

BD REF :

BIM REF :

REV DATE AMENDMENT

PROJECT
CIC SAMPLE PROJECT

DRAWING TITLE
GENERAL NOTES FOR FOUNDATION (1 OF 2)

SCALE AS SHOWN@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 OFFICIAL 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

- ALL DIMENSIONS ARE IN MILLIMETERS (mm) UNLESS OTHERWISE STATED.
- ALL LEVELS ARE IN METERS ABOVE PRINCIPAL DATUM (mPD) UNLESS OTHERWISE STATED.
- ALL PROPOSED CAP TOP LEVEL SHOULD BE -6.35mPD. THICKNESS OF CAP TO BE 2500mm / 2000mm.
- CONCRETE GRADE OF PILE CAP IS C45/20 (UNDER SEPARATE SUBMISSION)
- ALL PILE CAP SHOULD BE UNDER SEPARATE SUBMISSION.
- ALL FOUNDING LEVELS OF BORED PILES AS SHOWN ARE TENTATIVE ONLY.
- HEIGHT OF BUILDING TO BE 100m.
- THE DESIGN OF BORED PILING WORKS SHALL BE IN ACCORDANCE WITH HONG KONG BUILDING (CONSTRUCTION) REGULATIONS 1989, 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.
- HIGHEST POSSIBLE GROUND WATER LEVEL TO BE +4.10mPD. EXISTING GROUND LEVEL IS +4.10mPD.
- FLEXIBLE CAP THEORY IS ADAPTED IN PILE DESIGN.
- ALL LATERAL LOADS ARE RESISTED BY BORED PILES & SOCKETED H-SHEET PILES.
- WIND LOAD SHALL BE REVERSIBLE.
- 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.

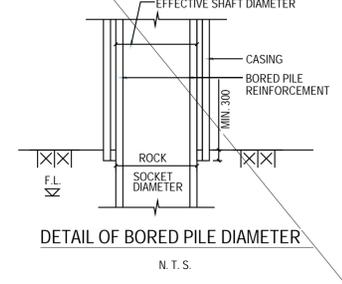
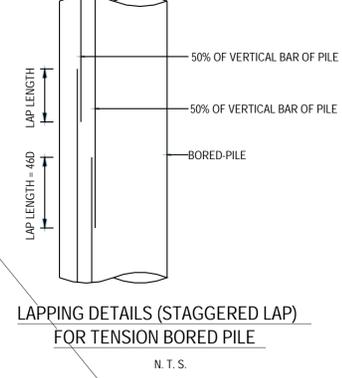
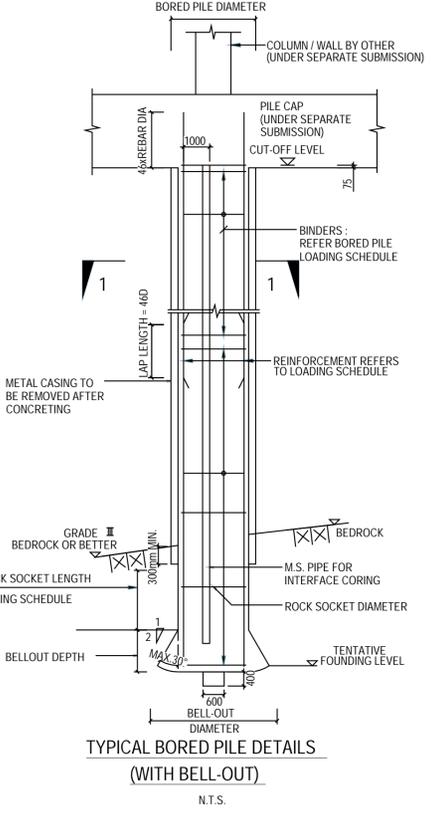
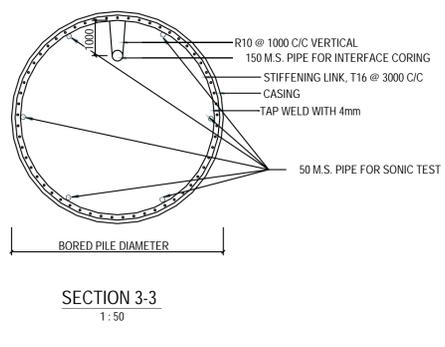
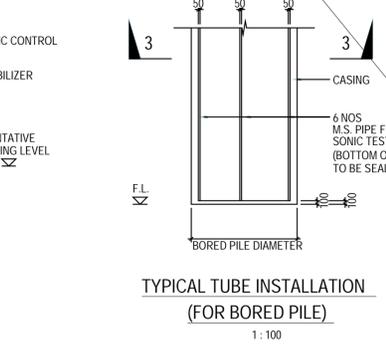
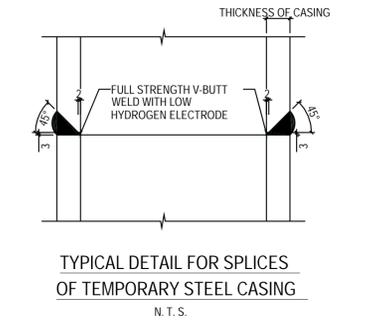
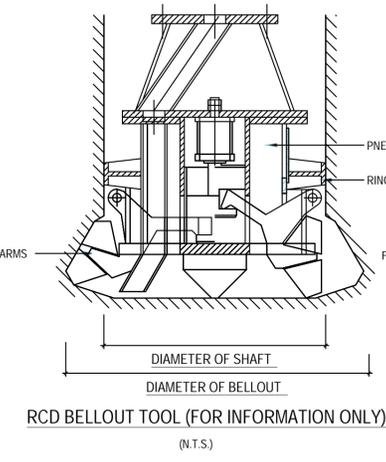
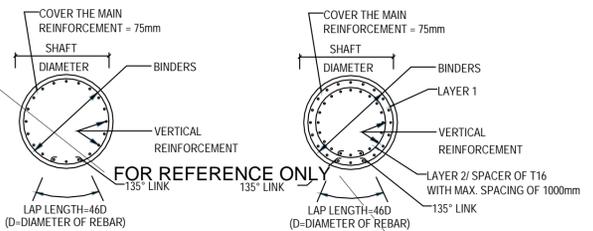
- CONCRETE USED IN BORED PILE SHALL HAVE PFA CONTENTS COMPLYING WITH PNAP APP-33 AND NOT EXCEED 25% OF THE CEMENT CONTENT AND COMPLY WITH PNAP APP-74. THE REACTIVE ALKALI OF CONCRETE EXPRESSED AS THE EQUIVALENT SODIUM OXIDE PER CUBIC METER OF CONCRETE SHOULD NOT EXCEED 3.0g.
- ALL DESIGN IS IN ACCORDANCE WITH HONG KONG (CONSTRUCTION) REGULATION 1989 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
- THE CONTRACTOR SHALL ESTABLISH THE BASE SETTING OUT POINTS AND LINES FOR THE ENGINEERS.
- 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.
- ALL REINFORCEMENTS ARE HIGH TENSILE DEFORMED STEEL BAR (Y) AND MILD STEEL ROUND BAR (R) COMPLYING WITH CS1 : 2012 WITH MINIMUM YIELD STRESS AS FOLLOWS:
HIGH TENSILE DEFORMED STEEL BAR = 500 N/sq mm
MILD STEEL ROUND BARS = 250 N/sq mm
- 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.
- ALL LAP LENGTHS OF REINFORCEMENT SHALL BE 46D WHERE D IS THE DIAMETER OF REINFORCEMENT.
- CUT-OFF LEVEL AND TENTATIVE FOUNDING LEVEL FOR ALL PILES ARE SHOWN IN THE BORED PILE SCHEDULES.
- COVER TO MAIN REINFORCEMENT FOR BORED PILES TO BE 75mm.
- ALL DIMENSIONS ARE IN mm.
- ALL LEVELS ARE IN mPD.
- ESTIMATED PILE LENGTHS GIVEN IN THE PILING SCHEDULE ARE MEASURED FROM THE CUT-OFF LEVEL 1 OF INDIVIDUAL PILES.
- ESTIMATED PILE LENGTHS GIVEN ARE TENTATIVE. ACTUAL PILE LENGTH FOR INDIVIDUAL PILES SHALL BE VERIFIED ON SITE.
- THE TENTATIVE FOUNDING LEVELS OF BORED-PILES ARE APPROXIMATE AS DETERMINED FROM THE BOREHOLE INFORMATION.
- CONCRETE SHALL BE COMPILED WITH CS1 : 2010, EXCEPT CLAUSE 7.1.
- 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)
- NO NEGATIVE SKIN FRICTION TO BE CONSIDERED FOR PILE DESIGN DUE TO COMPLETION OF CONSOLIDATION AND REDUCTION OF OVERBURDEN PRESSURE FROM THE BASEMENT CONSTRUCTION.
- CORRESPONDING GSP SUBMISSION AND SUBSEQUENT AMENDMENT SHALL BE SUBMITTED TO TALLY WITH THE AS-BUILT SETTING OUT OF BORED PILES.

