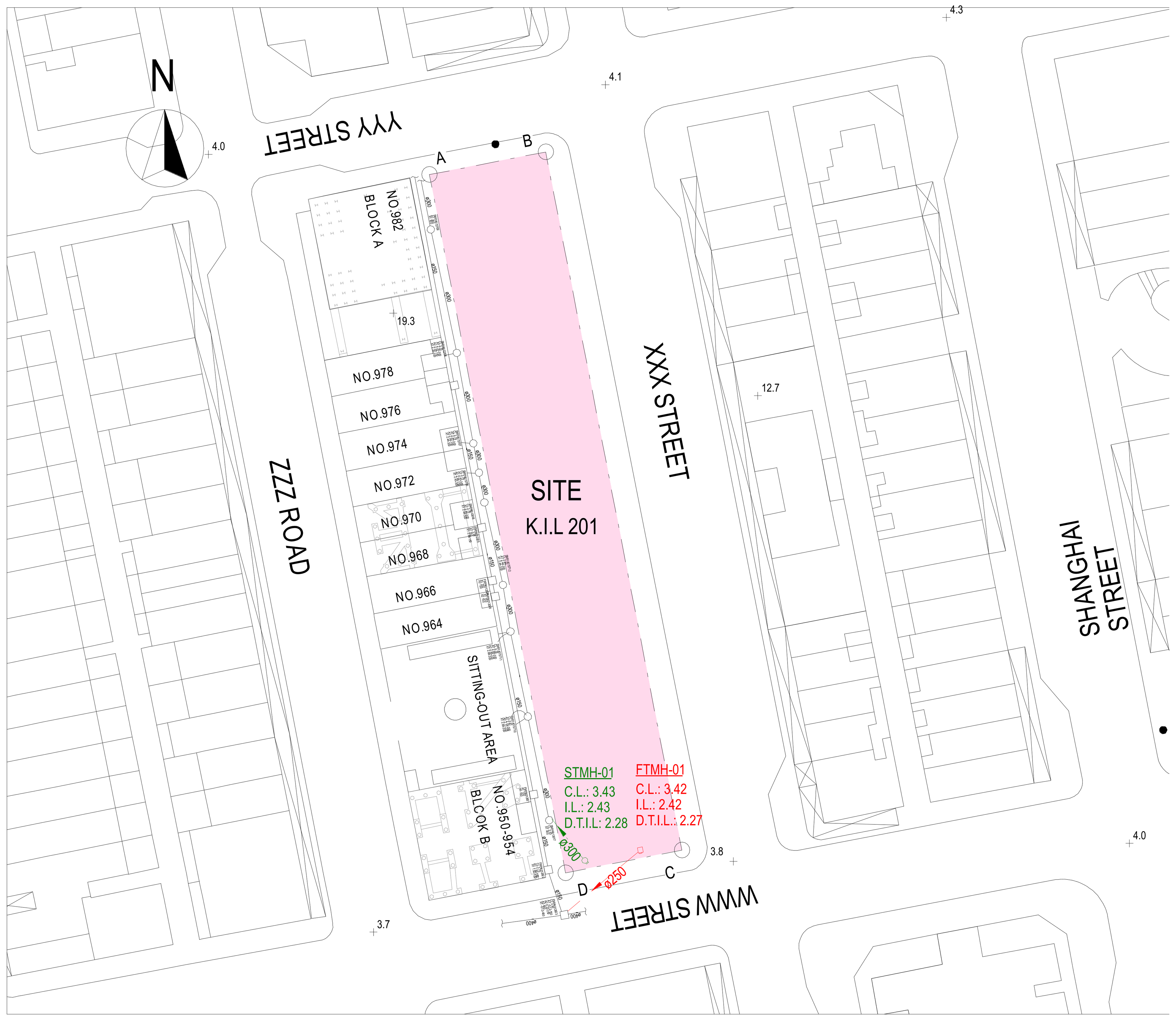
FOR REFERENCE ONLY

ABBREVIATION

T/A	TO ABOVE	STG	SEAL TRAPPED GULLY	P.D.	PLANTER DRAIN
T/B	TO BELOW	OTG	OPEN TRAPPED GULLY	S.S.	STAINLESS STEEL
F/A	FROM ABOVE	WP	WASTE PIPE	S.W.P.	SOIL & WASTE PIPE
F/B	FROM BELOW	SP	SOIL PIPE	R.W.P.	RAINWATER PIPE
U/S	UNDERSLAB	RW	RAIN WATER	G.S.P.	GALVANIZED STEEL PIPE
		VP	VENT PIPE	D.I.P.	DUCTILE IRON PIPE
F/L	FLOOR LEVEL	U/G	UNDERGROUND	F.D.	FLOOR DRAIN
H/L	HIGH LEVEL	AFFL	ABOVE FINISHED FLOOR LEVEL	V.G.	VERTICAL GRATING
M/L	MID LEVEL	C/W	COMPLETE WITH	C.L.	COVER LEVEL
L/L	LOW LEVEL	P.I.	PETROL INTERCEPTOR	I.L.	INVERT LEVEL
A/G	ABOVE GROUND	F.M.H.	FOUL WATER MANHOLE	A/C	AIR CONDITIONING
		S.M.H.	STORM WATER MANHOLE	C.E.	CLEANING EYE
DN	DIAMETER(MM)	UPVC.P.	UNPLASTICIZED POLYVINYL CHLORIDE PIPE	TFD	TOP ACCESS FLOOR DRAIN
GOVT.	GOVERNMENT	BITG	BACK INLET TRAPPED GULLY	TSD	TOP ACCESS SHOWER DRAIN
R.W.O.	RAIN WATER OULET	M.H.	MANHOLE	VRWO	VERTICAL RAIN WATER OUTLET
C.I.P.	CAST IRON PIPE	D.T.I.L.	DISCONNECTING TRAP INVERT LEVEL		
C.D.P.	CONDENSATE DRAIN PIPE				
CON. PIPE	CONCRETE PIPE				
AP	ACCESS PANEL				

LEGENDS

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	DIRECTION OF FLOW	F.A.I.	FRESH AIR INLET
	WASTE PIPE		WIRE MESH BALLOON (VENT COWL)
	SOIL & WASTE PIPE / SOIL PIPE	VRWO	VERTICAL RAIN WATER OUTLET
	RAIN WATER PIPE	RWO	RAIN WATER OUTLET
	VENTILATING PIPE/ ANTI-SYPHONAGE PIPE	TFD	TOP ACCESS FLOOR DRAIN
	A/C CONDENSATION DRAIN PIPE	TSD	TOP ACCESS SHOWER DRAIN
SMH	STORMWATER MANHOLE	FD	FLOOR DRAIN
WMH	SOIL & WASTE MANHOLE	VFD	VERTICAL FLOOR DRAIN
STMH	TERMINAL STORMWATER MANHOLE	BITG	BACK INLET TRAPPED GULLY C/W VENT PIPE
FTMH	TERMINAL FOUL WATER MANHOLE	OTG	OPEN TRAPPED GULLY
	WATER CLOSET		CLEANSING EYE
	WASH BASIN		SUMP PIT WITH SUBMERSIBLE PUMPS
	SINK		GREASE TRAP
	URINAL	S.T.	SEPTIC TANK
	SHOWER		SOAKAWAY PIT
	BATH-TUB		PETROL INTERCEPTOR
	HALF ROUND / FLAT CHANNEL	A	CONNECTION FROM A TO A
	COVERED CHANNEL	B	CONNECTION FROM B TO B
	200 DEPTH SUNKEN SLAB		
	400 DEPTH SUNKEN SLAB		
	DISCONNECTING TRAP		
	ANIT-SYPHONAGE BOTTOM TRAP		



BLOCK PLAN
1 : 500

BD REF :

BIM REF :

REV	DATE	AMENDMENT

PROJECT
CIC SAMPLE PROJECT

DRAWING TITLE
GENERAL NOTES FOR DRAINAGE

SCALE 1:500

DRAWING NO. M001 REV. NO.

