

Welcome to the first webinar in the series

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Designing Foundations for YOU

www.roger-bullivant.co.uk

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Foundation Systems Technical Manager



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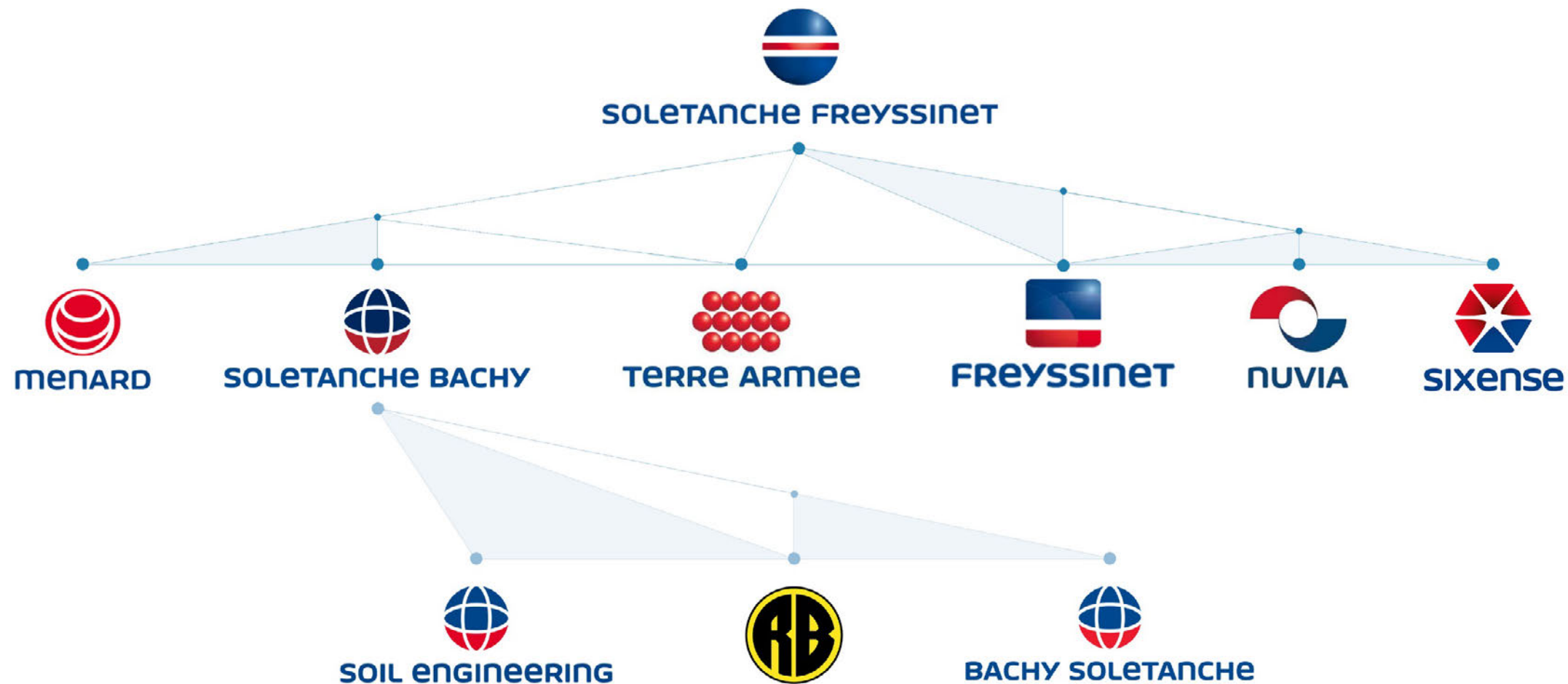
05 Design input to final solution

05 Q&A



Our Business

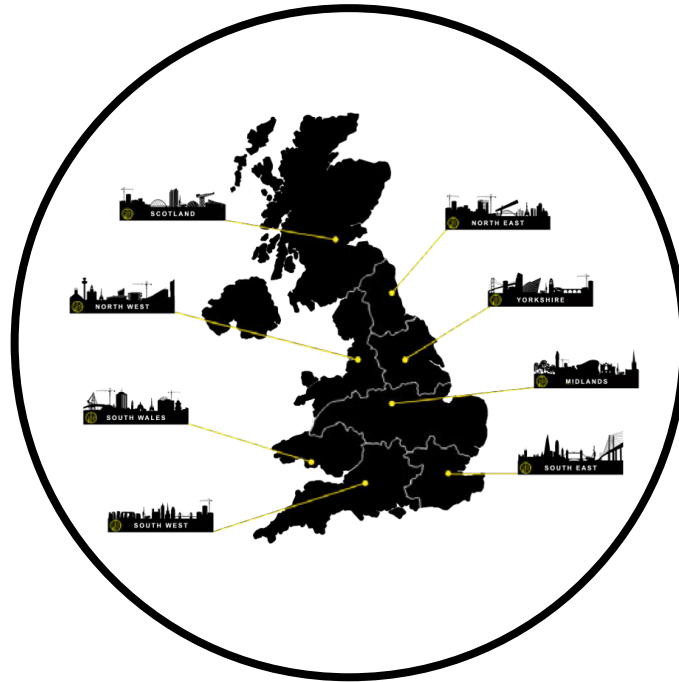




About RB



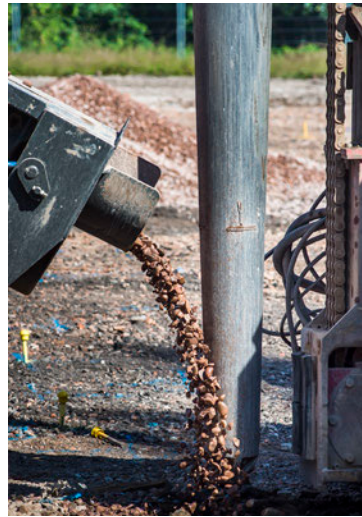
About



Years of experience...



PILING



**GROUND
IMPROVEMENT**



FOUNDATIONS



**RESTRICTED
ACCESS**



Overview

Our Client – Nicholas King Homes established in 1991 who predominantly work in the Home Counties and the SE of England. Founder and Chairman Nicholas King is still as much part of the day to day running of the company.

The project is a joint venture with Nicholas King Homes and A2 Dominion.

The project is the Waters Edge Development, Mytchett which is a new development of 248No properties consisting of 3, 4, 5 bed houses and 2 Bed Apartments. The development is surrounded by beautiful lakes with over 2.5k of waterside walks.

Two main phases North & South.



Site investigation by RSK

Over view on the site which was being remediated to create a 'working platform' 600mm below FFL.

Varying made ground from 0.5m and 3.6m

Overlying River terrace Gravels from 1.7m to 3.7m

Over Camberley Sand Formation from 5.1m to 9.0m to depths of 16.0m to 19.5m

CFA piles were originally specified and estimate submitted

Alternative Segmental RBL Precast Driven Pile (Displacement over replacement)



Nicholas King Homes PLC

Waters Edge, Mytchett

Supplementary Geoenvironmental and Geotechnical Site Investigation

29116-R02 (01)

AUGUST 2019

RSK



Roger Bullivant submission

Following dialogue with NKH we put forward two options initially

Compliant option - CFA piles up to maximum 11.0m founding in the Camberley Sands formation and the RBL RBeam Precast Foundation package contract sum in the order of £1.965M

Alternative option – Precast Piles (4.0m to 8.0) and the RBL RBeam Foundation Precast Contract sum £1.6M

Massive saving in time on site and speed of delivery

No spoil arisings for pile installation

Accurate off site manufactured Precast Foundation System



Roger Bullivant design considerations

The building construction, traditional, timber frame or A N Other

Preliminary drawings, take off of pile numbers and loadings and quantities of insitu concrete for pile caps or precast caps and beams

Site conditions, type of pile, size and depth

General assessment of time on site, the piles (size and depths) type of Precast beam and meterage

Testing requirements to satisfy Premier (Warranty Provider) which was Static Load test 1:100 piles (28No allowed) with a caveat that these could be reduced following satisfactory results



Roger Bullivant Ltd – negotiation

RBL submitted two options which clearly identified that the alternative option was a more cost effective way forward for the client.

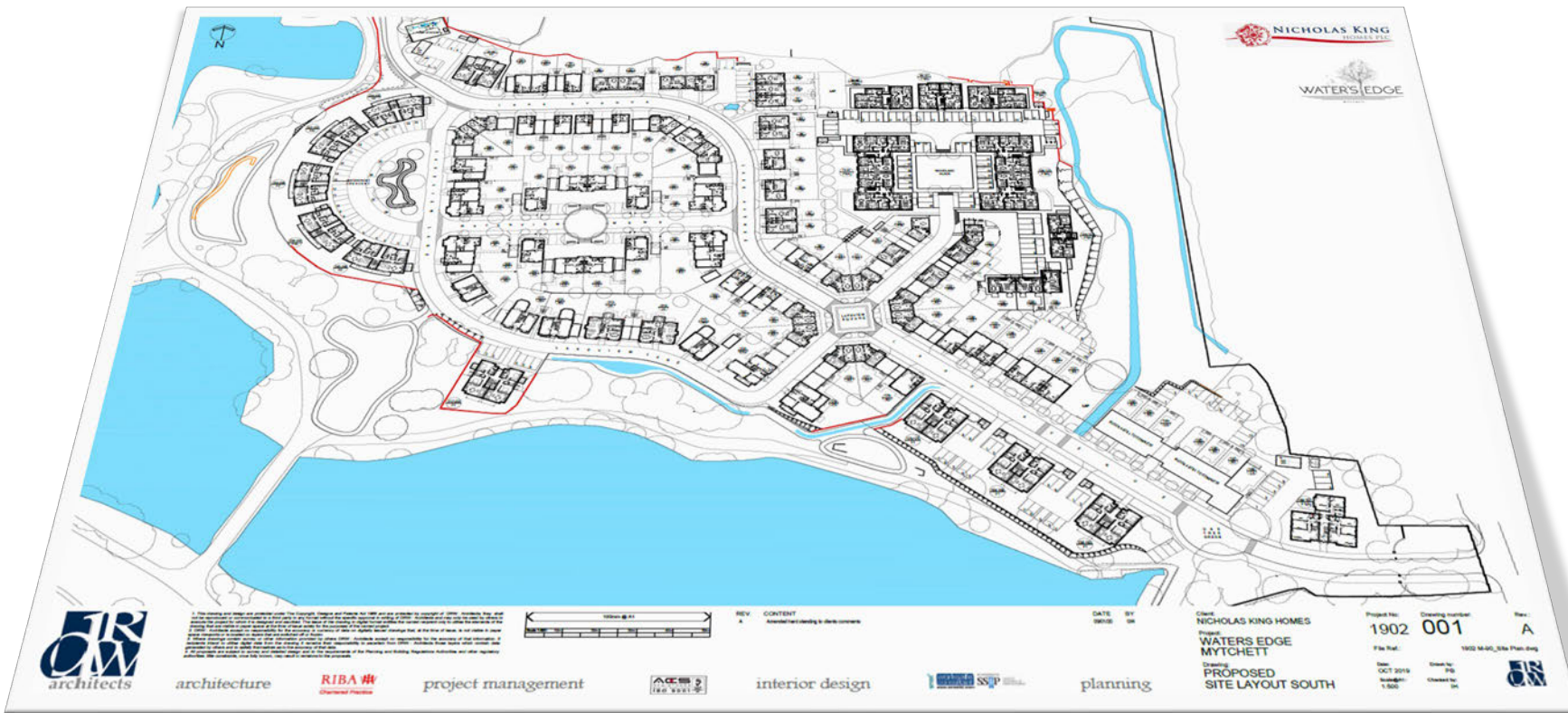
Final numbers would be subject to receipt of construction drawings, engineering layouts, load take downs and sequence of works.

Works were scheduled with phases agreed, number of visits and start dates agreed.