NOTES ON PROOF TEST BY CORE-DRILLING

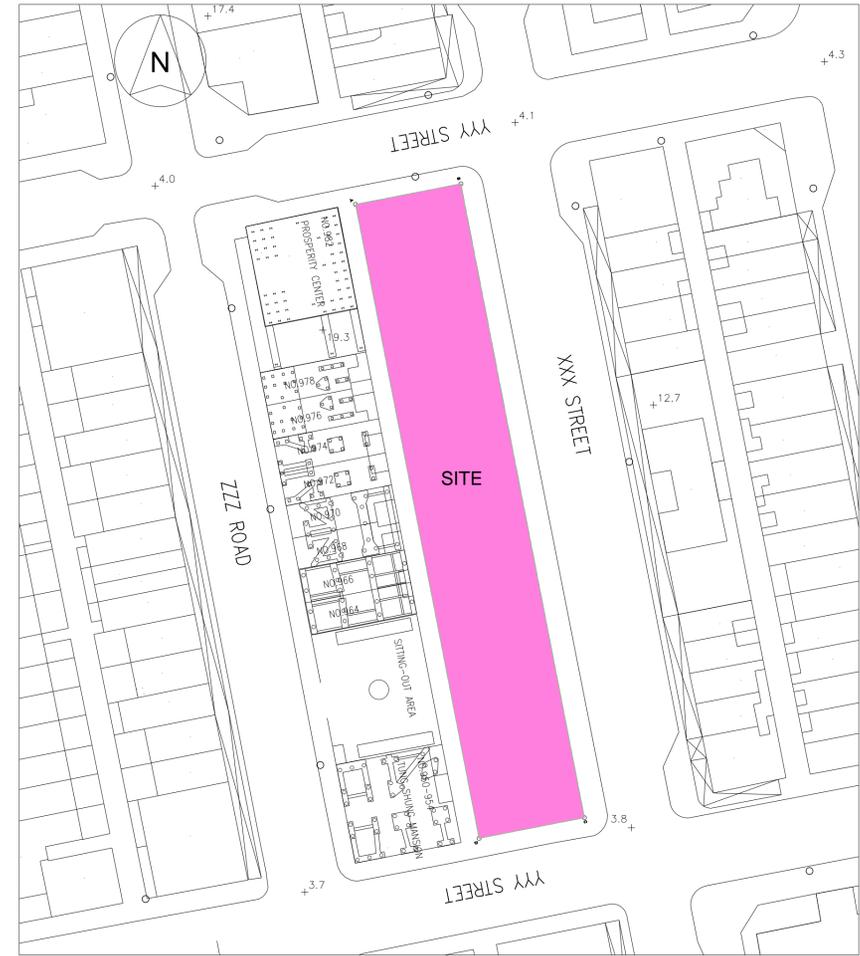
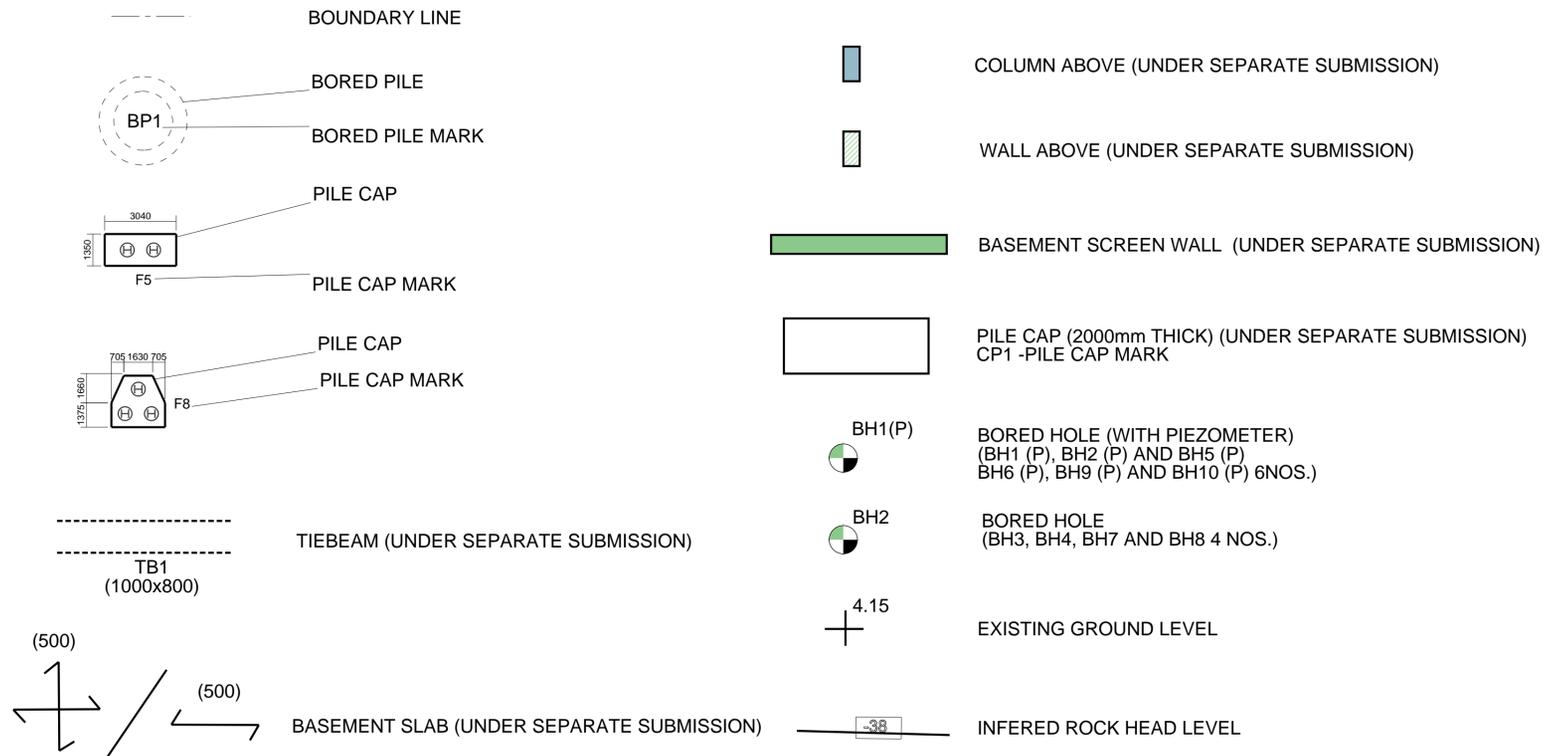
- CORE-DRILLING SHOULD BE TAKEN THROUGH THE FULL DEPTH OF THE PILE AND CARRIED DOWN TO A DISTANCE OF AT LEAST HALF A DIAMETER OF THE BASE, OR 00mm, WHICHEVER IS LARGER, INTO THE GROUND UPON WHICH THE PILE IS FOUNDED.
- THE COMPLETED CORE TAKEN SHOULD BE PROPERLY MARKED AND ARRANGED IN ORDER FOR INSPECTION.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