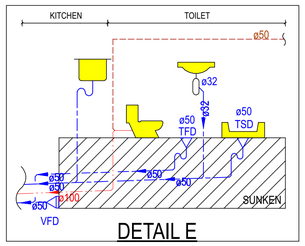
SOURCE ---

90mm (W) x 40mm (H) space for COMPANY LOGO

90mm (W) x 60mm (H) space for AP's signature/ and stamp chop

BD's OFFICAL USE

90mm (W) x 150mm (H) space for BD's approval stamp / certification of copies of approved plans (PNAP ADM-10 APP A)



DETAIL E
1 : 100

TR/F +109.500
UR2/F +106.300
R/F +100.000
27-29/F +96.350
4/F-26/F +29.850
3/F +23.200
2/F +14.100
1/F +9.100
G/F +3.950
B1/F -1.000
B2/F -5.900

1100 AFFL
FRESH WATER PUMP ROOM
FLUSHING WATER PUMP ROOM
2500 AFFL
2500mm AFFL
B.L.
FAI
SHOP 1-8
SHOP G-5
R.C. & M.R.C.
LOADING / UNLOADING
CONNECT TO GOVERNMENT MANHOLE (FMH4012623) CL 3.42 A1 -0.12-150 A2 -0.12-200 A3 400 X1 -0.12-400
FTMH-01
C.L. 3.42 m
I.L. 2.42 m
D.T.I.L. 2.27 m
F&B-B1
BABYCARE ROOM
F. LAV
UNI-SEX
M. LAV
F&B-B2
W.M.C.
CARETAKER LAV
CARETAKER PANTRY
FRESHING & FLUSHING WATER PUMP ROOM
F.S. WATER TANK & PUMP ROOM
SPRINKER WATER TANK & PUMP ROOM
CARPARK EXHUAST FAN ROOM
SUNKEN

GREASE TRAP
GT-01
FLOW: 4.4 L/s
INTERNAL DIMENSION:
2050(L) x 1000(W) x 1300(D)

UNDERGROUND SUMP PIT
RWPP-01
FLOW: 30.0 L/s
HEAD: 20.0 m
EFFECTIVE VOLUME:
2000(L) x 1500(W) x 1000(D)

UNDERGROUND SUMP PIT
SWPP-03
FLOW: 3.0 L/s
HEAD: 20.0 m
EFFECTIVE VOLUME:
2000(L) x 1500(W) x 600(D)

PETROL INTERCEPTOR
PI-01
FLOW: 2.0 L/s
INTERNAL DIMENSION:
2650(L)x750(W)x2500(D)

WMH-02
C.L. -6.10 m
I.L. -7.85 m

WMH-01
C.L. -6.10 m
I.L. -7.85 m

UNDERGROUND SUMP PIT
SWPP-02
FLOW: 6.0 L/s
HEAD: 20.0 m
EFFECTIVE VOLUME:
2000(L) x 1500(W) x 600(D)

GREASE TRAP
GT-02
FLOW: 1.0 L/s
INTERNAL DIMENSION:
1650(L) x 900(W) x 1000(D)

UNDERGROUND SUMP PIT
SWPP-04
FLOW: 3.0 L/s
HEAD: 20.0 m
EFFECTIVE VOLUME:
2000(L) x 1450(W) x 600(D)

BD REF :
BIM REF :

NO.	DATE	AMENDMENT

PROJECT
CIC SAMPLE PROJECT

DRAWING TITLE
SCHEMATIC DIAGRAM OF DRAINAGE SYSTEM

SCALE 1:100

DRAWING NO. M002
REV. NO.

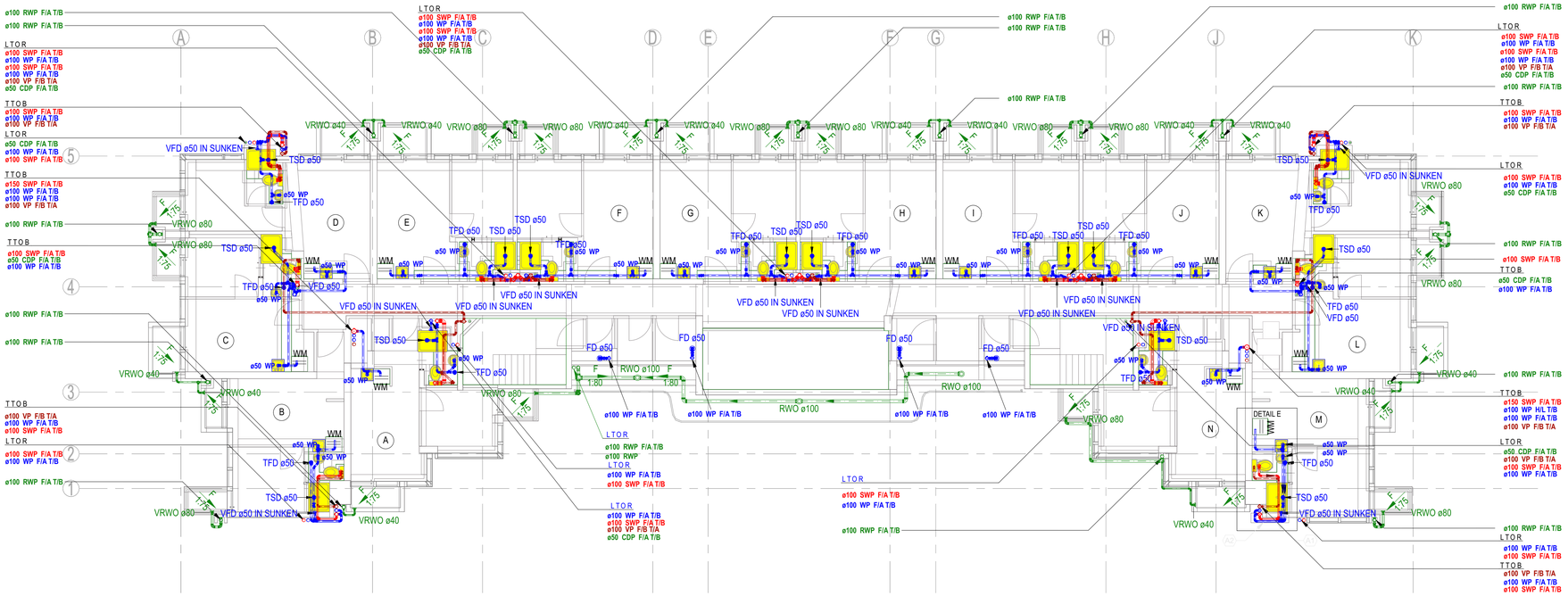
SOURCE ---

90mm (W) x 40mm (H) space
for COMPANY LOGO

90mm (W) x 60mm (H) space
for AP's signature/ and stamp chop

BD's OFFICAL USE

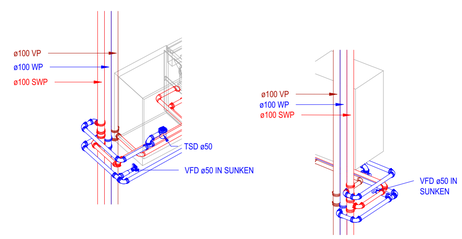
90mm (W) x 150mm (H) space
for BD's approval stamp /
certification of copies of
approved plans
(PNAP ADM-10 APP A)