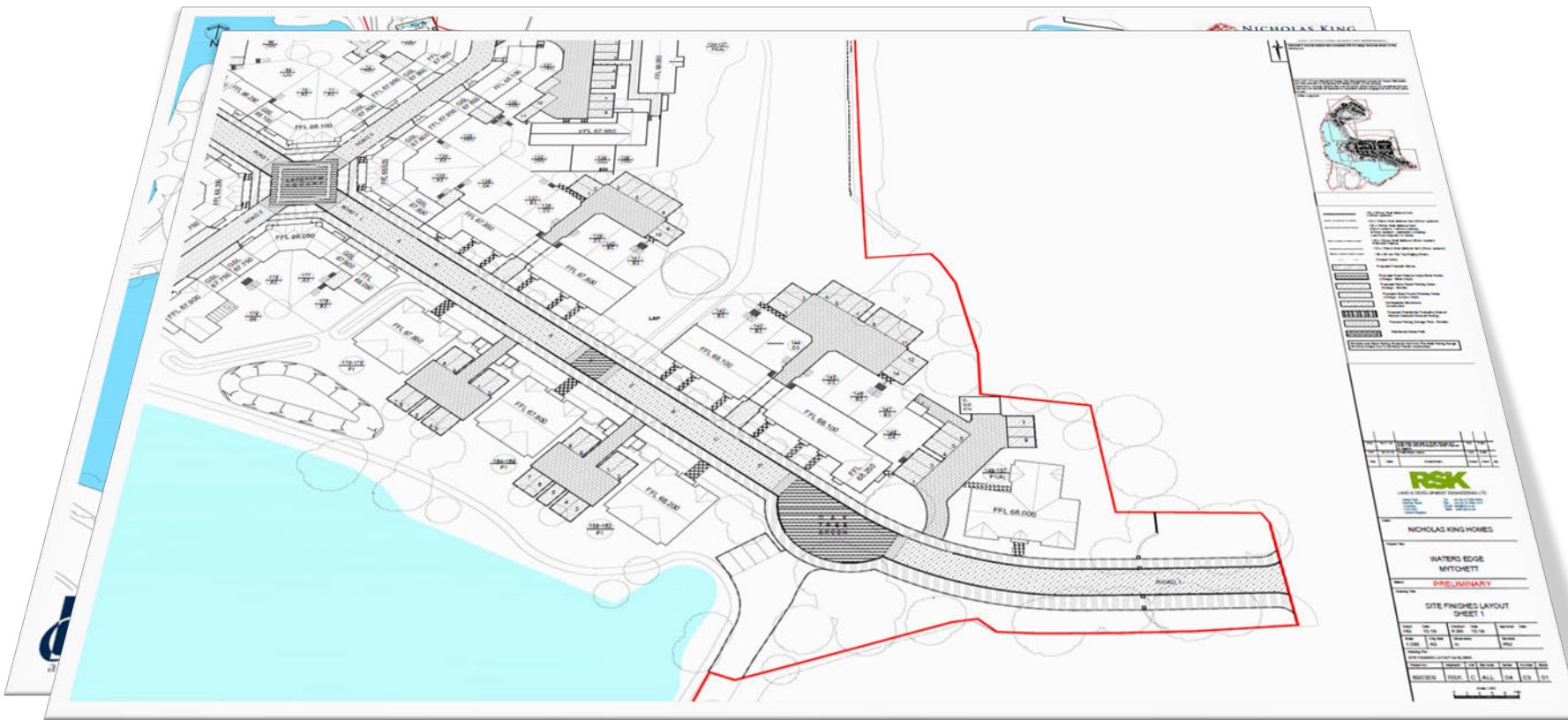
Design Process





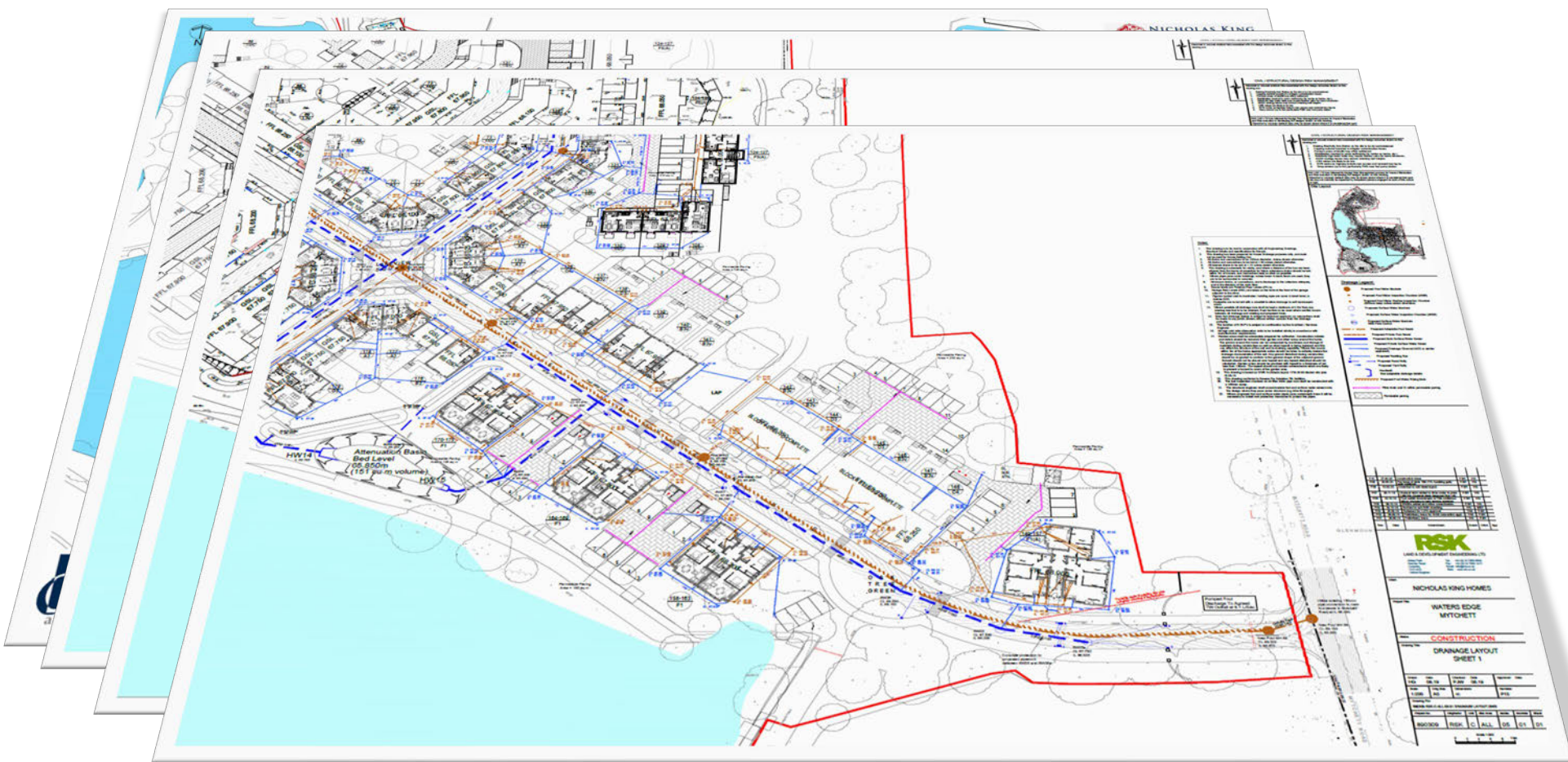
The Design Process





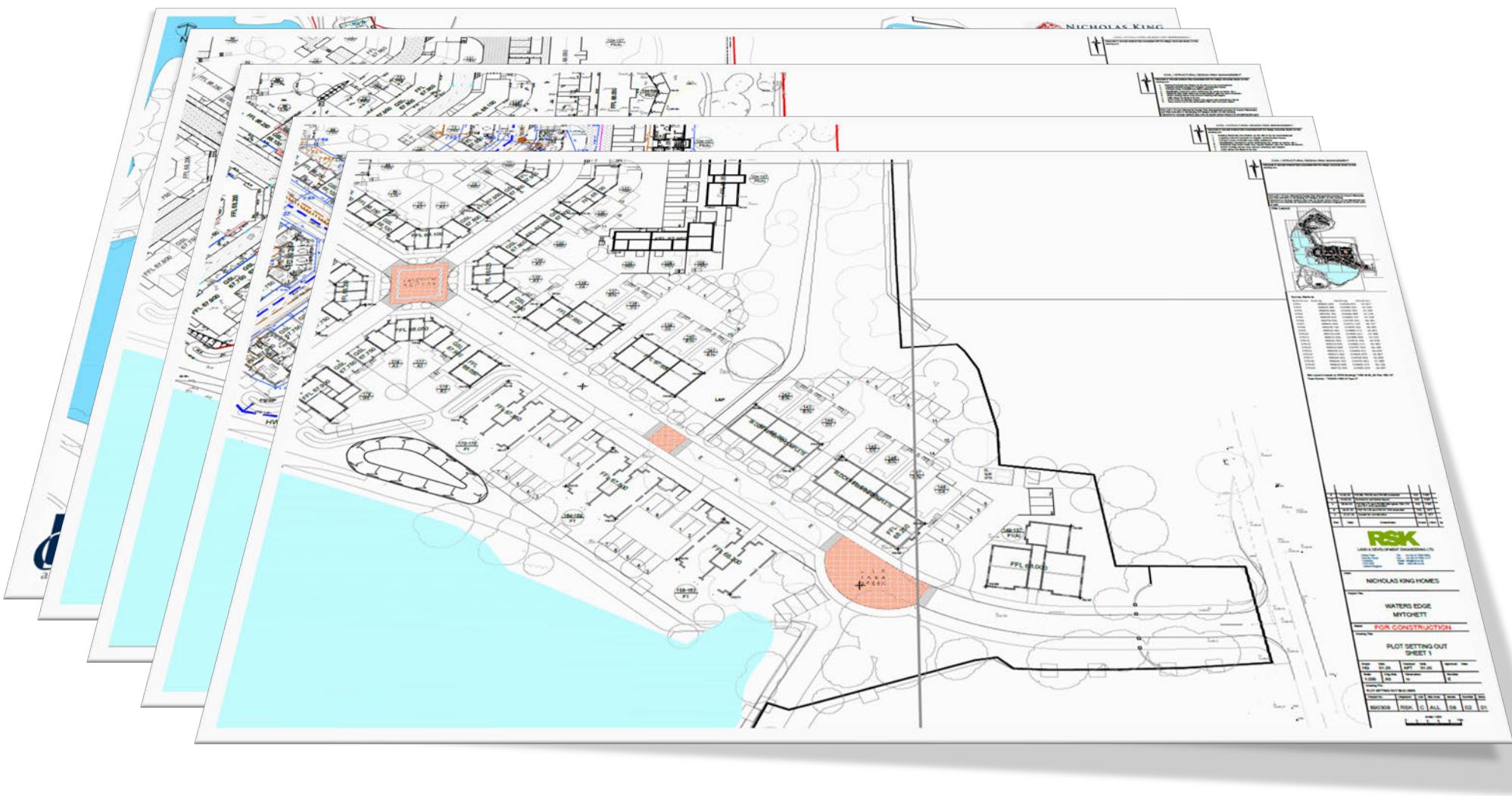
The Design Process





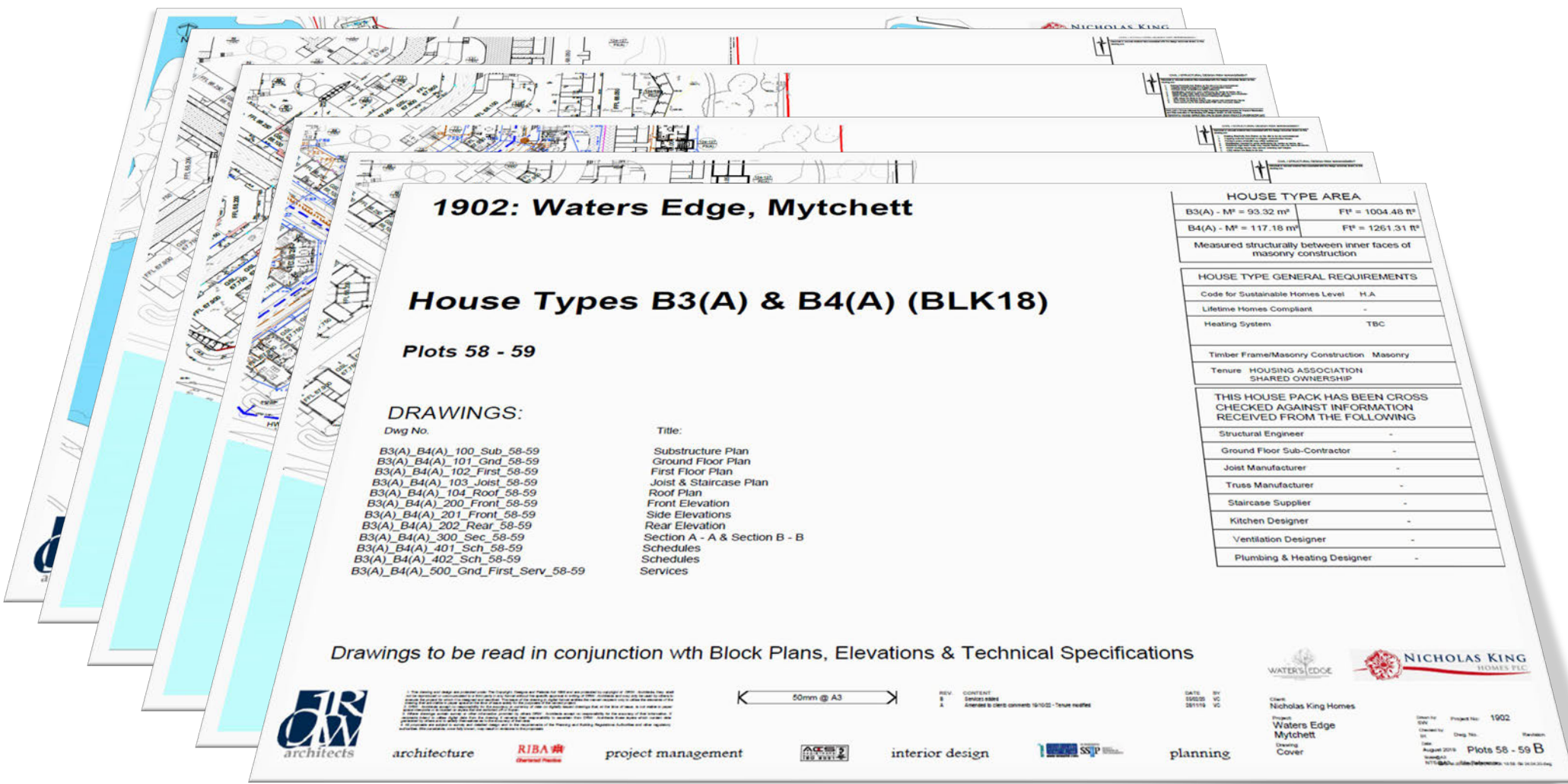
The Design Process





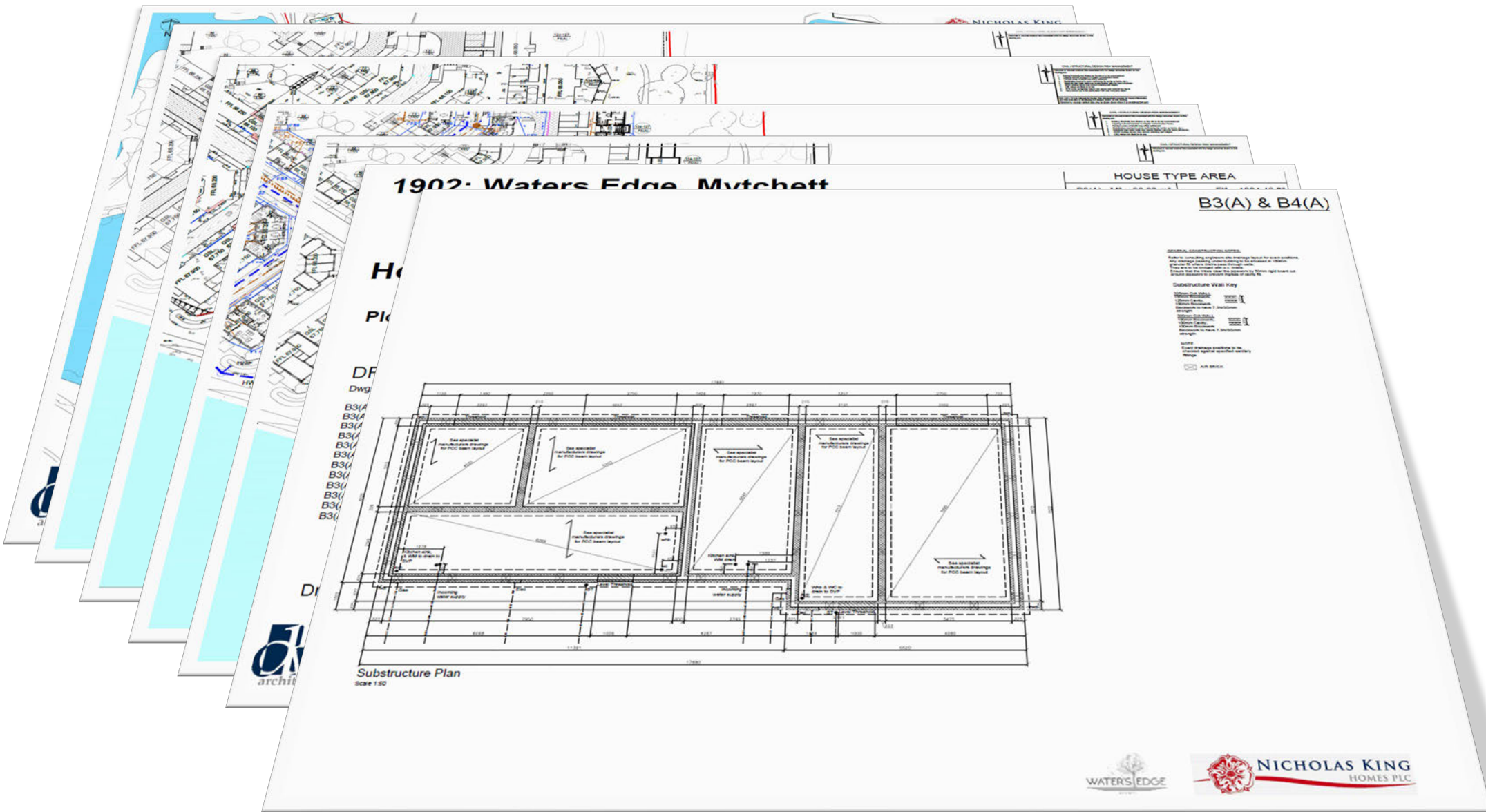
The Design Process





The Design Process





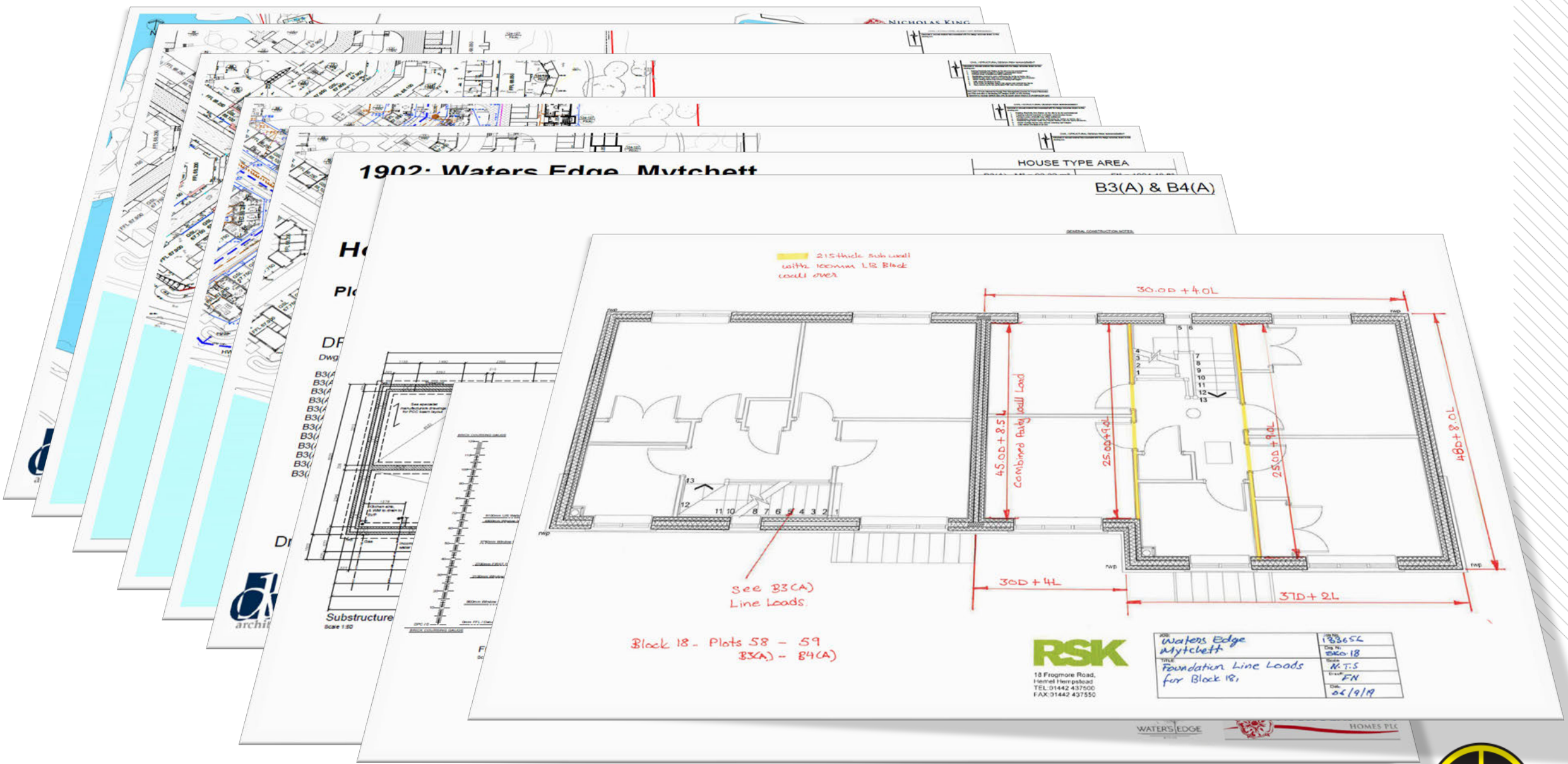
The Design Process





The Design Process





The Design Process



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			PRINT TICKETS SHEETS	LISTS	PRODUCTION ISSUE	REMEDIAL ISSUE	FILE REPORTER					
	HOUSE TYPE(S)	ADD	PLOT NO(S) (ADD "G" TO GARAGE)	ADD	HOUSE TYPE(S) / INSITU	HANDING(S) / REF.	UNDER-BUILD	TANKING	HEAVE	FLOOR	DWG NO.	CALCULATION NO.
3	C3		17g	DBG			N	N	YES		283	232
3(A)	C3(A)		18	E5			Y	N	YES		217 - 218	206
4	C4		18g	DBG			N	N	YES		283	232
4(A)	C4(A)		19	E4			Y	Y	NO		219 - 220	204
D3	D3		19g	SNG			N	N	NO		286	235
D3(A)	D3(A)		20	D4v3			N	N	YES		221 - 222	207
D4	D4		20g	DBG			N	N	YES		283	232
D4v1	D4v1		21	D4v3			N	N	YES		223 - 224	207
D4v2	D4v2		21g	DBG			Y	N	YES		287	236
D4v3	D4v3		22	D4v2			N	N	NO		225 - 226	208
D4v4	D4v4		23	D4			N	Y	YES		227 - 228	209
D5	D5		23g - 24g	TWG			Y	N	YES		288	237
E3	E3		24	H4			N	N	YES		229 - 230	210
E4	E4		25 - 26	M3	M3		N	N	YES		231 - 232	211
E5	E5		27 - 28	G3	G3		N	N	YES		233 - 234	212
F1	F1		29 - 30	M3	M3		N	N	YES		235 - 236	213
F1(A)	F1(A)		31	H4v			Y	N	YES		237 - 238	214
F2	F2		32	B5			Y	N	YES		239 - 240	215
F2(A)	F2(A)		33	L4			N	N	YES		241 - 242	216
F2v	F2v		34 - 35	K4	K4		N	N	YES		243 - 244	217
F3	F3		36	D4			N	Y	YES		245 - 246	209
F3(A)	F3(A)		36g	SNG			N	N	YES		284	235
F4(A)	F4(A)		37 - 38	G3	G3		N	N	NO		247 - 248	218
F5(A)	F5(A)		39 - 40	C3	C3		N	N	YES		249 - 250	219
G3	G3		41	A4v1			N	N	YES		251 - 252	220
G5	G5		42	E4			N	N	NO		253 - 254	204
H4	H4		43	K4v1			N	N	NO		255 - 256	221
H4v	H4v		44 - 46	A4v2	A4v2	D4v4	Y	N	PLOT 46 & GARAGE ONLY		257 - 258	222