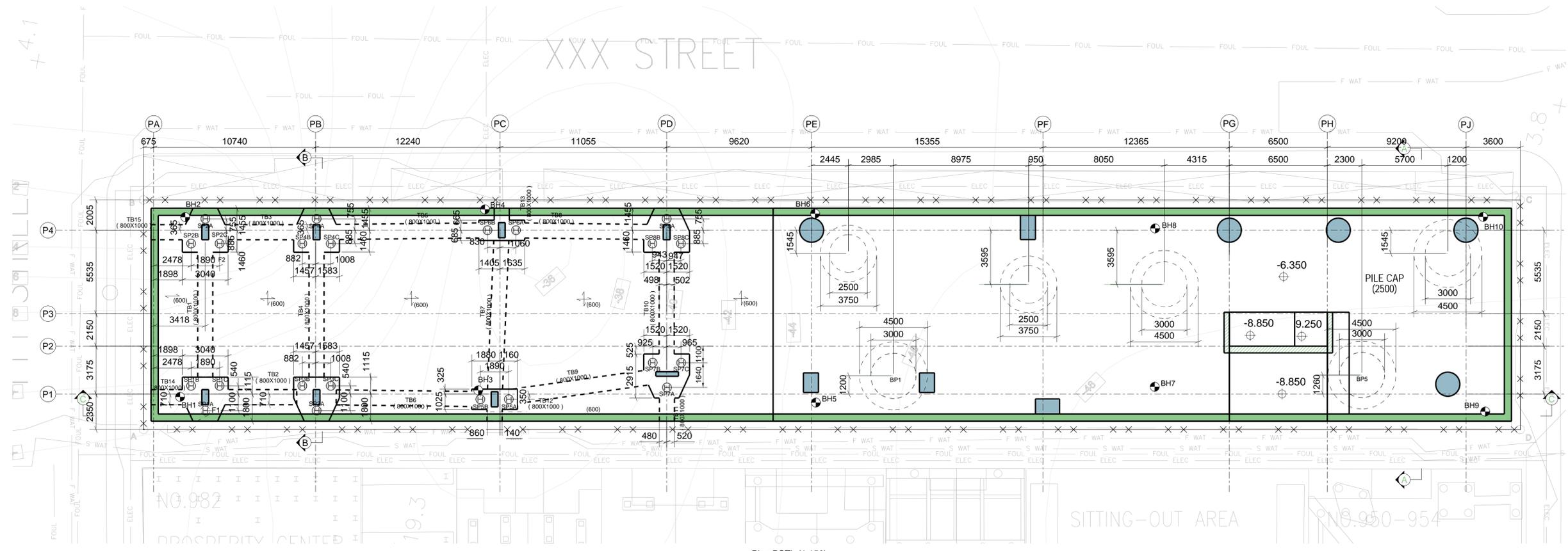
- SHOULD ANY SEDIMENT AND/OR SEGREGATION MORE THAN 50mm THICK BE FOUND AT THE CONCRETE / ROCK INTERFACE DURING THE INTERFACE PROOF DRILLING, REMEDIAL WORKS BY MEANS OF PRESSURE GROUTING SHALL BE CARRIED OUT UNDER THE SUPERVISION OF RSE.
- THE PILE BASE SHOULD BE CLEANED BY HIGH WATER JETTING WITH MINIMUM JET PRESSURE OF 200 BARS PRIOR TO PRESSURE GROUT.
- THE GROUT SHOULD BE CEMENT GROUT AND THE GROUT STRENGTH SHOULD NOT BE LESS THAN THE CONCRETE STRENGTH OF BORED PILES.
- 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.
- 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.
- 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.