1 6/F FLOOR PLAN (New Approach)

1 : 100

(2D plan generated from 3D model on proposed new approach with supplementary elevation/ 3D views)



A1 3D View-Right (for reference only)
(Not to scale)

A2 3D View-Left (for reference only)
(Not to scale)

BD REF :

BIM REF :

NO.	DATE	AMENDMENT

PROJECT
CIC SAMPLE PROJECT

DRAWING TITLE
DRAINAGE LAYOUT PLAN FOR TYPICAL FLOOR (NEW APPROACH)

SCALE 1:100, 1:50

DRAWING NO. M003

REV. NO.

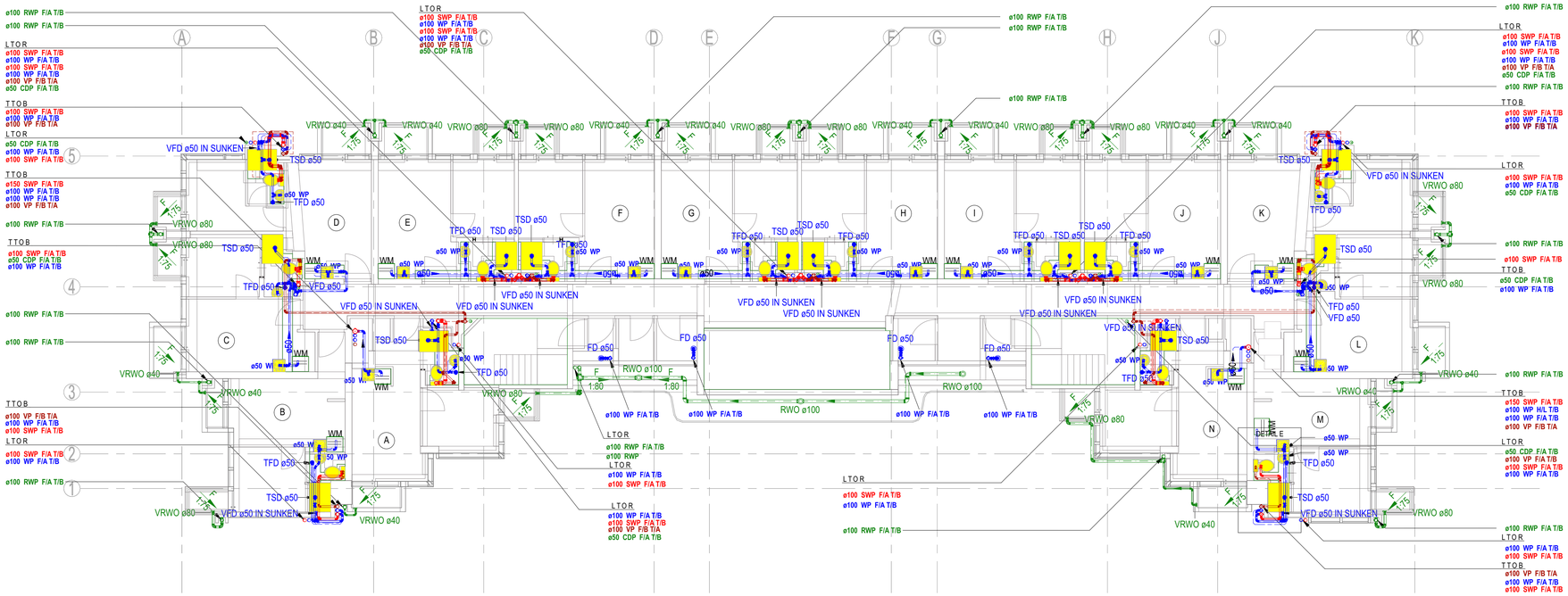
SOURCE ---

90mm (W) x 40mm (H) space for COMPANY LOGO

90mm (W) x 60mm (H) space for AP's signature/ and stamp chop

BD's OFFICAL USE

90mm (W) x 150mm (H) space for BD's approval stamp / certification of copies of approved plans (PNAP ADM-10 APP A)



1 6/F FLOOR PLAN (TRADITIONAL PRESENTATION STYLE)

1 : 100

(2D plan generated from 3D model based on traditional presentation style with manual updating)

BD REF :

BIM REF :

NO.	DATE	AMENDMENT

PROJECT

CIC SAMPLE PROJECT

DRAWING TITLE

DRAINAGE LAYOUT PLAN FOR TYPICAL FLOOR (TRADITIONAL STYLE)

SCALE 1:100

DRAWING NO. M003a

REV. NO.