J3	J3		47 - 52	F3			N	N	YES		259 - 260	223
J4	J4		53 - 55	N3	N3	N3	Y	Y	YES		261 - 262	224
K3	K3		56 - 57	B3(A)	B3(A)		N	N	YES		263 - 264	225
K4	K4		58 - 59	B3(A)	B4(A)		N	N	YES		265 - 266	226
K4v1	K4v1		60 - 62	D3(A)	D3(A)	D3(A)	N	N	YES		267 - 268	227
K4v2	K4v2		63 - 64	D3(A)	D3(A)		N	N	NO		269 - 270	228
L3	L3		65	C4(A)			N	N	NO		271 - 272	229
L3v	L3v		66	C4(A)			N	N	NO		273 - 274	229
L4	L4		67 - 68	D3(A)	D3(A)		N	N	NO		275 - 276	228
M3	M3		188 - 190	A3v	K3	A3v	N	N	NO		277 - 278	230
M4	M4		191 - 192	G3	G3		Y	N	NO		279 - 280	231
N3	N3		193 - 194	G3	G3		N	N	NO		281 - 282	231
N4	N4											

The Design Process



Job	DH 19 0020	PRINT PLOT LIST	CREATE FILE LIST	DOCUMENT ISSUE	PCO ISSUE	OPEN PROJECT FOLDER				292	238
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	HOUSE TYPE(S) ADD	PLOT NO(S) (ADD "C" TO GARAGE)	ADD	HOUSE TYPE(S) / INSITU	HANDLING(S) / REF.	UNDER-BUILD	TANKING	HEAVE	FLOOR	DWG NO.	CALCULATION NO.
3	C3	17g	DBG			N	N	YES		283	232
3(A)	C3(A)	18	E5			Y	N	YES		217 - 218	206
4	C4	18g	DBG			N	N	YES		283	232
4(A)	C4(A)	19	E4			Y	Y	NO		219 - 220	204
3	D3	19g	SNG			N	N	NO		286	235
3(A)	D3(A)	20	D4v3			N	N	YES		221 - 222	207
4	D4	20g	DBG			N	N	YES		283	232
4v1	D4v1	21	D4v3			N	N	YES		223 - 224	207
4v2	D4v2										236
4v3	D4v3										208
4v4	D4v4										209
5	D5										237
3	E3										210
4	E4										211
5	E5										212
1	F1										213
1(A)	F1(A)										214
2	F2										215
2(A)	F2(A)										216
2v	F2v										217
3	F3										209
3(A)	F3(A)										235
4(A)	F4(A)										218
5(A)	F5(A)										219
3	G3										220
5	G5										204
4	H4										221
4v	H4v										222
3	J3										223
4	J4										224
3	K3										225
4	K4										226
4v1	K4v1										227
4v2	K4v2										228
3	L3										229
3v	L3v										229
4	L4										228
3	M3										230
4	M4										231
3	N3										231
4	N4										