LEGEND AND NOTES:

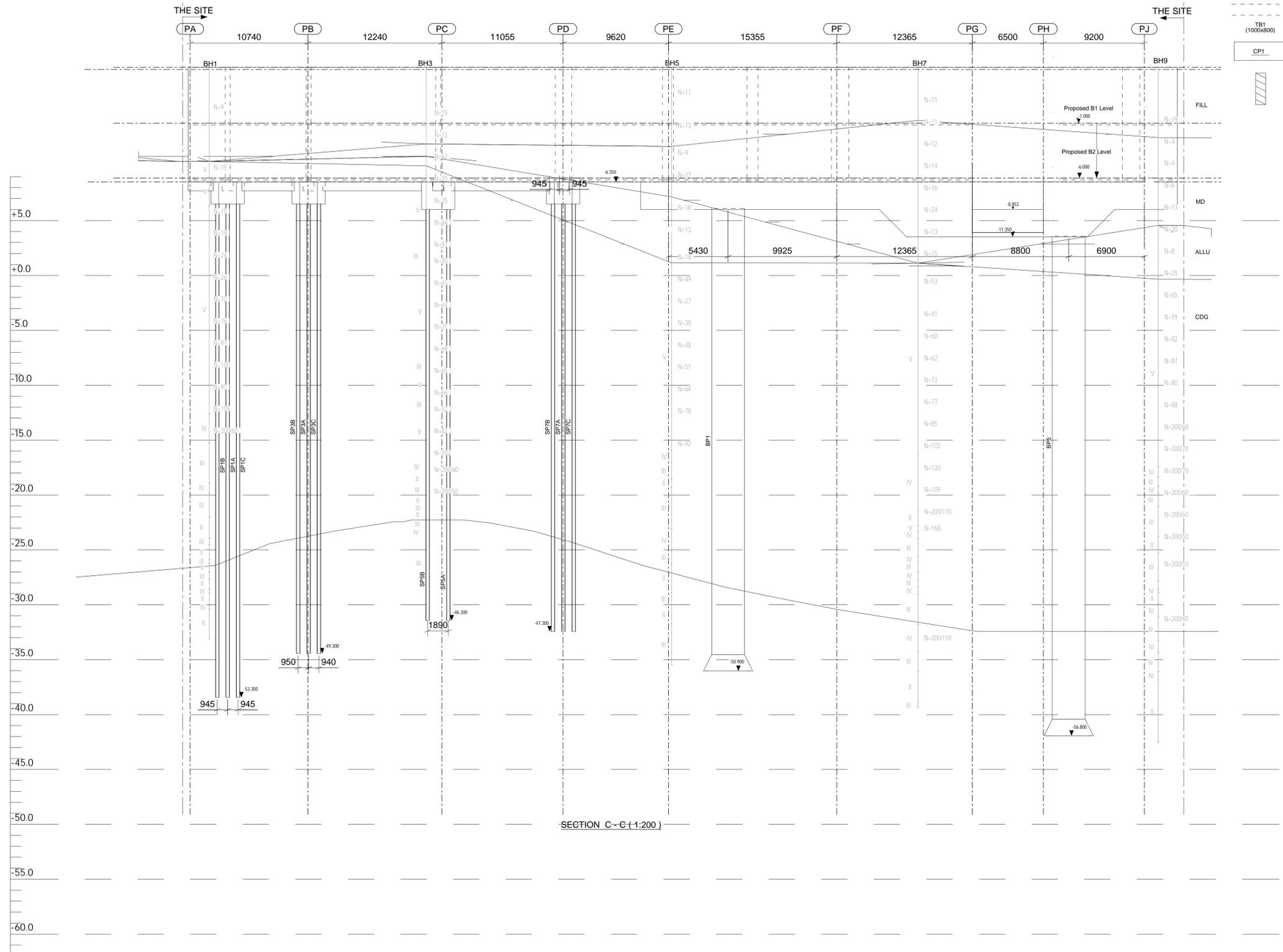


BLOCK PLAN
1:500

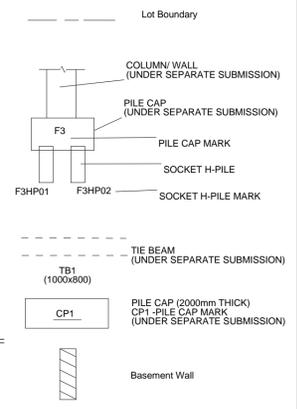


Plan PCTL (1:150)

BD REF :		
BIM REF :		
REV	DATE	AMENDMENT
PROJECT CIC SAMPLE PROJECT		
DRAWING TITLE PILING LAYOUT PLAN		
SCALE AS SHOWN@A1		
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 OFFICIAL 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)



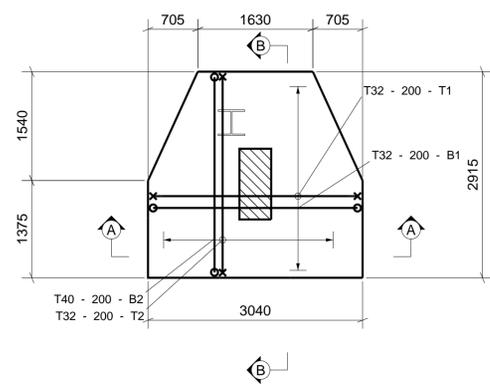
BD REF :		
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REV	DATE	AMENDMENT
PROJECT CIC SAMPLE PROJECT		
DRAWING TITLE PILING SECTION C		
SCALE AS SHOWN@A1		
DRAWING NO. P004	REV. NO.	
SOURCE ---		
90mm (W) x 40mm (H) space for COMPANY LOGO		
90mm (W) x 60mm (H) space for AP/RS/IR/GE's signature/ 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)	(AA)	(W)	Z-W-0.3-(X)-(Y)	(AB)-(AA)-(Z)	(Y)	(a)	(b)	(c)=(a)+(b)	(d)	(b)+(d)	(e)	(f)=(b)+(d)+(e)	(h)	(i)	(j)	(k)
						BELLOUT DEPTH	CUT-OFF LEVEL	TENTATIVE ROCKHEAD LEVEL	TENTATIVE FOUNDING LEVEL	TENTATIVE PILE LENGTH	EFFECTIVE ROCK SOCKET LENGTH	Dmin (total)	Dmin + SWP	SDL(total)	TOTAL DEAD LOAD (DL) = Dmin + SDL	LIVE LOAD (LL) (total)	DL + SDL + LL	Wmax (total)	TOTAL UPLIFT FORCE DUE TO GROUND WATER (U)	ADDITIONAL LOAD DUE TO STEPPING EFFECT		
						(m)	(mPD)	(m)	(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	-45.50	-50.90	42.139	3.60	3950	45600	49550	17500	63100	15200	78300	15800	-21400	80	99
BP2	2.50	2.50	2.80	2.80	4.50	1.25	-8.761	-44.50	-49.15	40.389	3.10	3950	45600	49550	17500	63100	15200	78300	15800	-21400	0	0
BP3	2.50	2.50	2.80	2.80	4.50	1.25	-8.761	-46.50	-51.15	42.389	3.10	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
BP5	2.50	3.00	2.80	2.80	4.50	1.50	-11.280	-50.00	-56.80	45.520	5.00	3950	45600	49550	17500	63100	15200	78300	15800	-21400	49	61
BP6	2.50	3.00	2.80	2.80	4.50	1.50	-8.780	-46.00	-51.40	42.620	3.60	3950	45600	49550	17500	63100	15200	78300	15800	-21400	0	0