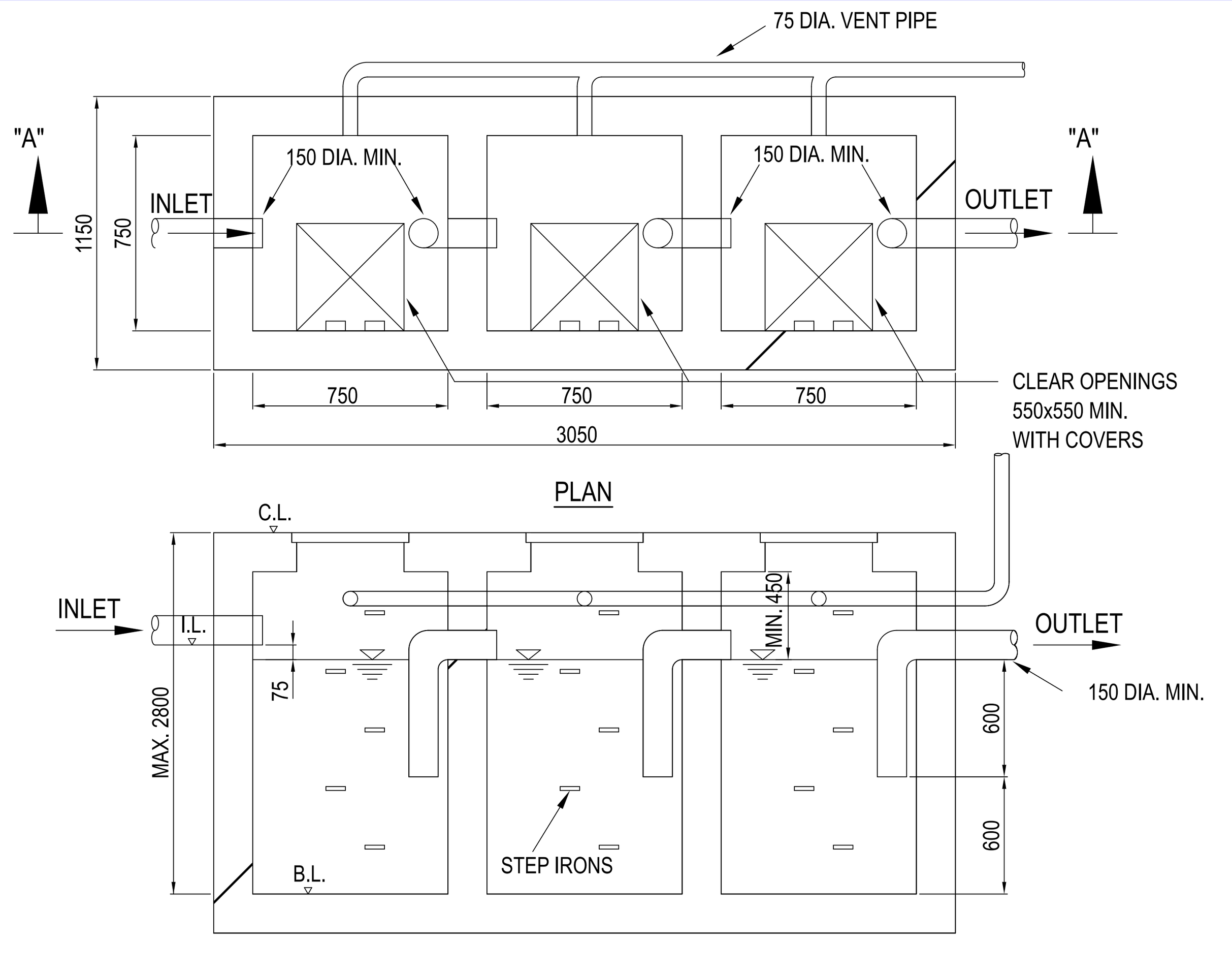
SOURCE ---

90mm (W) x 40mm (H) space
for COMPANY LOGO

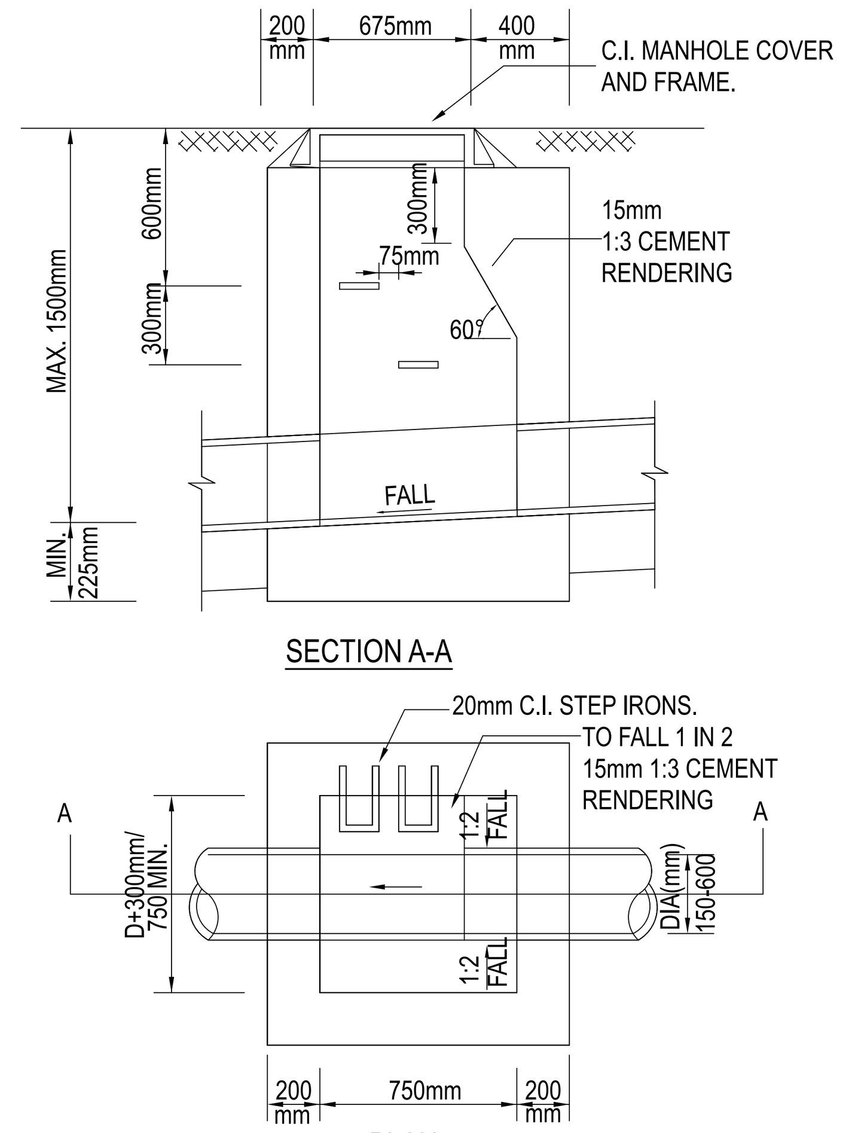
90mm (W) x 60mm (H) space
for AP's signature/ and stamp chop