DRAWINGS	CALCS
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DH 19 0020_RBL_PT1-9(HTF1(A))_FL_DR_X_201-202	DH 19 0020_RBL_PT10-11(HTM4,M4)_FL_PC_X_202
DH 19 0020_RBL_PT10-11(HTM4,M4)_FL_DR_X_203-204	DH 19 0020_RBL_PT12.15(HTD4v1)_FL_PC_X_203
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DH 19 0020_RBL_PT13(HTE4)_FL_DR_X_207-208	DH 19 0020_RBL_PT16.17(HTD5)_FL_PC_X_205
DH 19 0020_RBL_PT14(HTE4)_FL_DR_X_209-210	DH 19 0020_RBL_PT18(HTE5)_FL_PC_X_206
DH 19 0020_RBL_PT15(HTD4v1)_FL_DR_X_211-212	DH 19 0020_RBL_PT20.21(HTD4v3)_FL_PC_X_207
DH 19 0020_RBL_PT16(HTD5)_FL_DR_X_213-214	DH 19 0020_RBL_PT22(HTD4v2)_FL_PC_X_208
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DH 19 0020_RBL_PT18(HTE5)_FL_DR_X_217-218	DH 19 0020_RBL_PT24(HTH4)_FL_PC_X_210
DH 19 0020_RBL_PT19(HTE4)_FL_DR_X_219-220	DH 19 0020_RBL_PT25-26(HTM3,M3)_FL_PC_X_211
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The Design Process



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4	C4		18g		DBG							
4(A)	C4(A)		19		E4							
3	D3		19g		SNG							
3(A)	D3(A)		20		D4v3							
4	D4		20g		DBG							
4v1	D4v1		21		D4v3							
4v2	D4v2											
4v3	D4v3											
4v4	D4v4											
5	D5											
3	E3											
4	E4											
5	E5											
1	F1											
1(A)	F1(A)											
2	F2											
2(A)	F2(A)											
2v	F2v											
3	F3											
3(A)	F3(A)											
4(A)	F4(A)											
5(A)	F5(A)											
3	G3											
5	G5											
4	H4											
4v	H4v											
3	J3											
4	J4											
3	K3											
4	K4											
4v1	K4v1											
4v2	K4v2											
3	L3											
3v	L3v											
4	L4											
3	M3											
4	M4											
3	N3											
4	N4											

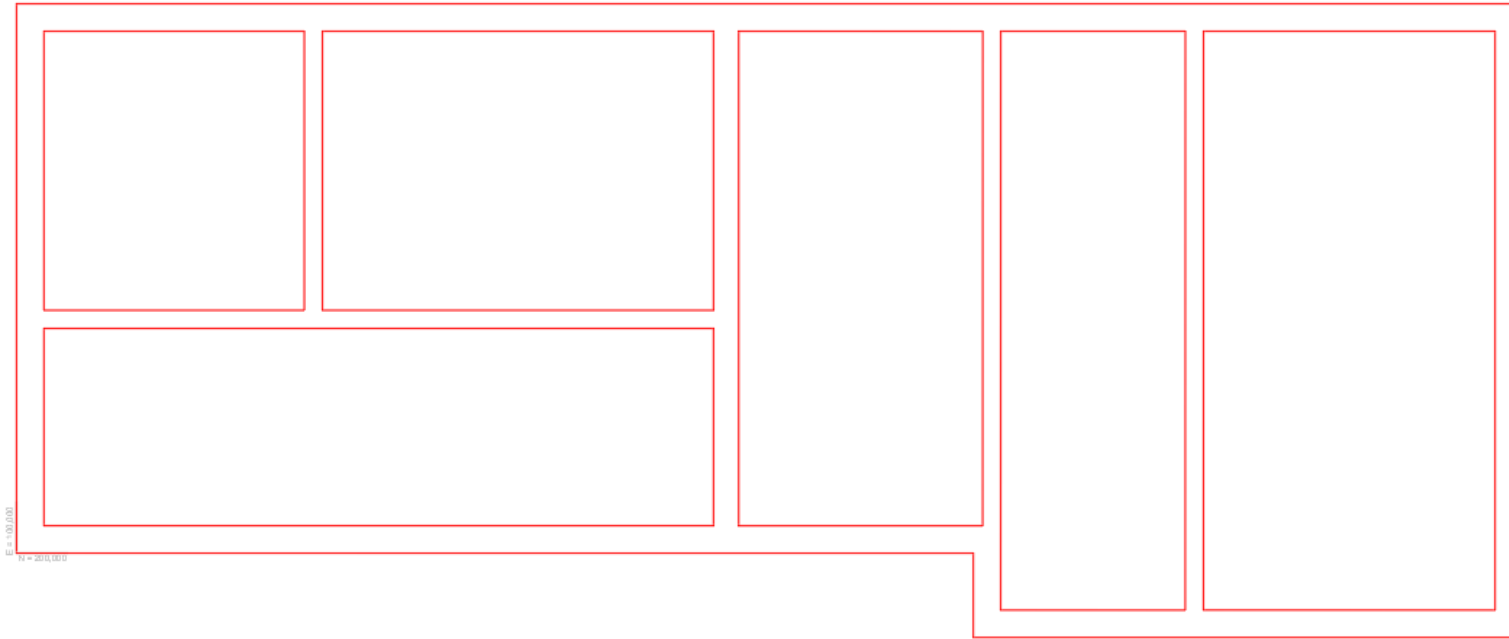
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DH 19 0020_RBL_PT12(HTD4v1)_FL_DR_X_205-	
DH 19 0020_RBL_PT13(HTE4)_FL_DR_X_207-20	
DH 19 0020_RBL_PT14(HTE4)_FL_DR_X_209-21	
DH 19 0020_RBL_PT15(HTD4v1)_FL_DR_X_211	
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DH 19 0020_RBL_PT17(HTD5)_FL_DR_X_215-2	
DH 19 0020_RBL_PT18(HTE5)_FL_DR_X_217-2	
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DH 19 0020_RBL_PT23(HTD4)_FL_DR_X_227	
DH 19 0020_RBL_PT24(HTH4)_FL_DR_X_229	
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DH 19 0020_RBL_PT34-35(HTK4,K4)_FL_DR_X_229	
DH 19 0020_RBL_PT36(HTD4)_FL_DR_X_229	
DH 19 0020_RBL_PT37-38(HTG3,G3)_FL_DR_X_229	
DH 19 0020_RBL_PT39-40(HTC3,C3)_FL_DR_X_229	
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DH 19 0020_RBL_PT43(HTK4v1)_FL_DR_X_229	
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DH 19 0020_RBL_PT56-57(HTB3(A),B3(A))_FL_DR_X_229	
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DH 19 0020_RBL_PT60-62(HTD3(A),D3(A))_FL_DR_X_229	
DH 19 0020_RBL_PT63-64(HTD3(A),D3(A))_FL_DR_X_229	
DH 19 0020_RBL_PT65(HTC4(A))_FL_DR_X_229	

www.roger-bullivant.co.uk		HOUSE FOUNDATIONS PRECAST DESIGN CHECKLIST	
Project Name:	MYTCHETT WE (VISIT 2)	Contract No:	DH/19/0020
Plot / House Type:	PT58-59(HTB3(A),B4(A))	Drawing No(s):	265-266

INITIAL DESIGN & CHECK			D	C / E
Brickwork layout	Drawn	CAD	✓	✓
Manually check overall external dims			✓	✓
Manually check internal room (wall to wall) dims			✓	✓
Refer to section drawings for grid offsets / beam types etc.			✓	✓
Identify front of plot. Check orientation & handing. Add "FRONT" note. Reference landscape features?			✓	✓
Walls, floors & roof specification			✓	✓
Identify load bearing walls			✓	✓
Are bay windows / porch slabs / chimney / other slabs required?	Yes	No	✓	✓
Draw all grid lines & labels			✓	✓
Produce all grid dimensions			✓	✓
Draw ground floor span directions			✓	✓
Initiate calculations, produce line loads & insitu cap reinforcement checks			✓	✓
Check proposed beam spans & beam type			✓	✓
Produce draft layout showing piles, beams & insitu – discuss with alternative engineer if required			✓	✓
Check quantity of piles / beam against take-off – discuss with area office if quantities do not match			✓	✓
Produce pile and beam layout			✓	✓
Check beam orientation (Tee Beam)				
Are drainage beams required (Tee Beam)	Yes	No		
Add void former to perimeter beams for heave? Add heave note. Use "VOIDFORMER" command			✓	✓
Add 3D drain runs "DRAINRUN" command			✓	✓
Top of Beam levels (TOB) – Do beam levels need to be adjusted for drainage?	Yes	No	✓	✓
Change cap types for offsets / beam types (T5 / Section 4 RBeam)			✓	✓
Engineer drawing			✓	✓
Bring in all coordinate tables / Pile & Beam schedule tables			✓	✓
Complete calculations			✓	✓
Insitu caps & slab notes			✓	✓
Complete all section marks			✓	✓
Update general notes / title block			✓	✓
Fill out all references used			✓	✓