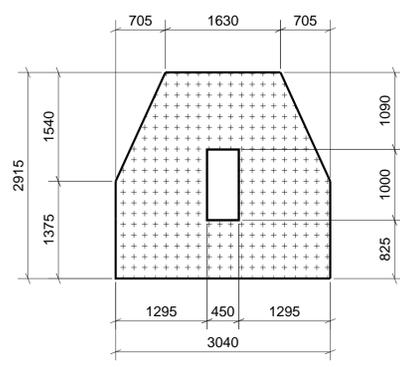
BORED PILE MARK	MAX. PILE LOAD				MIN. PILE LOAD			VERTICAL BARS		LINKS	PILE BARING CAPACITY (COMPRESSION)		ROCK FRICTION (COMPRESSION)		ROCK FRICTION (TENSION)	ROCK/SOIL MASS (SUBMERGED)	UPLIFT RESISTANCE		BORED PILE BEARING CAPACITY (COMPRESSION)		STABILITY CHECK		REFERENCE BORED HOLE
	DL + SDL + LL	DL + SDL + LL + Wmax	DL + SDL + LL + Stepping Load	DL + SDL + LL + Wmax + Stepping Load	Dmin + SWP - U	Dmin + SWP - Wmax - U	Dmin + SWP - 1.5Wmax - 1.5U	LAYER 1	LAYER 2		WITHOUT WIND	WITH WIND	WITHOUT WIND	WITH WIND			ALLOWABLE	ULTIMATE	WITHOUT WIND	WITH WIND	Dmin + 0.9*Ra - 1.5Wmax - 1.5U	Dmin + Ra - Wmax - U	
	(kN)	(kN)	(kN)	(kN)	(kN)	(kN)	(kN)				(kN)	(kN)	(kN)	(kN)			Ra (kN)	Ru (kN)	(kN)	(kN)	(kN)	(kN)	
BP1	78300	94100	82330	98149	28150	12350	-6250	54 T40	50 T40	T16 / 300 (2 rings)	798530	998162	17250	21562	11090	21899	11249	25849	815780	1019725	13064	19649	BP1
BP2	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	BP2
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	82299	98111	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)	PIPE EFFECTIVE SHAFT DIAMETER	ROCK SOCKET DIAMETER	PILE CAP BASE LEVEL	CUT-OFF LEVEL	TENTATIVE ROCKHEAD LEVEL	TENTATIVE FOUNDING LEVEL	TENTATIVE PILE LENGTH	TENTATIVE PILE LENGTH ABOVE RH	EFFECTIVE ROCK SOCKET LENGTH	ROCK MASS (SUBMERGED)	SOIL MASS SURROUNDING PILE (SUBMERGED)	ROCK/SOIL MASS (SUBMERGED) W/ PILE SELF-WEIGHT	SELF-WEIGHT (SWP)	ROCK / SOIL MASS (SUBMERGED) W/ PILE SELF-WEIGHT	Min DEAD LOAD PER PILE (Dmin)	SDL PER PILE	TOTAL DEAD LOAD (DL) = Dmin + SDL	LIVE LOAD (LL)	DL + SDL + LL	Wmax PER PILE	ADDITIONAL LOAD DUE TO STEPPING EFFECT		
																						WITHOUT WIND	WITH WIND	
																						(kN)	(kN)	
SP1A	2	0.55	0.55	-8.350	-8.275	-46.300	-53.300	45.025	38.025	7	220	4838	5058	190	5248	8290	2900	11190	2100	13290	1300	-10000	440	551
SP1B	2	0.55	0.55	-8.350	-8.275	-46.300	-53.300	45.025	38.025	7	220	4838	5058	190	5248	8290	2900	11190	2100	13290	1300	-10000	440	551
SP1C	2	0.55	0.55	-8.350	-8.275	-46.300	-53.300	45.025	38.025	7	220	4838	5058	190	5248	8290	2900	11190	2100	13290	1300	-10000	440	551
SP2A	2	0.55	0.55	-8.350	-8.275	-46.300	-53.300	45.025	38.025	7	220	4838	5058	190	5248	8290	2900	11190	2100	13290	1300	-10000	190	238
SP2B	2	0.55	0.55	-8.350	-8.275	-46.300	-53.300	45.025	38.025	7	220	4838	5058	190	5248	8290	2900	11190	2100	13290	1300	-10000	190	238
SP2C	2	0.55	0.55	-8.350	-8.275	-46.300	-53.300	45.025	38.025	7	220	4838	5058	190	5248	8290	2900	11190	2100	13290	1300	-10000	190	238
SP3A	2	0.55	0.55	-8.350	-8.275	-42.300	-49.300	41.025	34.025	7	220	4838	5058	190	5248	8290	2900	11190	2100	13290	1300	-10000	626	783
SP3B	2	0.55	0.55	-8.350	-8.275	-42.300	-49.300	41.025	34.025	7	220	4838	5058	190	5248	8290	2900	11190	2100	13290	1300	-10000	626	783
SP3C	2	0.55	0.55	-8.350	-8.275	-42.300	-49.300	41.025	34.025	7	220	4838	5058	190	5248	8290	2900	11190	2100	13290	1300	-10000	626	783
SP4A	2	0.55	0.55	-8.350	-8.275	-52.800	-59.800	51.525	44.525	7	220	4838	5058	190	5248	8290	2900	11190	2100	13290	1300	-10000	96	120
SP4B	2	0.55	0.55	-8.350	-8.275	-52.800	-59.800	51.525	44.525	7	220	4838	5058	190	5248	8290	2900	11190	2100	13290	1300	-10000	96	120
SP4C	2	0.55	0.55	-8.350	-8.275	-52.800	-59.800	51.525	44.525	7	220	4838	5058	190	5248	8290	2900	11190	2100	13290	1300	-10000	96	120
SP5A	2	0.55	0.55	-8.350	-8.275	-39.300	-46.300	38.025	31.025	7	240	3022	3262	190	3452	8290	2900	11190	2100	13290	1300	-10000	107	134
SP5B	2	0.55	0.55	-8.350	-8.275	-39.300	-46.300	38.025	31.025	7	240	3022	3262	190	3452	8290	2900	11190	2100	13290	1300	-10000	107	134
SP6A	2	0.55	0.55	-8.350	-8.275	-38.300	-45.300	37.025	30.025	7	240	3022	3262	190	3452	8290	2900	11190	2100	13290	1300	-10000	0	0
SP6B	2	0.55	0.55	-8.350	-8.275	-38.300	-45.300	37.025	30.025	7	240	3022	3262	190	3452	8290	2900	11190	2100	13290	1300	-10000	0	0
SP7A	2	0.55	0.55	-8.350	-8.275	-40.300	-47.300	39.025	32.025	7	220	4838	5058	190	5248	8290	2900	11190	2100	13290	1300	-10000	54	68
SP7B	2	0.55	0.55	-8.350	-8.275	-40.300	-47.300	39.025	32.025	7	220	4838	5058	190	5248	8290	2900	11190	2100	13290	1300	-10000	54	68
SP7C	2	0.55	0.55	-8.350	-8.275	-40.300	-47.300	39.025	32.025	7	220	4838	5058	190	5248	8290	2900	11190	2100	13290	1300	-10000	54	68
SP8A	2	0.55	0.55	-8.350	-8.275	-39.300	-46.300	38.025	31.025	7	220	4838	5058	190	5248	8290	2900	11190	2100	13290	1300	-10000	0	0
SP8B	2	0.55	0.55	-8.350	-8.275	-39.300	-46.300	38.025	31.025	7	220	4838	5058	190	5248	8290	2900	11190	2100	13290	1300	-10000	0	0
SP8C	2	0.55	0.55	-8.350	-8.275	-39.300	-46.300	38.025	31.025	7	220	4838	5058	190	5248	8290	2900	11190	2100	13290	1300	-10000	0	0