BD's OFFICAL USE

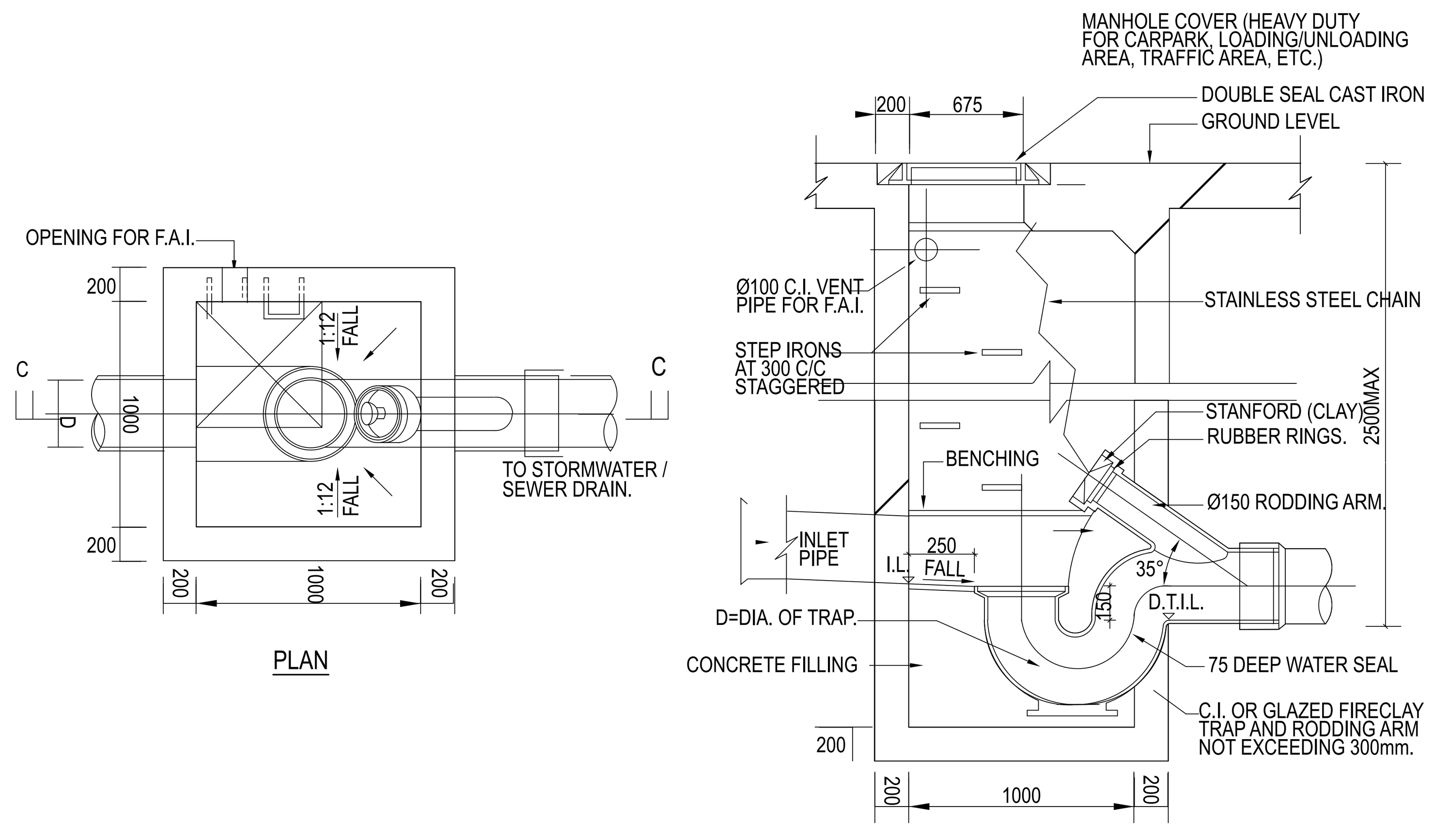
90mm (W) x 150mm (H) space
for BD's approval stamp /
certification of copies of
approved plans
(PNAP ADM-10 APP A)



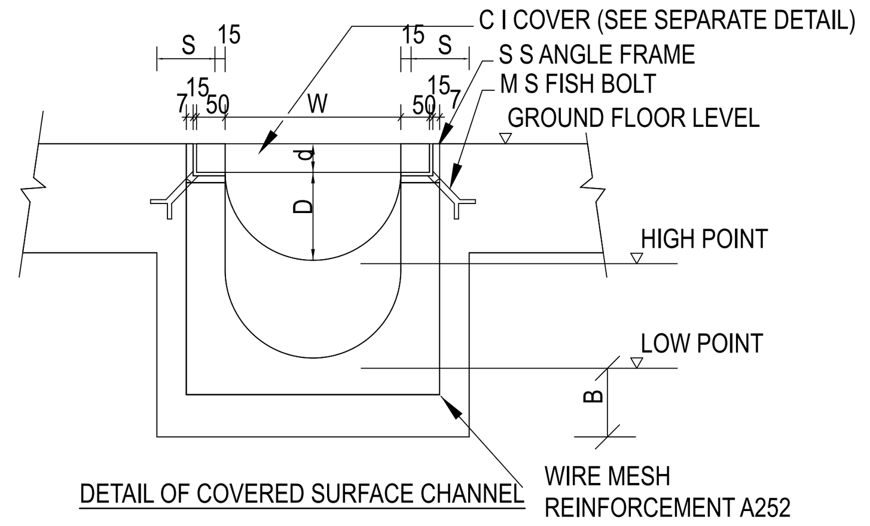
TYPICAL DETAILS OF PETROL INTERCEPTOR



STANDARD DETAILS OF MANHOLE TYPE D1



TERMINAL MANHOLE (TYPE T1_1)



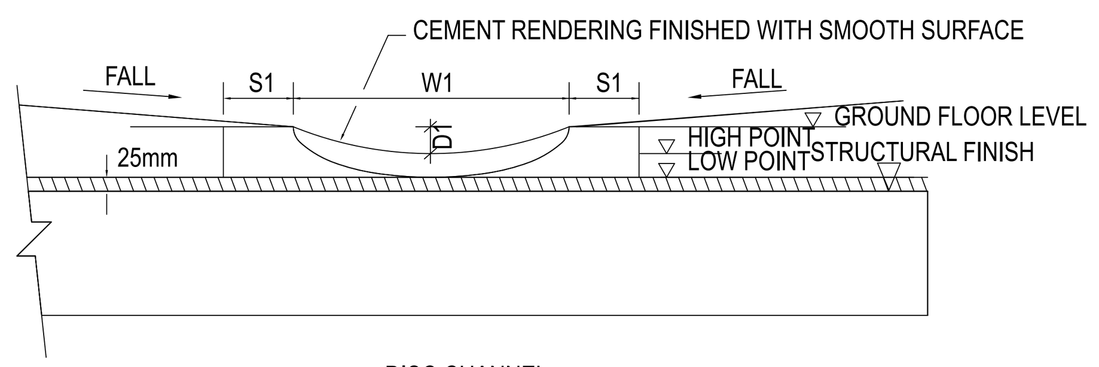
DETAIL OF COVERED SURFACE CHANNEL

W	S	D	B
200	100	100	100
225	100	115	100
250	100	125	100
300	100	150	100
350	100	170	100
400	100	200	100
450	100	225	100

SURFACE CHANNEL SCHEDULE

NOTES :
1. ALL SURFACE CHANNELS SHALL BE FINISHED SMOOTH WITH 1 : 2 CEMENT AND SAND RENDERING
2. GRADIENT OF CHANNEL SHALL BE NOT LESS THAN 1 IN 100
3. DEPTH OF LOW POINT DEPEND ON THE LENGTH OF CHANNELS
4. ALL CHANNEL SHALL BE CONSTRUCTED IN GRADE 30D/20 CONCRETE