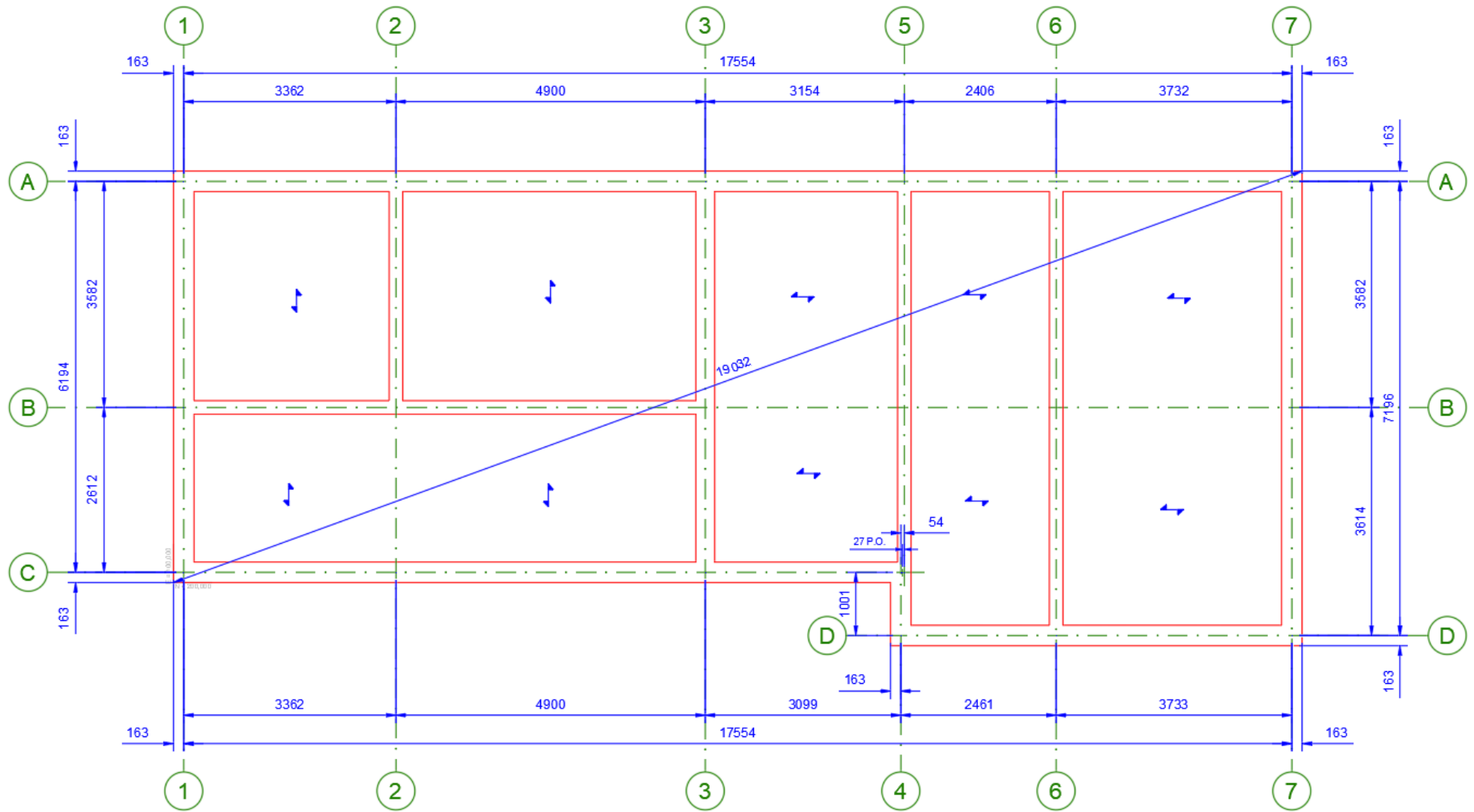
The Design Process





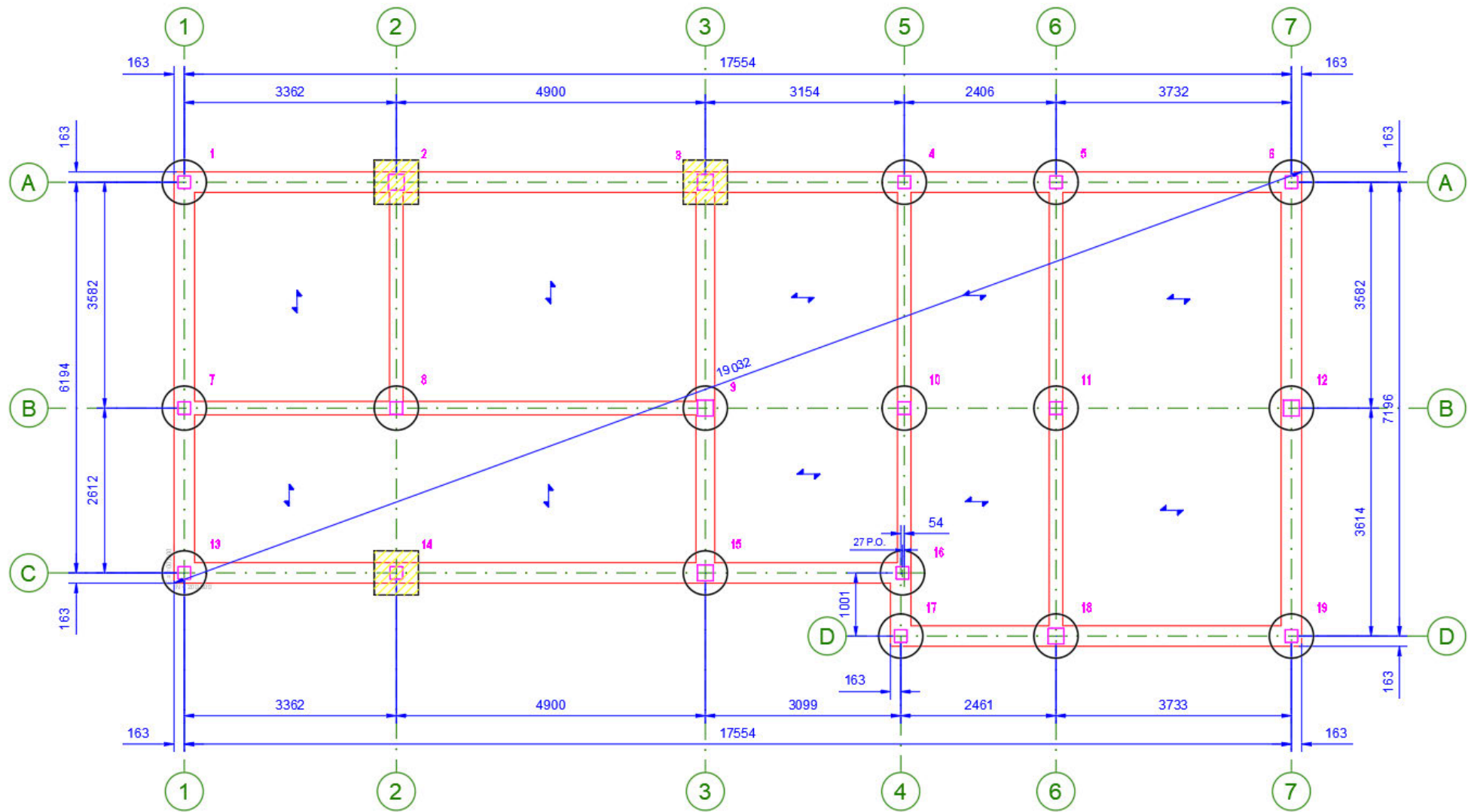
The Design Process





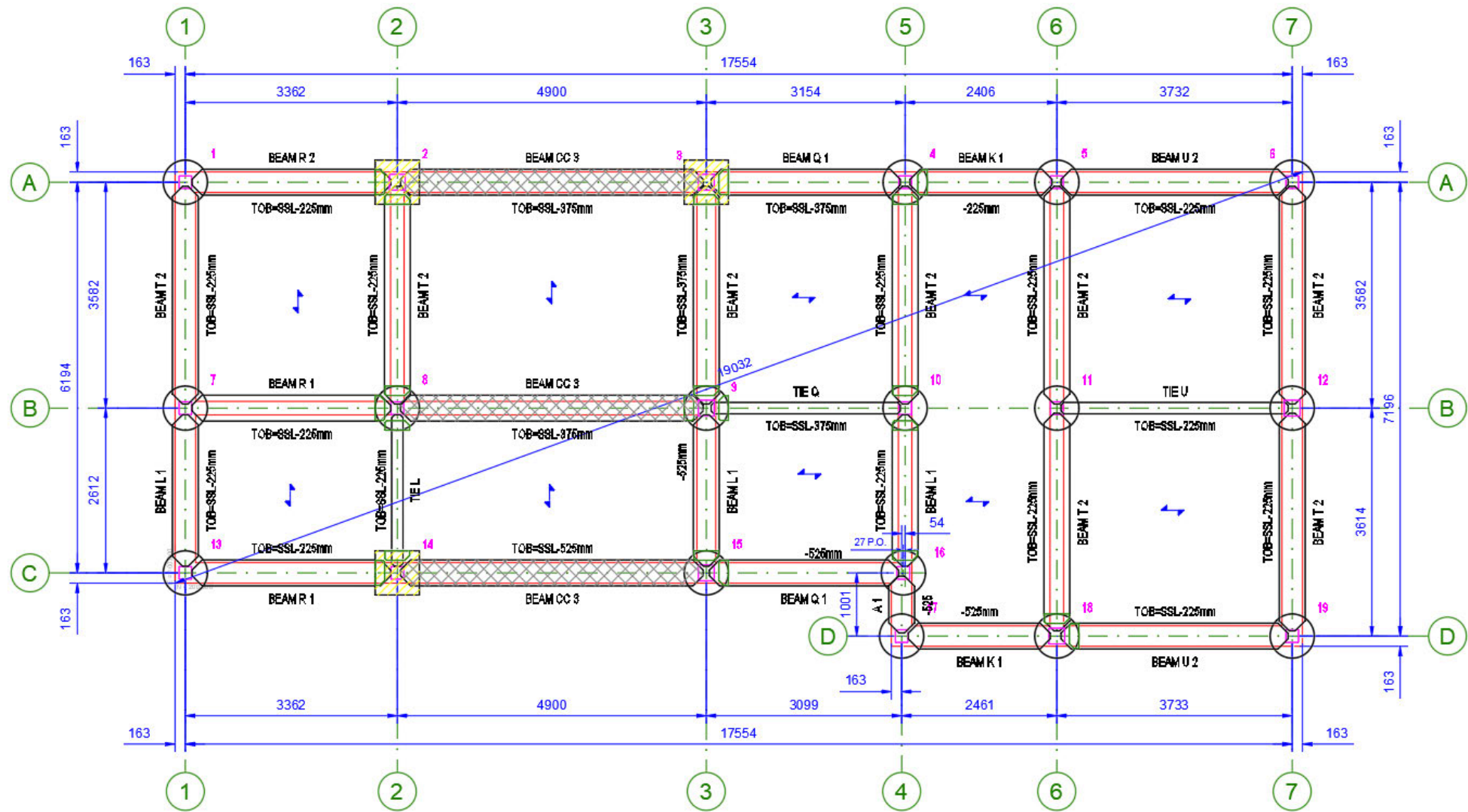
The Design Process





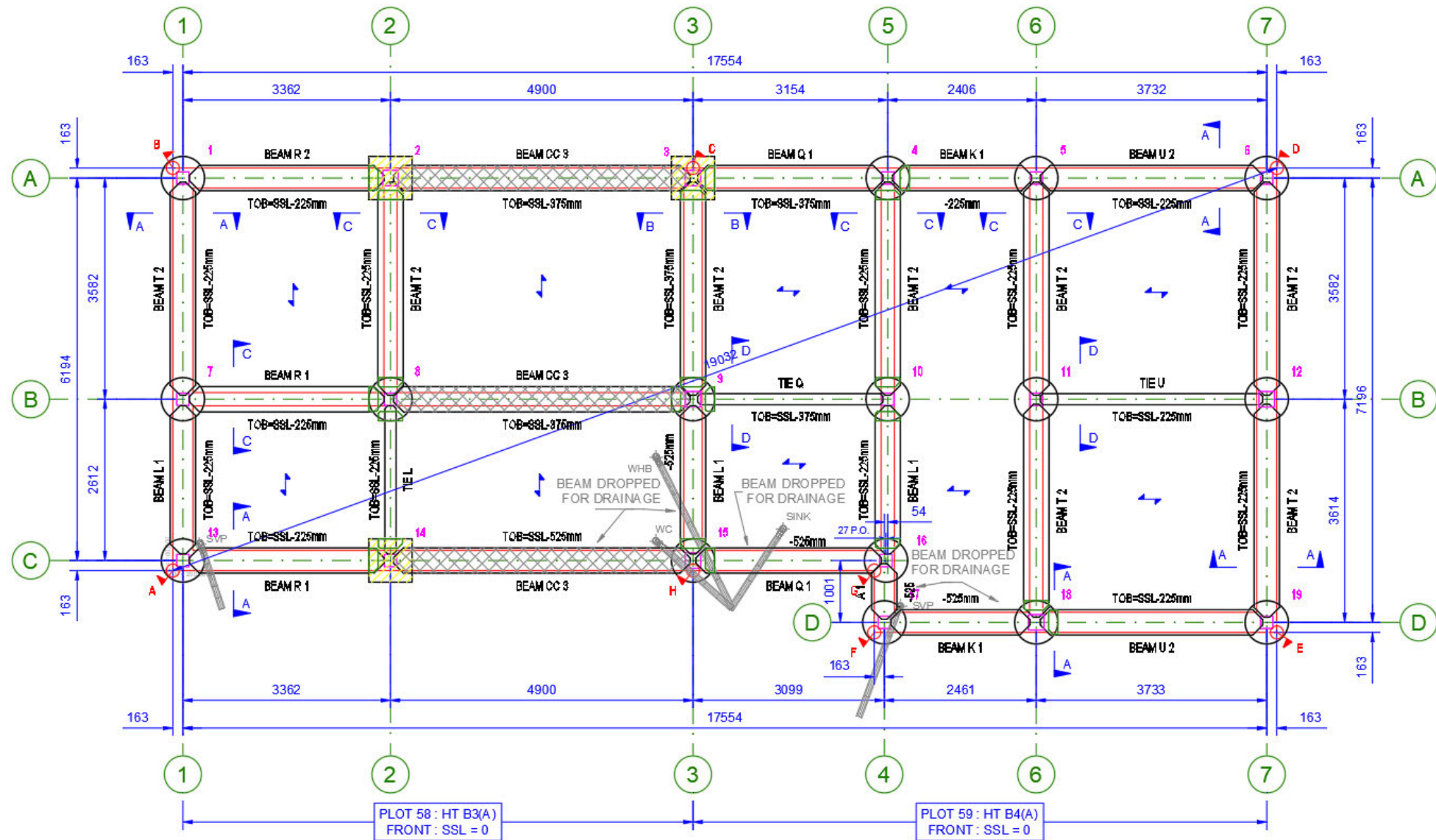
The Design Process





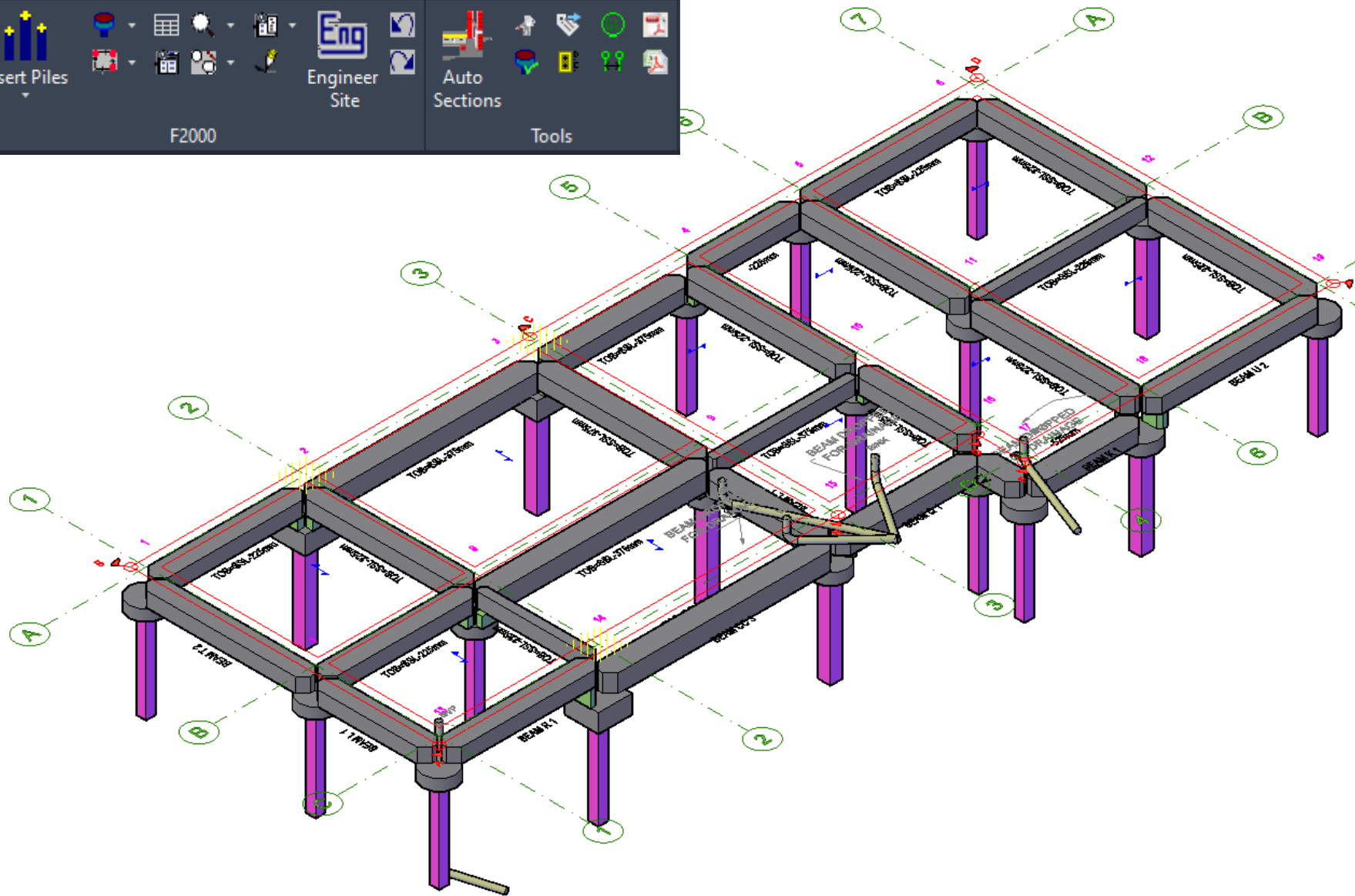
The Design Process





The Design Process





Beam Designer

Beam Details

Beam System: RBEAM 400

☒ Void Former
☐ Drainage

Top of Beam Level (mm): -225

Span to Concrete Length Reduction (mm): 99

Beam Offset - From First Point (mm): ☐ 0

Beam Offset - From Second Point (mm): ☐ 0

Linear Beam Offset (mm): 0

Calculation Details

Load Case Number: 3

Unfactored Load on Beam (kN/m): 60.00

Factored Load on Beam (kN/m): 85.60

Update Line Load

Beam Variables & Calculations

STOCK BEAM?	YES
SPAN	3610 mm
CONCRETE LENGTH	3450 mm
MAXIMUM BENDING MOMENT	110.25 kNm
MAXIMUM SHEAR	137.39 kN
DESIGN SHEAR	116.67 kN
REACTION TO PILE	108.30 kN
BEAM TYPE REQUIRED	RBEAM 400 TYPE 2