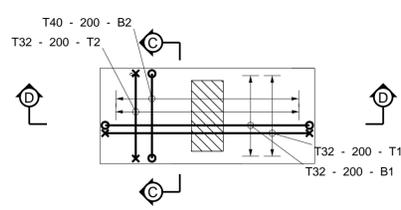
SOCKET H-PILE LOADING SCHEDULE (2 OF 2)																						
BORED PILE MARK	DL + SDL + LL	DL + SDL + LL + Wmax	DL + SDL + LL + SWP + Stepping Load	DL + SDL + LL + Wmax + SWP + Stepping Load	Dmin + SWP - U	Dmin + SWP - Wmax - U	Dmin + SWP - 1.5Wmax - 1.5U	PILE BARING CAPACITY (COMPRESSION)		ROCK FRICTION (TENSION)	ROCK/SOIL MASS (SUBMERGED)	UPLIFT RESISTANCE		STABILITY CHECK		REFERENCE BORED HOLE						
								WITHOUT WIND	WITH WIND			ALLOWABLE	ULTIMATE	Dmin + 0.9*Ra - 1.5Wmax - 1.5U	Dmin + Ra - Wmax - U							
								(kN)	(kN)			(kN)	(kN)	(kN)	(kN)							
SP1A	13290	14590	13921	15221	-1520	-220	-4570	6106	7633	3053	5058	1876	5248	26063	18866	BH1						
SP1B	13290	14590	13921	15221	-1520	-220	-4570	6106	7633	3053	5058	1876	5248	26063	18866	BH1						
SP1C	13290	14590	13921	15221	-1520	-220	-4570	6106	7633	3053	5058	1876	5248	26063	18866	BH1						
SP2A	13290	14590	13670	14970	-1520	-220	-4570	6106	7633	3053	5058	1876	5248	26063	18866	BH2						
SP2B	13290	14590	13670	14970	-1520	-220	-4570	6106	7633	3053	5058	1876	5248	26063	18866	BH2						
SP2C	13290	14590	13670	14970	-1520	-220	-4570	6106	7633	3053	5058	1876	5248	26063	18866	BH2						
SP3A	13290	14590	14106	15406	-1520	-220	-4570	6106	76													



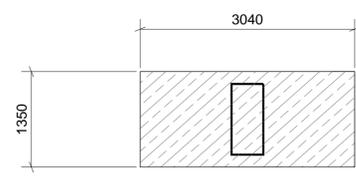
PILE CAP F1 (2000MM THK.)
(F2,F3,F4,F7&F8 SIMILAR)
1:50



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



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



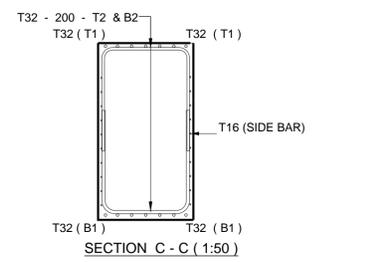
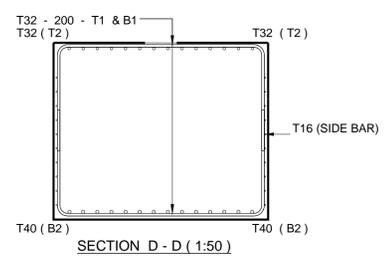
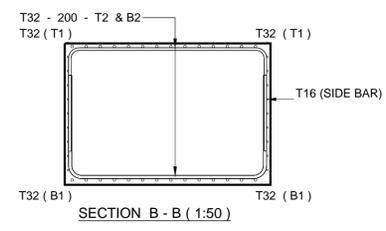
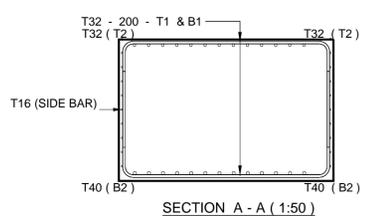
PILE CAP F5 (2000mm THK.)
(F6 SIMILAR)
(SHEAR REINFORCEMENT)
1:50

LEGEND:

PROPOSED COLUMN /WALL
(UNDER SEPARATE SUBMISSION)

LEGENDS FOR SHEAR LINKS DIAGRAM :

PATTERN	LINK ARRANGMENT
++++ ++++ ++++ ++++	
T16 SHEAR LINKS AT 150mm C/C BOTH WAYS	
Diagonal hatching pattern	
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
(1 OF 2)

SCALE AS SHOWN@A1

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)

BD REF :

BIM REF :

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

REV DATE AMENDMENT

PROJECT
CIC SAMPLE PROJECT

DRAWING TITLE
TIE BEAM DETAILS & SCHEDULE

SCALE AS SHOWN@A1

DRAWING NO. REV. NO.

P012

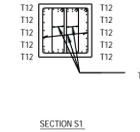
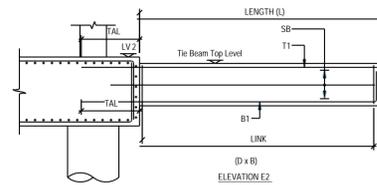
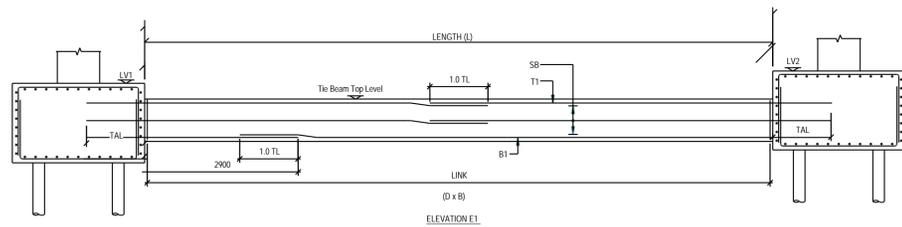
SOURCE ---