DETAIL OF SURFACE CHANNEL

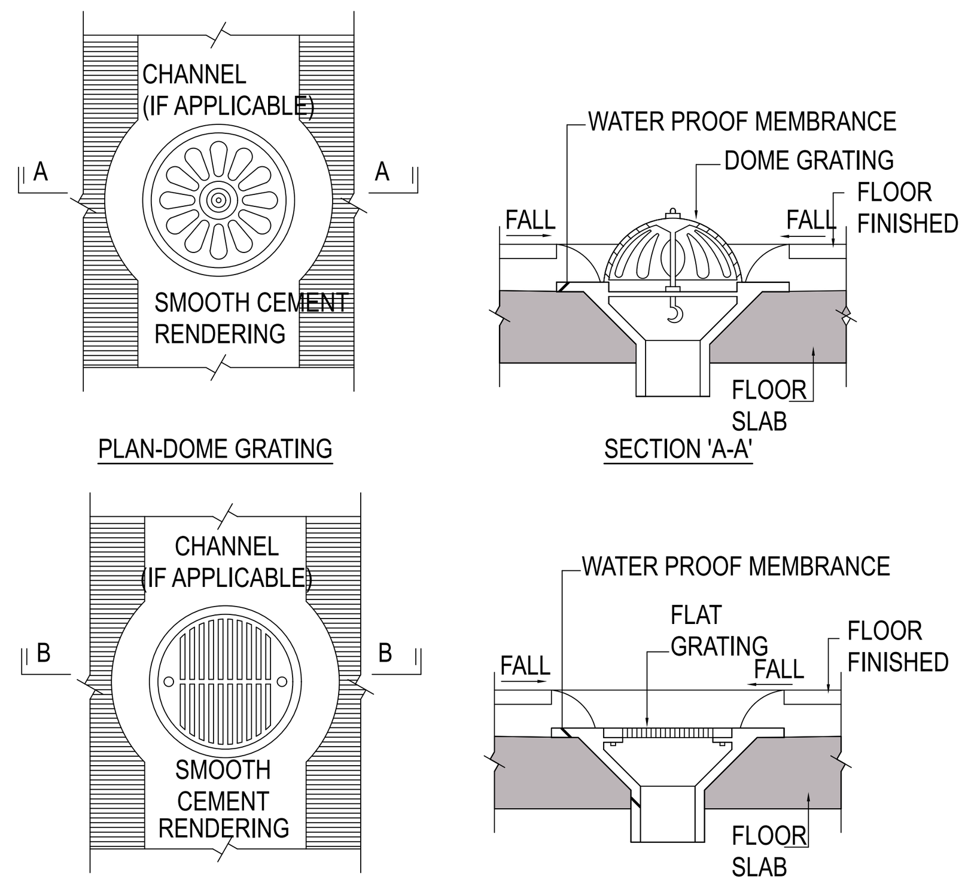


DISC CHANNEL

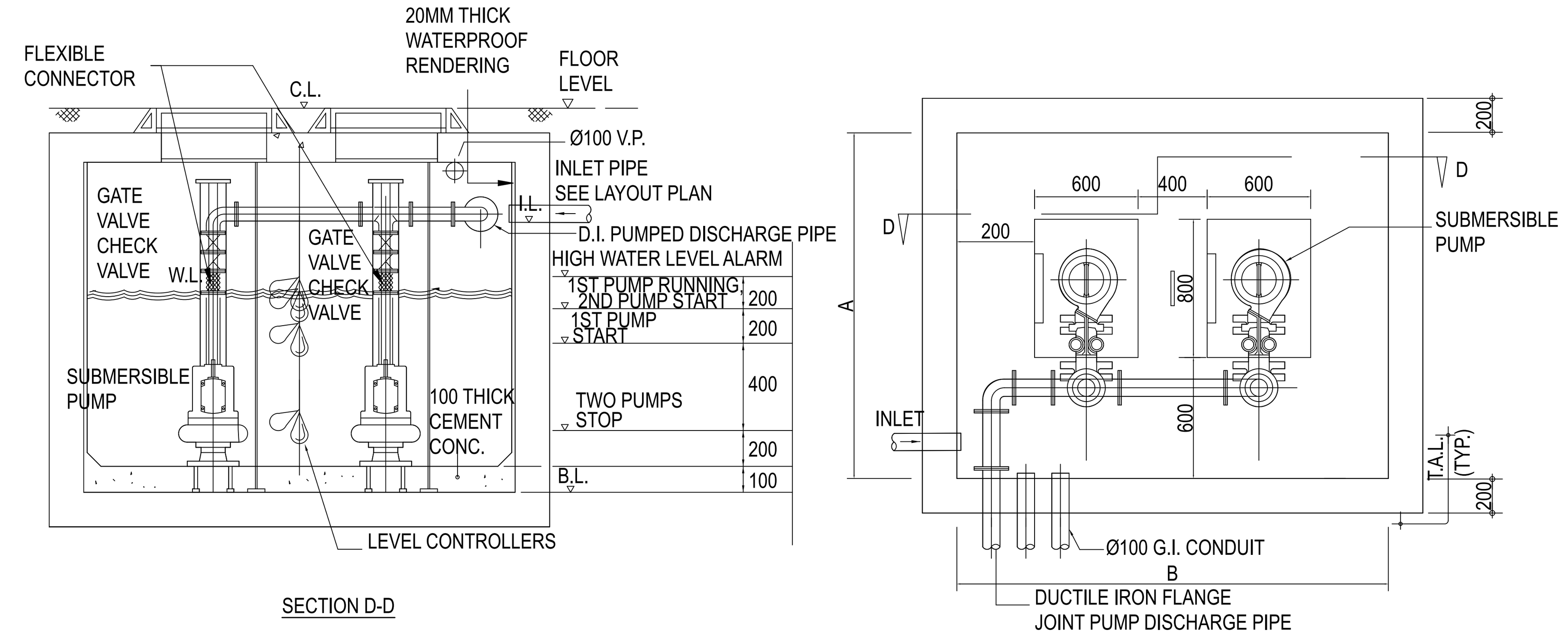
W1	S1	D1 MIN.	D1 MAX.
200	100	25	
225	100	25	
250	100	25	
300	100	25	
350	100	25	
400	100	25	
450	100	25	

CHANNEL SCHEDULE
(NOTE: MAX., DEPEND ON FALL)