Re-Calculate Beam Force Beam Type

End Bar Position

☒ (High) End Bar Position ☐ (Low) End Bar Position

Apply Exit

The Design Process





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Client:	NICHOLAS KING HOMES	By:	LK	Engineer:	JLS
Project:	MYTCHETT WE (VISIT 2)				
Project No.	DH/19/0020	Date:	JUNE 20	Sheet No.	2
Plot:	58-59 HT B3(A), B4(A)				
Title:	Line Loads	Rev:	-	Doc. No.	226

ENGINEERS LOADS PROVIDED BY RSK REF: 133656 SK01 - SK48

Grid Reference:	Load Case	Other		Self Weight	Total Live	Total Dead	Design SLS	Design ULS
		Live	Dead					
	1	4.0	30.0	4.00	4.00	34.00	38.00	54.00
	2	2.0	37.0	4.00	2.00	41.00	43.00	60.60
	3	8.0	48.0	4.00	8.00	52.00	60.00	85.60
	4	9.0	25.0	4.00	9.00	29.00	38.00	55.00
	5	8.5	45.0	4.00	8.50	49.00	57.50	82.20
	6	9.0	38.0	4.00	9.00	42.00	51.00	73.20
	7	7.0	35.0	4.00	7.00	39.00	46.00	65.80
	8	4.0	13.0	4.00	4.00	17.00	21.00	30.20



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Client:	NICHOLAS KING HOMES	By:	LK	Eng:	JLS
Project:	MYTCHETT WE (VISIT 2)				
Project No.	DH/19/0020	Date:	JUNE 20	Sheet No.	4
Plot:	58-59 HT B3(A), B4(A)				
Title:	Beam Table	Rev:	-	Doc. No.	226

Beam Analysis									
Beam	Span	Load Case	Service Load (kN/m)	Ultimate Load (kN/m)	Beam Type	Minimum Section Type	Serv. Pile Rn. (kN)	Ult. Beam Rn. (kN)	Minimum Rqd. Cap Type
A1-3	1000	3	60.00	85.60	RBEAM_400	1	30	27	-
K1-1	2400	1	38.00	54.00	RBEAM_400	1	46	55	-
K1-2	2460	2	43.00	60.60	RBEAM_400	1	53	63	-
L1-2	2610	2	43.00	60.60	RBEAM_400	1	56	68	-
L1-4	2610	4	38.00	55.00	RBEAM_400	1	50	61	-
L1-5	2610	5	57.50	82.20	RBEAM_400	1	75	92	-
Q1-1	3150	1	38.00	54.00	RBEAM_400	1	60	75	-
R1-4	3360	4	38.00	55.00	RBEAM_400	1	64	82	-
R1-7	3360	7	46.00	65.80	RBEAM_400	1	77	98	-
R2-6	3360	6	51.00	73.20	RBEAM_400	2	86	109	-
T2-2	3580	2	43.00	60.60	RBEAM_400	1	77	97	-
T2-3	3610	3	60.00	85.60	RBEAM_400	2	108	138	-
T2-4	3610	4	38.00	55.00	RBEAM_400	1	69	89	-
T2-5	3580	5	57.50	82.20	RBEAM_400	2	103	132	-
T2-8	3580	8	21.00	30.20	RBEAM_400	1	38	48	-
U2-1	3730	1	38.00	54.00	RBEAM_400	1	71	90	-
U2-2	3730	2	43.00	60.60	RBEAM_400	2	80	102	-
CC3-4	4900	4	38.00	55.00	RBEAM_400	3	93	124	-
CC3-6	4900	6	51.00	73.20	RBEAM_400	3	125	165	-
CC3-7	4900	7	46.00	65.80	RBEAM_400	3	113	149	-



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Client:	NICHOLAS KING HOMES	By:	LK	Eng:	JLS
Project:	MYTCHETT WE (VISIT 2)				
Project No.	DH/19/0020	Date:	JUNE 20	Sheet No.	5
Plot:	58-59 HT B3(A), B4(A)				
Title:	Pile Table	Rev:	-	Doc. No.	226

PILE SIZE 200 sq 250 sq - sq
MAXIMUM PILE LOAD 200 kN 350 kN - kN

PILE LOADS													
Pile No.	Load Case								Add. Load	Equalised with		TOTAL (kN)	
	Bm	Rn	Bm	Rn	Bm	Rn	Bm	Rn		Pile	Adj.		
4	Q1-1	60	K1-1	46	T2-4	69						174	175
5	K1-1	46	U2-1	71	T2-4	69						185	200
6	U2-1	71	T2-3	108								179	200
7	L1-2	56	T2-2	77	R1-4	64						197	200
8	R1-4	64	T2-8	38	CC3-4	93						195	200
9	CC3-4	93	T2-5	103	L1-5	75						271	275
10	T2-4	69	L1-4	50								118	125
11	T2-4	69	T2-4	69								137	150
12	T2-3	108	T2-3	108								217	225
13	R1-7	77	L1-2	56								133	150
14	CC3-7	113	R1-7	77								190	200
15	Q1-1	60	CC3-7	113	L1-5	75						248	250
16	Q1-1	60	A1-3	30	L1-4	50						139	150
17	K1-2	53	A1-3	30								83	100
18	U2-2	80	K1-2	53	T2-4	69						202	225
19	T2-3	108	U2-2	80								188	200



The Design Process



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Client:	NICHOLAS KING HOMES	By:	LK	Engineer:	JLS
Project:	MYTCHETT WE (VISIT 2)				
Project No.	DH/19/0020	Date:	JUNE 20	Sheet No.	2
Plot:	58-59 HT B3(A), B4(A)				
Title:	Line Loads	Rev:	-	Doc. No.	226

ENGINEERS LOADS PROVIDED BY RSK REF: 133656 SK01 - SK48

Grid Reference:	Load Case	Live	Other	Dead	Self Weight	Total Live	Total Dead	Design SLS	Design ULS
1	4.0			30.0	4.00	4.00	34.00	38.00	54.00
2	2.0			37.0	4.00	2.00	41.00	43.00	60.60
3	8.0			48.0	4.00	8.00	52.00	60.00	85.60
4	9.0			25.0	4.00	9.00	29.00	38.00	55.00
5	8.5			45.0	4.00	8.50	49.00	57.50	82.20
6	9.0			38.0	4.00	9.00	42.00	51.00	73.20
7	7.0			35.0	4.00	7.00	39.00	46.00	65.80
8	4.0			13.0	4.00	4.00	17.00	21.00	30.20



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Client:	NICHOLAS KING HOMES	By:	LK	Eng:	JLS
Project:	MYTCHETT WE (VISIT 2)				
Project No.	DH/19/0020	Date:	JUNE 20	Sheet No.	4
Plot:	58-59 HT B3(A), B4(A)				
Title:	Beam Table	Rev:	-	Doc. No.	226

Beam Analysis									
Beam	Span	Load Case	Service Load (kN/m)	Ultimate Load (kN/m)	Beam Type	Minimum Section Type	Serv. Pile Rn. (kN)	Ult. Beam Rn. (kN)	Minimum Rqd. Cap Type
A1-3	1000	3	60.00	85.60	RBEAM_400	1	30	27	-
K1-1	2400	1	38.00	54.00	RBEAM_400	1	46	55	-
K1-2	2460	2	43.00	60.60	RBEAM_400	1	53	63	-
L1-2	2610	2	43.00	60.60	RBEAM_400	1	56	68	-
L1-4	2610	4	38.00	55.00	RBEAM_400	1	50	61	-
L1-5	2610	5	57.50	82.20	RBEAM_400	1	75	92	-
Q1-1	3150	1	38.00	54.00	RBEAM_400	1	60	75	-
R1-4	3360	4	38.00	55.00	RBEAM_400	1	64	82	-
R1-7	3360	7	46.00	65.80	RBEAM_400	1	77	98	-
R2-6	3360	6	51.00	73.20	RBEAM_400	2	86	109	-
T2-2	3580	2	43.00	60.60	RBEAM_400	1	77	97	-
T2-3	3610	3	60.00	85.60	RBEAM_400	2	108	138	-
T2-4	3610	4	38.00	55.00	RBEAM_400	1	69	89	-
T2-5	3580	5	57.50	82.20	RBEAM_400	2	103	132	-
T2-8	3580	8	21.00	30.20	RBEAM_400	1	38	48	-
U2-1	3730	1	38.00	54.00	RBEAM_400	1	71	90	-
U2-2	3730	2	43.00	60.60	RBEAM_400	2	80	102	-
CC3-4	4900	4	38.00	55.00	RBEAM_400	3	93	124	-
CC3-6	4900	6	51.00	73.20	RBEAM_400	3	125	165	-
CC3-7	4900	7	46.00	65.80	RBEAM_400	3	113	149	-



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Client:	NICHOLAS KING HOMES	By:	LK	Eng:	JLS
Project:	MYTCHETT WE (VISIT 2)				
Project No.	DH/19/0020	Date:	JUNE 20	Sheet No.	5
Plot:	58-59 HT B3(A), B4(A)				
Title:	Pile Table	Rev:	-	Doc. No.	226

PILE SIZE 200 sq 250 sq - sq
MAXIMUM PILE LOAD 200 kN 350 kN - kN

PILE LOADS													
Pile No.	Load Case								Add. Load	Equalised with		TOTAL (kN)	
	Bm	Rn	Bm	Rn	Bm	Rn	Bm	Rn		Pile	Adj.		
4	Q1-1	60	K1-1	46	T2-4	69						174	175
5	K1-1	46	U2-1	71	T2-4	69						185	200
6	U2-1	71	T2-3	108								179	200
7	L1-2	56	T2-2	77	R1-4	64						197	200
8	R1-4	64	T2-8	38	CC3-4	93						195	200
9	CC3-4	93	T2-5	103	L1-5	75						271	275
10	T2-4	69	L1-4	50								118	125
11	T2-4	69	T2-4	69								137	150
12	T2-3	108	T2-3	108								217	225
13	R1-7	77	L1-2	56								133	150
14	CC3-7	113	R1-7	77								190	200
15	Q1-1	60	CC3-7	113	L1-5	75						248	250
16	Q1-1	60	A1-3	30	L1-4	50						139	150
17	K1-2	53	A1-3	30								83	100
18	U2-2	80	K1-2	53	T2-4	69						202	225
19	T2-3	108	U2-2	80								188	200

Project Name MYTCHETT_WE_(VISIT_2) Plot Ref. 58-59
Client NICHOLAS KING HOMES, Project No. DH 19 0020

Drawing Data Site Data As Built Site Data New AutoCAD Data

Site Location Co-Ordinates

Reference	Easting (m)	Northing (m)	
A	100.000	200.000	<input checked="" type="checkbox"/>
B	100.000	206.520	<input checked="" type="checkbox"/>
C	108.425	206.520	<input type="checkbox"/>
D	117.880	206.520	<input type="checkbox"/>
E	117.880	198.999	<input type="checkbox"/>
F	111.361	198.999	<input type="checkbox"/>
G	111.361	199.999	<input type="checkbox"/>
H	108.425	200.000	<input type="checkbox"/>

Site Pile Co-Ordinates

Pile No.	Easting (m)	Northing (m)
1	100.163	206.357
2	103.525	206.357
3	108.425	206.357
4	111.579	206.357
5	113.985	206.357
6	117.717	206.357
7	100.163	202.775
8	103.525	202.775
9	108.425	202.775
10	111.578	202.775
11	113.985	202.775
12	117.717	202.775
13	100.163	200.163
14	103.525	200.163
15	108.425	200.163
16	111.551	200.163
17	111.524	199.161
18	113.984	199.161
19	117.717	199.161

Region DARTFORD NR
None Design Engineer lewis.king

Load Drawing Data
Export Site Data
Import As Built Data
Print
Save
Exit
Date Site Created 09/09/2021
Date of Source Data 21/07/2020
Progress



The Design Process



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Client:	NICHOLAS KING HOMES	By:	LK	Engineer:	JLS
Project:	MYTCHETT WE (VISIT 2)				
Project No.	DH/19/0020	Date:	JUNE 20	Sheet No.	2
Plot:	58-59 HT B3(A), B4(A)				
Title:	Line Loads	Rev:	-	Doc. No.	226