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)



GENERAL NOTES ON PILE CAP

- 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
- ALL DIMENSIONS ARE IN mm AND ALL LEVEL ARE IN METERS ABOVE PRINCIPAL DATUM UNLESS OTHERWISE STATED.
- 75mm THICK BLINDING LAYER OF GRADE 10/20 CONCRETE SHALL BE LAID UNDERNEATH ALL PILE CAP.
- 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.
- 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.
- THE REACTIVE ALKALI OF CONCRETE EXPRESSED AS THE EQUIVALENT SODIUM OXIDE PER CUBIC METER OF CONCRETE SHALL NOT EXCEED 3.0kg WHEN DETERMINED IN ACCORDANCE WITH THE SPECIFIED ITEM GIVEN IN APPENDIX A OF PNPAP APP-74.
- ANY ADDITIVE OR ADMIXTURE SHALL COMPLY WITH BS5075 AND SHALL NOT BE USED WITHOUT PRIOR AGREEMENT OF THE ENGINEER.
- 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.
- DETAILS SETTING OUT OF THE BUILDING SHALL REFER TO BUILDING PLANS.
- 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.
- THE WIND LOAD OF BUILDING IS BASED ON CODE OF PRACTICE ON WIND EFFECTS HONG KONG 2004.
- ALL STRUCTURAL DRAWINGS ARE TO BE READ IN CONJUNCTION WITH THE RELEVANT ARCHITECTS AND SERVICES ENGINEERS DRAWINGS. THE CONTRACTOR SHALL CHECK ALL DRAWINGS AND VERIFY LEVELS AND DIMENSIONS IN ADVANCE OF THE WORK AND FOR REFERENCE ONLY.
- 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.
- ALLOW SUFFICIENT STEEL CHAIRS TO SUPPORT TOP REINFORCEMENTS IN PILE CAP AND THE BEAM TO KEEP VERTICAL WALL REINFORCEMENTS IN THEIR CORRECT ALIGNMENTS.
- 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)
10	45D
12	300
16	360
20	480
25	600
32	750
40	960

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

HIGH YIELD BAR DIA. (mm)	DESIGNED MIX (CONC GRADE)
10 (1.L.L.)	300
10 (2.0.L.L.)	420
12 (1.L.L.)	360
12 (2.0.L.L.)	510
16 (1.L.L.)	480
16 (2.0.L.L.)	600
20 (1.L.L.)	480
20 (2.0.L.L.)	720
25 (1.L.L.)	600
25 (2.0.L.L.)	960
32 (1.L.L.)	750
32 (2.0.L.L.)	1200
40 (1.L.L.)	960
40 (2.0.L.L.)	1500
	1680
	2400

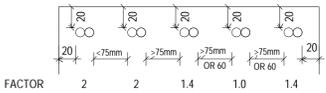
NOTES:

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

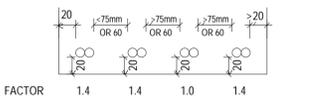
(C) SPECIAL CASE FOR TENSION LAP LENGTH

- 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.
- 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.
- 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: ? = BAR DIA)



e.g. BOTTOM BARS AS CAST



- THE PILE CAP DESIGN IS ADOPTED BY FLEXIBLE CAP ASSUMPTION.
- THE CONCRETE COVER TO REINFORCEMENT BAR OF PILE CAP SHALL BE 40mm.
- PULVERISED FUEL ASH (PFA) WILL BE USED AS A PARTIAL CEMENT REPLACEMENT IN CONCRETE OF PILE CAP:
 - PFA AS A SEPARATE CONSTITUENT MAY BE USED ONLY WITH OPC AND SHOULD COMPLY WITH BS3892: PART 1: 1982, EXCEPT THAT THE CRITERION FOR MAXIMUM WATER REQUIREMENT MAY NOT APPLY.
 - BLENDED CEMENT CONTAINING PFA SHOULD COMPLY WITH BS6588:1985 AND HAVE A NOMINAL PFA CONTENT NOT EXCEEDING 25%.
 - 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

- SURFACE WATER FLOWING INTO AND OUT OF THE SITE SHALL BE INTERCEPTED AND CONDUCTED FROM 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.
- WHERE PARTIALLY COMPLETED DRAINAGE WORKS DISCHARGE WITHIN THE SITE A TEMPORARY CONDUIT SHALL BE PROVIDED TO THE DISCHARGE POINT.
- 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.
- 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.

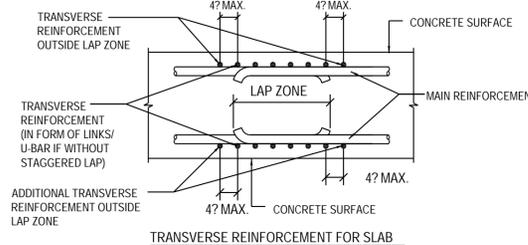
NOTES ON COMPACTED BACKFILL (FOR INFORMATION ONLY)

- 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%.
- 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.
- 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.
- 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, PNPAP APP-8 AND PNPAP APP-64.
- FILL MATERIAL SHALL CONTAIN NO ORGANIC MATTER.
- 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%.
- 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.
- THE INSITU FIELD DENSITY AND MOISTURE CONTENT SHALL BE DETERMINED IN ACCORDANCE WITH GEO REPORT NO 36 TEST NO 9.2.1 AND PNPAP APP-8.
- ONLY LABORATORIES ACCREDITED UNDER HOKLAS FOR THE RELEVANT TESTS SHALL BE EMPLOYED IN ACCORDANCE WITH PNPAP 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