DETAIL OF DISC CHANNEL

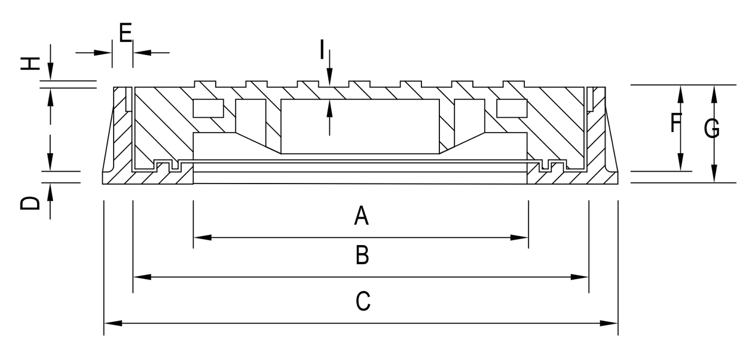


VERTICAL GRATING DETAIL

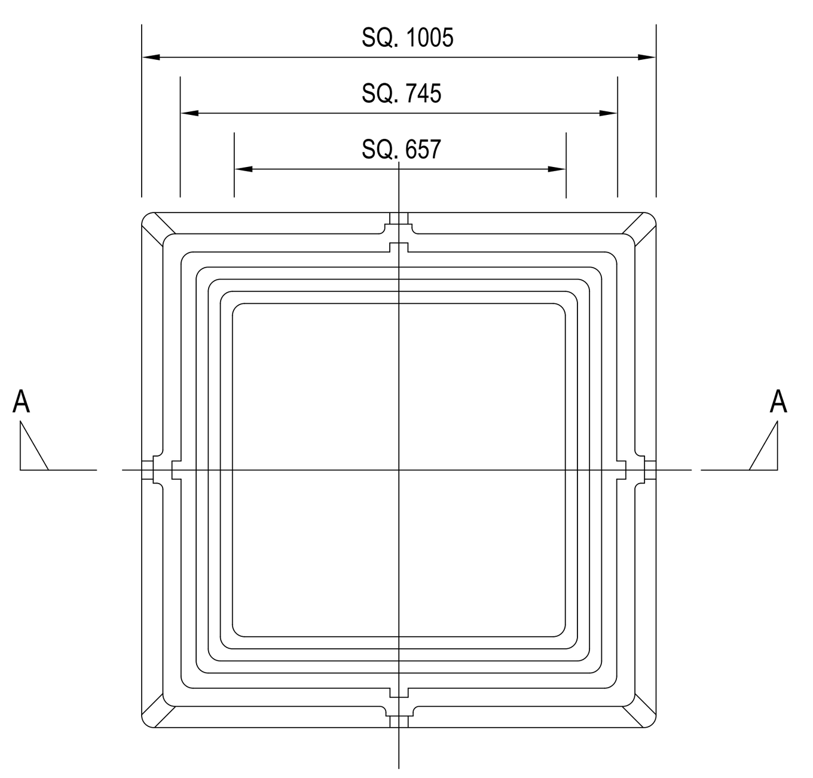


NOTES:
1. THE SUMP PUMPS SHALL BE AUTOMATIC START AND STOP WHEN WATER LEVEL REACH THE PUMPS START LEVEL AND THE PUMP CUT-OFF LEVEL
2. START/STOP CONTROL OF THE SUMP PUMPS SHALL BE PROVIDED ON THE CONTROL PANEL.
3. SUMP PUMPS CONTROL CIRCUIT DIAGRAM SHALL BE FRAMED AND DISPLAYED NEXT TO THE SUMP PUMPS CONTROL PANEL.

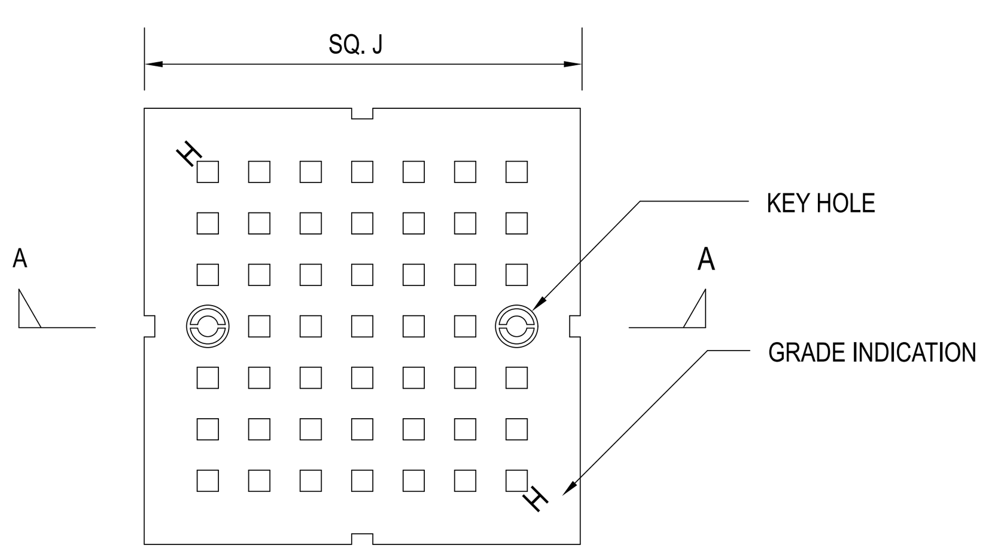
DETAILS OF SUMP PIT



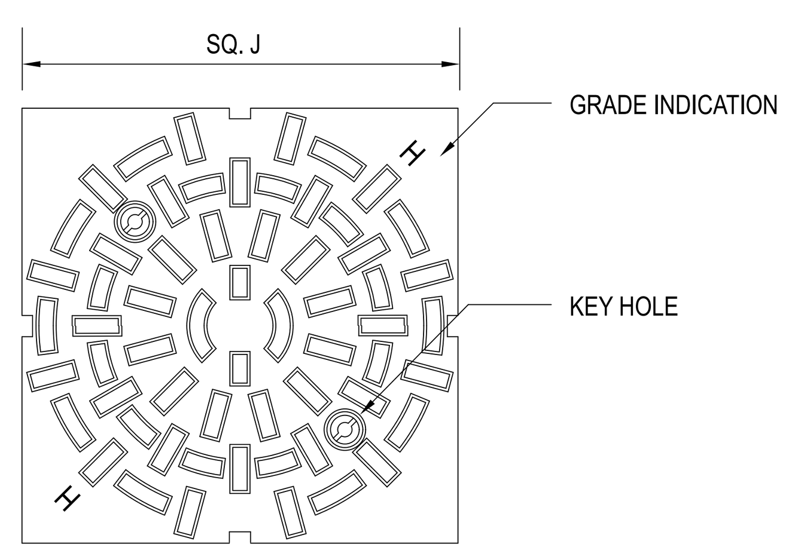
SECTION A - A



PLAN OF FRAME



PLAN OF COVER
(FOR FOUL WATER MANHOLE)



PLAN OF COVER
(FOR STORM WATER MANHOLE)

DIMENSION LETTER		A	B	C	D	E	F	G	H	I	J
DIMENSIONS	H	675	815	1005	16	22	134	150	5	32	811
	M	675	720	1005	16	22	109	125	5	22	811

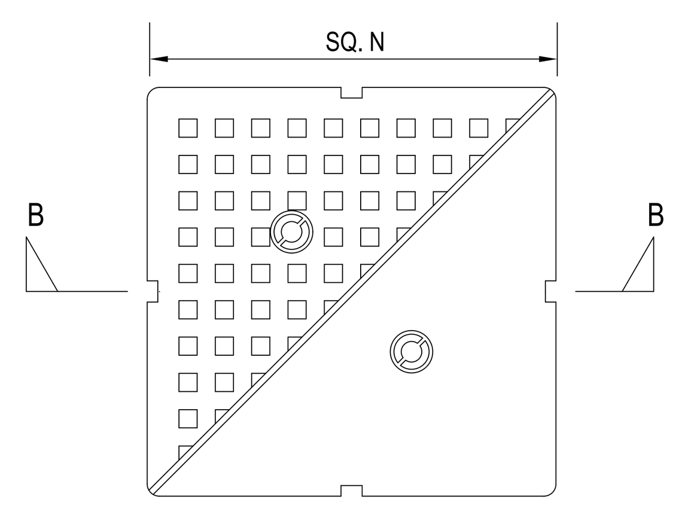
NOTES

H INDICATES HEAVY DUTY

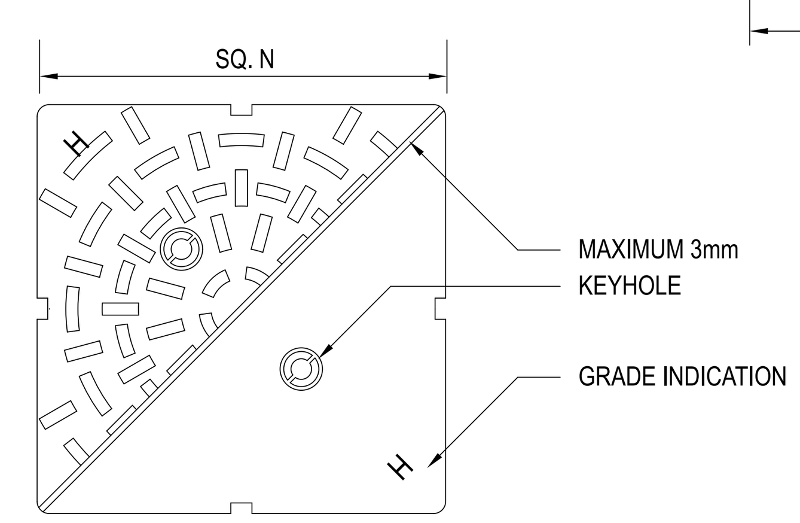
M INDICATES MEDIUM DUTY

DETAIL OF MANHOLE COVER AND FRAME (DOUBLE SEAL)