ENGINEERS LOADS PROVIDED BY RSK REF: 133656 SK01 - SK48

Grid Reference:	Load Case	Live	Other	Dead	Self Weight	Total Live	Total Dead	Design SLS	Design ULS
1	4.0			30.0	4.00	4.00	34.00	38.00	54.00
2	2.0			37.0	4.00	2.00	41.00	43.00	60.60
3	8.0			48.0	4.00	8.00	52.00	60.00	85.60
4	9.0			25.0	4.00	9.00	29.00	38.00	55.00
5	8.5			45.0	4.00	8.50	49.00	57.50	82.20
6	9.0			38.0	4.00	9.00	42.00	51.00	73.20
7	7.0			35.0	4.00	7.00	39.00	46.00	65.80
8	4.0			13.0	4.00	4.00	17.00	21.00	30.20



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Client:	NICHOLAS KING HOMES	By:	LK	Eng:	JLS
Project:	MYTCHETT WE (VISIT 2)				
Project No.	DH/19/0020	Date:	JUNE 20	Sheet No.	4
Plot:	58-59 HT B3(A), B4(A)				
Title:	Beam Table	Rev:	-	Doc. No.	226

Beam Analysis									
Beam	Span	Load Case	Service Load (kN/m)	Ultimate Load (kN/m)	Beam Type	Minimum Section Type	Serv. Pile Rn. (kN)	Ult. Beam Rn. (kN)	Minimum Rqd. Cap Type
A1-3	1000	3	60.00	85.60	RBEAM_400	1	30	27	-
K1-1	2400	1	38.00	54.00	RBEAM_400	1	46	55	-
K1-2	2460	2	43.00	60.60	RBEAM_400	1	53	63	-
L1-2	2610	2	43.00	60.60	RBEAM_400	1	56	68	-
L1-4	2610	4	38.00	55.00	RBEAM_400	1	50	61	-
L1-5	2610	5	57.50	82.20	RBEAM_400	1	75	92	-
Q1-1	3150	1	38.00	54.00	RBEAM_400	1	60	75	-
R1-4	3360	4	38.00	55.00	RBEAM_400	1	64	82	-
R1-7	3360	7	46.00	65.80	RBEAM_400	1	77	98	-
R2-6	3360	6	51.00	73.20	RBEAM_400	2	86	109	-
T2-2	3580	2	43.00	60.60	RBEAM_400	1	77	97	-
T2-3	3610	3	60.00	85.60	RBEAM_400	2	108	138	-
T2-4	3610	4	38.00	55.00	RBEAM_400	1	69	89	-
T2-5	3580	5	57.50	82.20	RBEAM_400	2	103	132	-
T2-8	3580	8	21.00	30.20	RBEAM_400	1	38	48	-
U2-1	3730	1	38.00	54.00	RBEAM_400	1	71	90	-
U2-2	3730	2	43.00	60.60	RBEAM_400	2	80	102	-
CC3-4	4900	4	38.00	55.00	RBEAM_400	3	93	124	-
CC3-6	4900	6	51.00	73.20	RBEAM_400	3	125	165	-
CC3-7	4900	7	46.00	65.80	RBEAM_400	3	113	149	-



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Client:	NICHOLAS KING HOMES	By:	LK	Eng:	JLS
Project:	MYTCHETT WE (VISIT 2)				
Project No.	DH/19/0020	Date:	JUNE 20	Sheet No.	5
Plot:	58-59 HT B3(A), B4(A)				
Title:	Pile Table	Rev:	-	Doc. No.	226

PILE SIZE
MAXIMUM PILE LOAD

PILE LOADS													
Pile No.	Load Case								Add. Load	Equalised with		TOTAL (kN)	
	Bm	Rn	Bm	Rn	Bm	Rn	Bm	Rn		Pile	Adj.		
4	Q1-1	60	K1-1	46	T2-4	69						174	175
5	K1-1	46	U2-1	71	T2-4	69						185	200
6	U2-1	71	T2-3	108								179	200
7	L1-2	56	T2-2	77	R1-4	64						197	200
8	R1-4	64	T2-8	38	CC3-4	93						195	200
9	CC3-4	93	T2-5	103	L1-5	75						271	275
10	T2-4	69	L1-4	50								118	125
11	T2-4	69	T2-4	69								137	150
12	T2-3	108	T2-3	108								217	225
13	R1-7	77	L1-2	56								133	150
14	CC3-7	113	R1-7	77								190	200
15	Q1-1	60	CC3-7	113	L1-5	75						248	250
16	Q1-1	60	A1-3	30	L1-4	50						139	150
17	K1-2	53	A1-3	30								83	100
18	U2-2	80	K1-2	53	T2-4	69						202	225
19	T2-3	108	U2-2	80								188	200

Project Name	MYTCHETT_WE_(VISIT_2)	Plot Ref.	58-59
Client	NICHOLAS KING HOMES,	Project No.	DH 19 0020

Drawing Data	Site Data	As Built Site Data	New AutoCAD Data
Site Location Co-Ordinates			
Reference	Easting (m)	Nothing (m)	
A	100.000	200.000	✓
B	100.000	206.520	✓
C	108.425	206.520	✓
D	117.880	206.520	✓
E	117.880	198.999	✓
F	111.361	198.999	✓
G	111.361	199.999	✓
H	108.425	200.000	✓
Site Pile Co-Ordinates			
Pile No.	Easting (m)	Nothing (m)	
1	100.163	206.357	✓
2	103.525	206.357	✓
3	108.425	206.357	✓
4	111.579	206.357	✓
5	113.985	206.357	✓
6	117.717	206.357	✓
7	100.163	202.775	✓
8	103.525	202.775	✓
9	108.425	202.775	✓
10	111.578	202.775	✓
11	113.985	202.775	✓
12	117.717	202.775	✓
13	100.163	200.163	✓
14	103.525	200.163	✓
15	108.425	200.163	✓
16	111.551	200.163	✓
17	111.524	199.161	✓
18	113.984	199.161	✓
19	117.717	199.161	✓
Region	DARTFORD	NR	
None			
Design Engineer	lewis.king		

Project Name MYTCHETT_WE_(VISIT_2)

Plot Ref. 58-59

Client NICHOLAS KING HOMES

Project No. DH 19 0020

Drawing Data | Site Data | As Built Site Data | New AutoCAD Data |

As Built Pile Co-Ordinates

Pile No.	Easting (m)	Northing (m)	Difference Easting (mm)	Difference Northing (mm)
1	488742.384	154732.963	43	6
2	488745.732	154733.102	55	39
3	488750.652	154733.162	33	38
4	488753.867	154733.284	29	5
5	488756.867	154733.432	624	76
6	488759.953	154733.498	21	36
7	488742.515	154729.332	12	56
8	488745.901	154729.495	13	13
9	488750.757	154729.575	29	45
10	488753.927	154729.688	10	20
11	488756.315	154729.787	28	12
12	488760.061	154729.931	13	51
13	488742.617	154726.760	17	17
14	488745.976	154726.856	15	15
15	488750.842	154726.988	17	21
16	488753.958	154727.065	26	31
17	488753.980	154726.071	5	23
18	488756.442	154726.130	2	33
19	488760.194	154726.235	19	32

< Load Drawing Data

Export Site Data

Import As Built Data

Print AsBuilt

Save

Exit

Date Site Created
20/05/2021

Date of Source Data
21/07/2020

Progress

Region DARTFORD

None

NR

Design Engineer lewis.king



Load Drawing Data

Export Site Data

Import As Built Data

Print AsBuilt

Save

Exit

Date Site Created

20/05/2021

Date of Source Data

21/07/2020

Progress



The Design Process



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Client:	NICHOLAS KING HOMES	By:	LK	Engineer:	JLS
Project:	MYTCHETT WE (VISIT 2)	Date:	JUNE 20	Sheet No.	2
Project No.	DH/19/0020				
Plot:	58-59 HT B3(A), B4(A)				
Title:	Line Loads	Rev:	-	Doc. No.	226

ENGINEERS LOADS PROVIDED BY RSK REF: 133656 SK01 - SK48

Grid Reference:	Load Case	Live	Other	Dead	Self Weight	Total Live	Total Dead	Design SLS	Design ULS
1	2	4.0		30.0	4.00	4.00	34.00	38.00	54.00
2	1	2.0		37.0	4.00	2.00	41.00	43.00	60.60
3	3	8.0		48.0	4.00	8.00	52.00	60.00	85.60
4	4	9.0		25.0	4.00	9.00	29.00	38.00	55.00
5	5	8.5		45.0	4.00	8.50	49.00	57.50	82.20
6	6	9.0		38.0	4.00	9.00	42.00	51.00	73.20
7	7	7.0		35.0	4.00	7.00	39.00	46.00	65.80
8	8	4.0		13.0	4.00	4.00	17.00	21.00	30.20



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Client:	NICHOLAS KING HOMES	By:	LK	Eng:	JLS
Project:	MYTCHETT WE (VISIT 2)	Date:	JUNE 20	Sheet No.	4
Project No.	DH/19/0020				
Plot:	58-59 HT B3(A), B4(A)				
Title:	Beam Table	Rev:	-	Doc. No.	226

Beam Analysis									
Beam	Span	Load Case	Service Load (kN/m)	Ultimate Load (kN/m)	Beam Type	Minimum Section Type	Serv. Pile Rn. (kN)	Ult. Beam Rn. (kN)	Minimum Rqd. Cap Type
A1-3	1000	3	60.00	85.60	RBEAM_400	1	30	27	-
K1-1	2400	1	38.00	54.00	RBEAM_400	1	46	55	-
K1-2	2460	2	43.00	60.60	RBEAM_400	1	53	63	-
L1-2	2610	2	43.00	60.60	RBEAM_400	1	56	68	-
L1-4	2610	4	38.00	55.00	RBEAM_400	1	50	61	-
L1-5	2610	5	57.50	82.20	RBEAM_400	1	75	92	-
Q1-1	3150	1	38.00	54.00	RBEAM_400	1	60	75	-
R1-4	3360	4	38.00	55.00	RBEAM_400	1	64	82	-
R1-7	3360	7	46.00	65.80	RBEAM_400	1	77	98	-
R2-6	3360	6	51.00	73.20	RBEAM_400	2	86	109	-
T2-2	3580	2	43.00	60.60	RBEAM_400	1	77	97	-
T2-3	3610	3	60.00	85.60	RBEAM_400	2	108	138	-
T2-4	3610	4	38.00	55.00	RBEAM_400	1	69	89	-
T2-5	3580	5	57.50	82.20	RBEAM_400	2	103	132	-
T2-8	3580	8	21.00	30.20	RBEAM_400	1	38	48	-
U2-1	3730	1	38.00	54.00	RBEAM_400	1	71	90	-
U2-2	3730	2	43.00	60.60	RBEAM_400	2	80	102	-
CC3-4	4900	4	38.00	55.00	RBEAM_400	3	93	124	-
CC3-6	4900	6	51.00	73.20	RBEAM_400	3	125	165	-
CC3-7	4900	7	46.00	65.80	RBEAM_400	3	113	149	-



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Client:	NICHOLAS KING HOMES	By:	LK	Eng:	JLS
Project:	MYTCHETT WE (VISIT 2)	Date:	JUNE 20	Sheet No.	5
Project No.	DH/19/0020				
Plot:	58-59 HT B3(A), B4(A)				
Title:	Pile Table	Rev:	-	Doc. No.	226

PILE LOADS													
Pile No.	Load Case								Add. Load	Equalised with		TOTAL (kN)	
	Bm	Rn	Bm	Rn	Bm	Rn	Bm	Rn		Pile	Adj.		
4	Q1-1	60	K1-1	46	T2-4	69						174	175
5	K1-1	46	U2-1	71	T2-4	69						185	200
6	U2-1	71	T2-3	108								179	200
7	L1-2	56	T2-2	77	R1-4	64						197	200
8	R1-4	64	T2-8	38	CC3-4	93						195	200
9	CC3-4	93	T2-5	103	L1-5	75						271	275
10	T2-4	69	L1-4	50								118	125
11	T2-4	69	T2-4	69								137	150
12	T2-3	108	T2-3	108								217	225
13	R1-7	77	L1-2	56								133	150
14	CC3-7	113	R1-7	77								190	200
15	Q1-1	60	CC3-7	113	L1-5	75						248	250
16	Q1-1	60	A1-3	30	L1-4	50						139	150
17	K1-2	53	A1-3	30								83	100
18	U2-2	80	K1-2	53	T2-4	69						202	225
19	T2-3	108	U2-2	80								188	200

Project Name	MYTCHETT_WE_(VISIT_2)	Plot Ref.	58-59
Client	NICHOLAS KING HOMES,	Project No.	DH 19 0020

Site Location Co-Ordinates				Site Pile Co-Ordinates			
Reference	Easting (m)	Northing (m)		Pile No.	Easting (m)	Northing (m)	
A	100.000	200.000		1	100.163	206.357	
B	100.000	206.520		2	103.525	206.357	
C	108.425	206.520		3	108.425	206.357	
D	117.880	206.520		4	111.579	206.357	
E	117.880	198.999		5	113.985	206.357	
F	111.361	198.999		6	117.717	206.357	
G	111.361	199.999		7	100.163	202.775	
H	108.425	200.000		8	103.525	202.775	
				9	108.425	202.775	
				10	111.578	202.775	
				11	113.985	202.775	
				12	117.717	202.775	
				13	100.163	200.163	
				14	103.525	200.163	
				15	108.425	200.163	
				16	111.551	200.163	
				17	111.524	199.161	
				18	113.984	199.161	
				19	117.717	199.161	