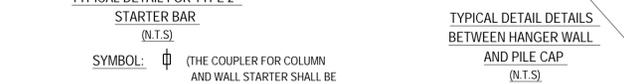
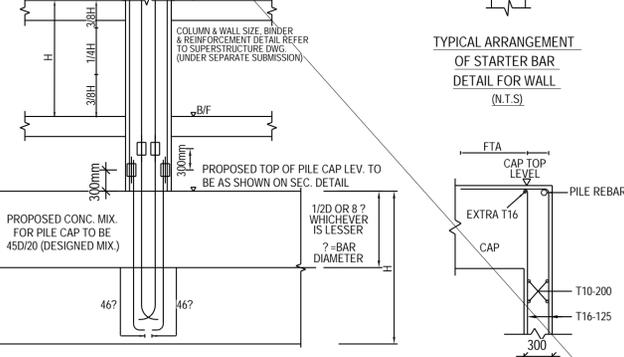
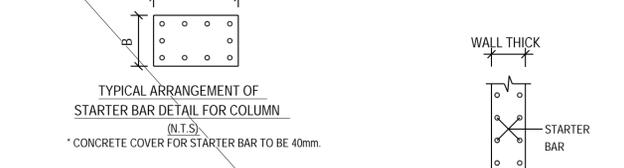
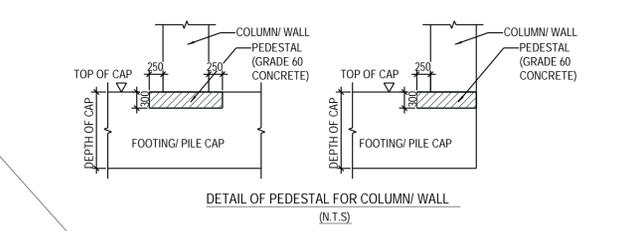
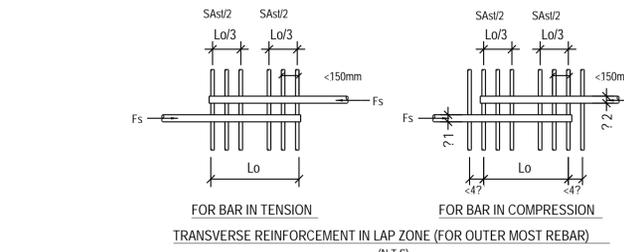
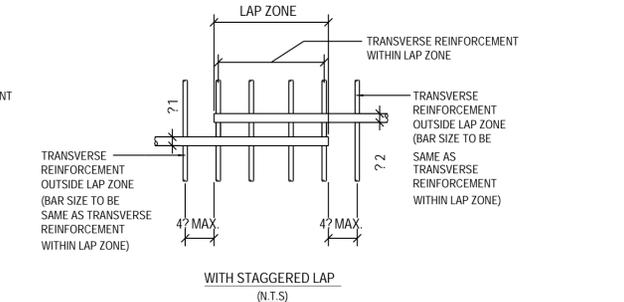
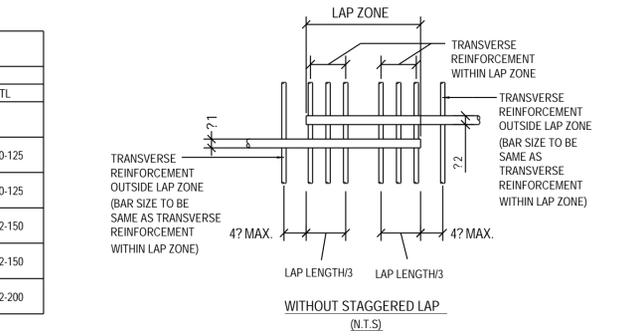
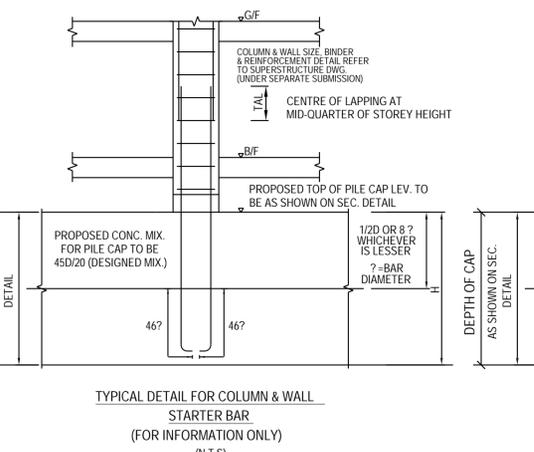
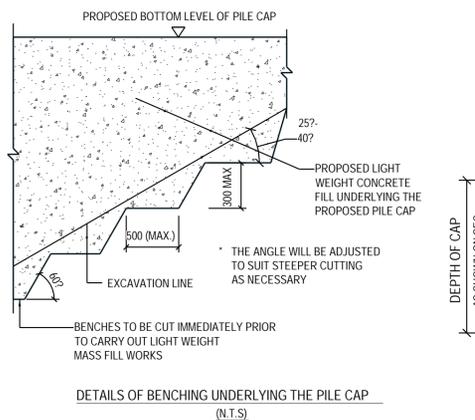
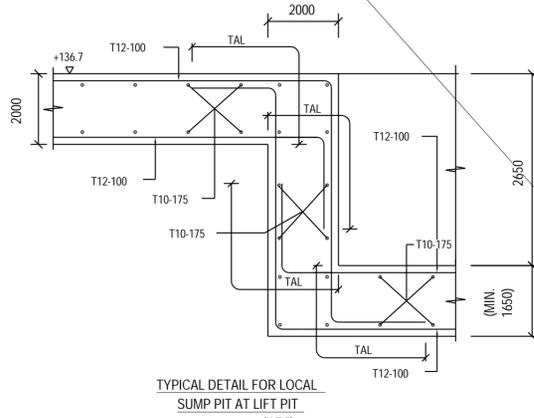
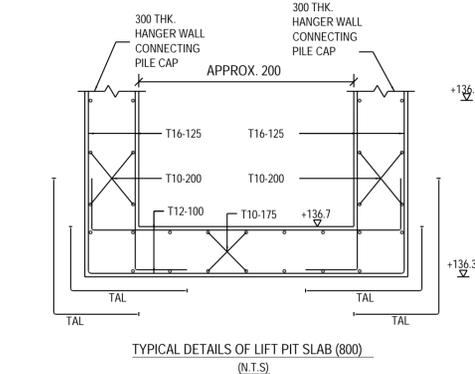
MAIN REINFORCEMENT AT LAP (THE SMALLER OF ?1 OR ?2)	TRANSVERSE REINFORCEMENT REQUIRED WITHIN LAP ZONE			
	(WITH STAGGERED LAP)	(WITHOUT STAGGERED LAP)		
		1.0TL	1.4TL	2.0TL
< 20	NO EXTRA REQUIREMENT			
20	4T10 3T12 7T10	2x3T10-100	2x3T10-125	2x4T10-125
25	5T12 11T10	2x3T12-125	2x4T10-100	2x5T10-125
32	8T12 16T10	2x4T12-150	2x5T12-125	2x6T12-150
40	12T12 25T10	2x6T12-100	2x6T12-125	2x7T12-150
50	18T12	2x5T16-125	2x5T16-150	2x9T12-200



NOTES:

- ? IS THE SMALLER OF ?1 AND ?2
- TRANSVERSE REINFORCEMENT SHOULD BE PLACE PERPENDICULAR TO THE DIRECTION OF THE LAPPED REINFORCEMENT AND BETWEEN THAT AND THE SURFACE OF THE CONCRETE
- TRANSVERSE REINFORCEMENT SHALL INCLUDE HORIZONTAL BARS BARS OF WALL, BINDERS OF COLUMN OR SHEAR LINKS OF BEAM

FOR REFERENCE ONLY



BD REF :
BIM REF :

REV DATE AMENDMENT

PROJECT
CIC SAMPLE PROJECT

DRAWING TITLE
General Notes for Pile Cap

SCALE AS SHOWN@A1

DRAWING NO. REV. NO.
P014

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)