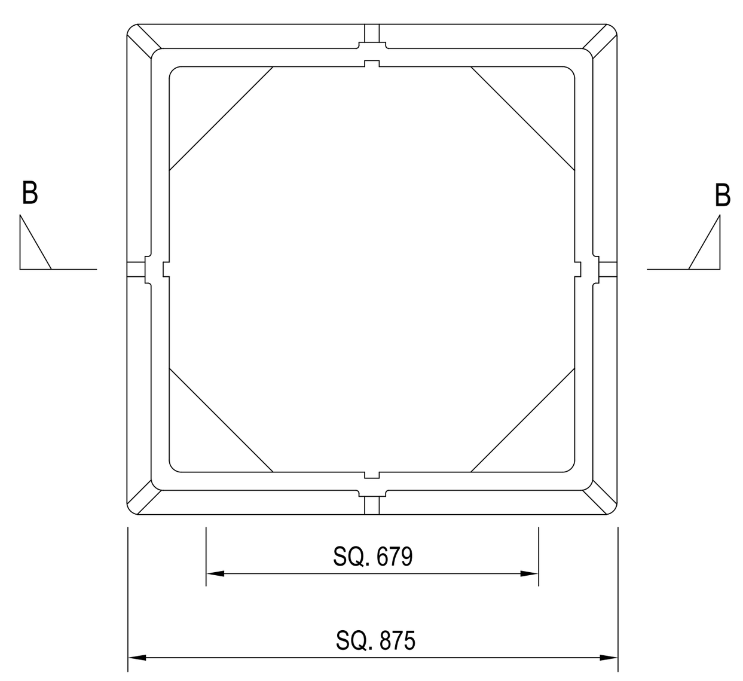
(N. T. S.)



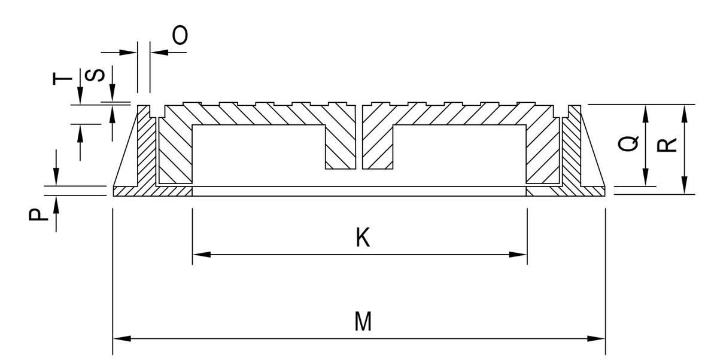
PLAN OF COVER
(FOR SEWER MANHOLE)



PLAN OF COVER
(FOR STORM WATER MANHOLE)



PLAN OF FRAME



SECTION B - B

DIMENSION LETTER		K	M	N	O	P	Q	R	S	T
DIMENSIONS	H	679	875	675	22	16	134	150	5	32
	M	679	875	675	22	16	109	125	5	22

NOTES

H INDICATES HEAVY DUTY

M INDICATES MEDIUM DUTY

DETAIL OF MANHOLE COVER AND FRAME (DOUBLE TRIANGULAR)

(N. T. S.)

BD REF :

BIM REF :

REV	DATE	AMENDMENT

PROJECT
CIC SAMPLE PROJECT

DRAWING TITLE
DRAINAGE INSTALLATION DETAILS

SCALE AS SHOWN

DRAWING NO. M004

REV. NO.

SOURCE ---

90mm (W) x 40mm (H) space for COMPANY LOGO

90mm (W) x 60mm (H) space for AP's signature/ and stamp chop

BD's OFFICAL USE

90mm (W) x 150mm (H) space for BD's approval stamp / certification of copies of approved plans (PNAP ADM-10 APP A)

STORM WATER MANHOLE SCHEDULE					
MANHOLE NO.	DRAIN DIAMETER (mm)	C.L.	I.L.	DEPTH (mm)	TYPE
SMH-01	150	-6.15	-7.9	1750	D1

Grand total: 1

FOUL WATER MANHOLE SCHEDULE					
MANHOLE NO.	DRAIN DIAMETER (mm)	C.L.	I.L.	DEPTH (mm)	TYPE
WMH-01	150	-6.1	-7.85	1750	D1
WMH-02	150	-6.1	-7.85	1750	D1

Grand total: 2

FOUL WATER TERMINAL MANHOLE SCHEDULE						
MANHOLE NO.	DRAIN DIAMETER (mm)	C.L.	I.L.	D.T.I.L.	DEPTH (mm)	TYPE
FTMH-01	225	+3.42	+2.42	+2.27	1150	T1_1

Grand total: 1

STORM WATER TERMINAL MANHOLE SCHEDULE						
MANHOLE NO.	DRAIN DIAMETER (mm)	C.L.	I.L.	D.T.I.L.	DEPTH (mm)	TYPE
STMH-01	225	+3.43	+2.43	+2.28	1150	T1_1

Grand total: 1

PETROL INTERCEPTOR SCHEDULE				
PETROL INTERCEPTOR NO.	C.L.	I.L.	B.L.	DEPTH (mm)
PI-01	-5.9	-6.9	-8.4	2500

Grand total: 1

SUMP PIT SCHEDULE							
						PUMP DUTY (EACH)	
SUMP PIT NO.	SUMP PIT SIZE (LxWxD)	C.L.	I.L.	B.L.	PUMP NO.	FLOW (l/s)	HEAD (m)
RWPP-01	2000(L) x 1500(W) x 1000(D)	-5.85	-6.5	-8	RSP01-01,02	30.0	20
SWPP-02	2000(L) x 1500(W) x 600(D)	-5.85	-6.5	-7.5	SSP02-01,02	6.0	20
SWPP-03	2000(L) x 1500(W) x 600(D)	-5.85	-6.5	-7.5	SSP03-01,02	3.0	20
SWPP-04	2000(L) x 1450(W) x 600(D)	-5.85	-6.5	-7.5	SSP04-01,02	3.0	20

Grand total: 4

GREASE TRAP SCHEDULE			
GREASE TRAP NO.	C.L.	B.L.	DEPTH (mm)
GT-01	-5.9	-7.2	1300
GT-02	-5.9	-6.9	1000

Grand total: 2

BD REF :

BIM REF :

REV	DATE	AMENDMENT

PROJECT
CIC SAMPLE PROJECT

DRAWING TITLE
DRAINAGE SCHEDULES

SCALE

DRAWING NO. M005

REV. NO.

SOURCE ---

90mm (W) x 40mm (H) space
for COMPANY LOGO

90mm (W) x 60mm (H) space
for AP's signature/ and stamp chop

BD's OFFICAL USE

90mm (W) x 150mm (H) space
for BD's approval stamp /
certification of copies of
approved plans
(PNAP ADM-10 APP A)