Region	DARTFORD	NR
None		Design Engineer lewis.king

Project Name	MYTCHETT_WE_(VISIT_2)	Plot Ref.	58-59
Client	NICHOLAS KING HOMES,	Project No.	DH 19 0020

Pile No.	Easting (m)	Northing (m)	Difference Easting (mm)	Difference Northing (mm)
1	488742.384	154732.963	43	6
2	488745.732	154733.102	55	39
3	488750.652	154733.162	33	38
4	488753.867	154733.284	29	5
5	488756.867	154733.432	624	76
6	488759.953	154733.498	21	36
7	488742.515	154729.332	12	56
8	488745.901	154729.495	13	13
9	488750.757	154729.575	29	45
10	488753.927	154729.688	10	20
11	488756.315	154729.787	28	12
12	488760.061	154729.931	13	51
13	488742.617	154726.760	17	17
14	488745.976	154726.856	15	15
15	488750.842	154726.988	17	21
16	488753.958	154727.065	28	31
17	488753.980	154726.071	5	23
18	488756.442	154726.130	2	33
19	488760.194	154726.235	19	32

Region	DARTFORD	NR
None		Design Engineer lewis.king

Client:	NICHOLAS KING HOMES	By:	JLS	Engineer:	JLS
Project:	MYTCHETT WE (VISIT 2)	Date:	21/05/21	Sheet No.	
Project No.	DH/19/0020	Checked:		Date:	
Plot:	58-59 HT B3(A), B4(A)	Approved:		Date:	

Out Of Position Piles:				Refer to Roger Bullivant Ltd. Drawings Ref:			
Nos.	13No. Piles <50mm out	5No. Piles 50-75mm out	1No. Piles >75mm out	19No. Piles Total			

Pile No.	Pile Load (See Drg.) (kN)	Amount Out Of Position (mm)	Service Moment (kNm)	Out Of Position Diagram Ref. No.	Moment reduction due to drop in steel	Manual reduction in moment, due to pile location	Net moment in pile	Allowable moment in pile	Comment
1	163	43	7.0		0.0		7.0		NO ACTION REQUIRED
2	248	68	16.9	2	18.0		0.0		ENSURE BEARING
3	288	51	14.7		0.0		14.7		NO ACTION REQUIRED
4	174	30	5.2		0.0		5.2		NO ACTION REQUIRED
5	155	629	116.4		0.0		116.4		REMEDIAL ACTION REQUIRED
6	119	42	7.5		0.0		7.5		NO ACTION REQUIRED
7	197	58	11.4		0.0		11.4		NO ACTION REQUIRED
8	195	18	3.5		0.0		3.5		NO ACTION REQUIRED
9	271	53	14.4		0.0		14.4		NO ACTION REQUIRED
10	118	23	2.7		0.0		2.7		NO ACTION REQUIRED
11	137	30	4.1		0.0		4.1		NO ACTION REQUIRED
12	217	52	11.3		0.0		11.3		NO ACTION REQUIRED
13	133	24	3.2		0.0		3.2		NO ACTION REQUIRED
14	190	22	4.2		0.0		4.2		NO ACTION REQUIRED
15	248	28	6.9		0.0		6.9		NO ACTION REQUIRED
16	139	41	5.7		0.0		5.7		NO ACTION REQUIRED
17	83	24	2.0		0.0		2.0		NO ACTION REQUIRED
18	202	33	6.7		0.0		6.7		NO ACTION REQUIRED
19	188	38	7.2		0.0		7.2		NO ACTION REQUIRED

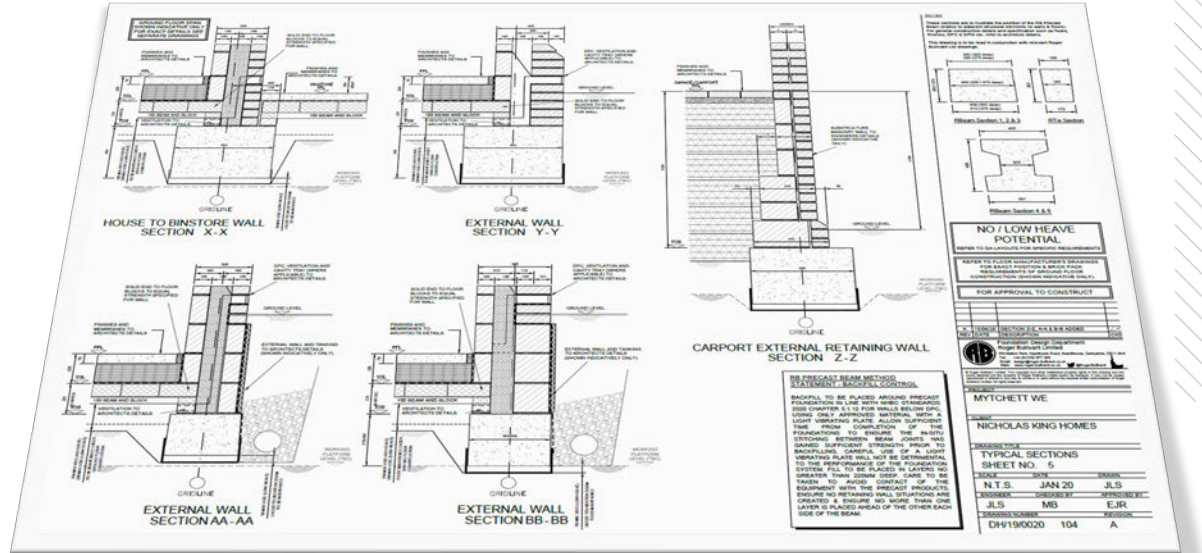
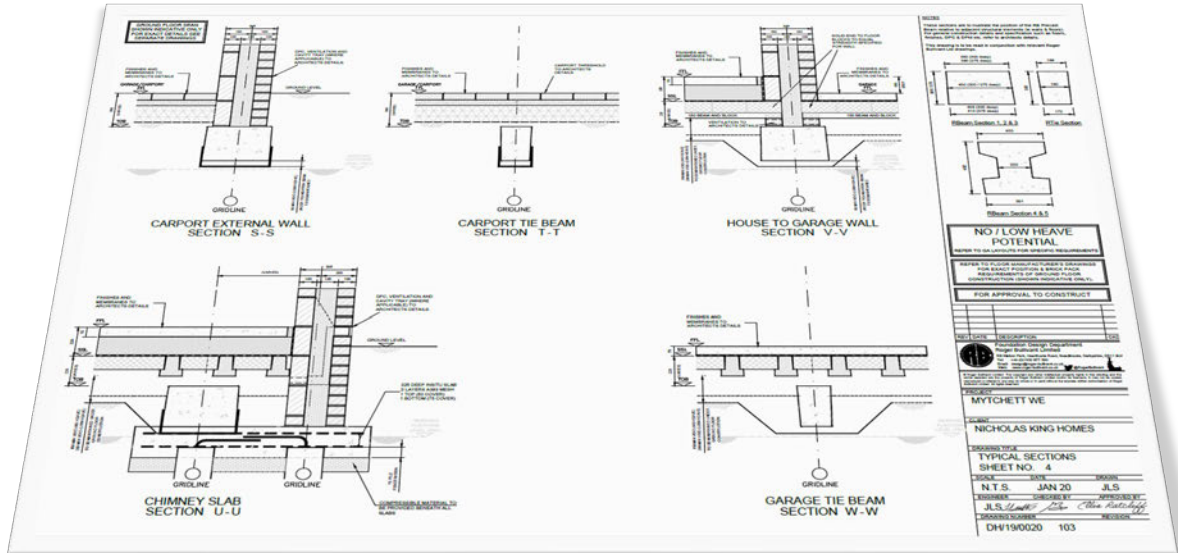
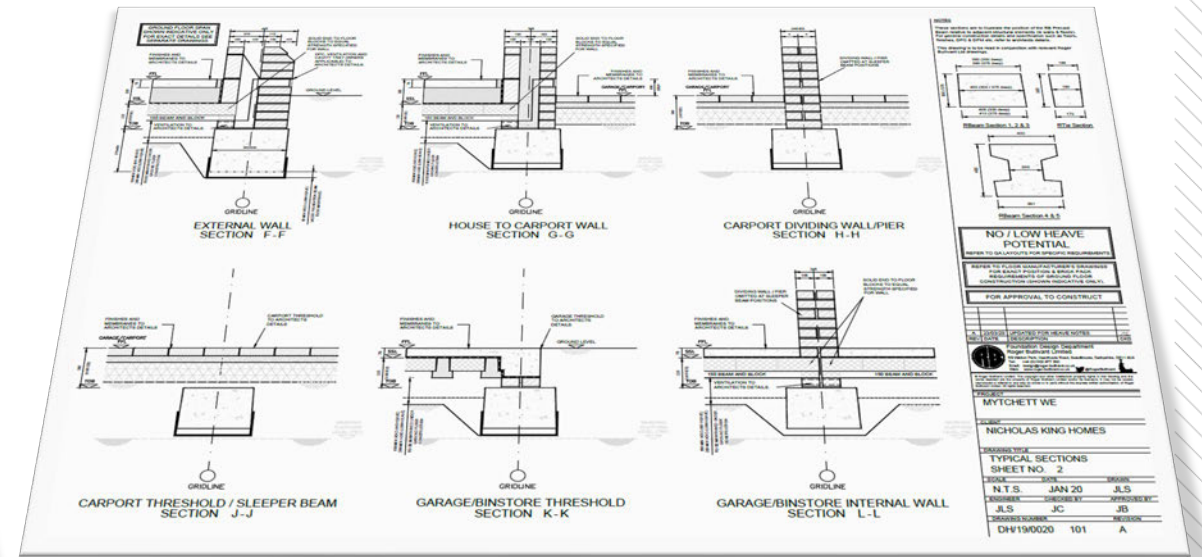
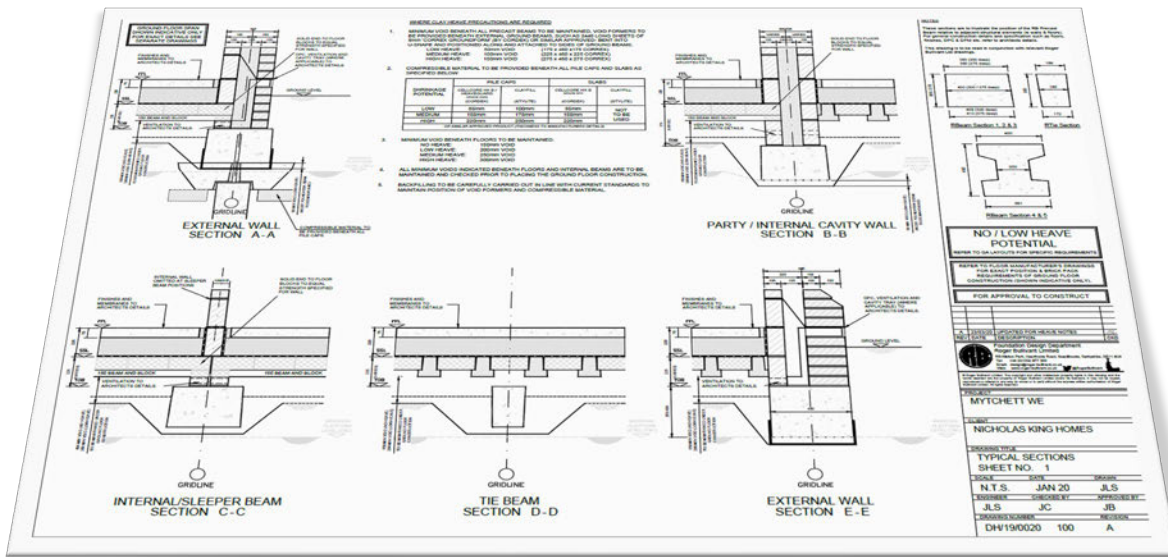


The Design Process

Piles				▲
Pile Type		Pile Quantity		
R 200 SQ PRECAST		13		
R 250 SQ PRECAST		6		
Caps				▲
Cap Type		Cap Quantity		
B		12		
BIG B		1		
D		4		
BIG D		2		
Insitu				▲
Standard Cages				
Quantity		Type	Length (m)	
Total Insitu Volume (m³)				
Mesh / Dowels		Quantity		
Beams				▲
Beam Group	Beam Grid Length (m)	Beam Conc Length (m)	Beam Weight (t)	
RTIE	9.49	9	1.170	
RBEAM400	80.87	77.25	22.342	
Top Steel				▲
Bar Mark		Bar Mark Quantity		
01		7		
02		15		
03		3		
04		3		
07		1		
08		1		
Packers				▲
Packer Type	Packer Depth	Packer Quantity		
390W	75	12		
390W	150	21		
Heave Precautions				▲
Type		Quantity (m)		
VOID FORMER		43.46		

The Design Process





The Design Process



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Client:	NICHOLAS KING HOMES	By:	LK	Engineer:	JLS
Project:	MYTCHETT WE (VISIT 2)	Date:	JUNE 20	Sheet No:	1
Project No:	DH 19 0020	Checked:		Date:	15/07/20
Plot:	58-59 HY B3(A), B4(A)	Approved:		Date:	21/7/20
Title:	PROJECT CALCULATIONS	Rev:	-	Doc No:	226

Revision	Description	Date	Initials	Checked



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Email: info@roger-bullivant.co.uk

Document version v1.30 DH 19 0020_RB_LF158-509-17830A154A11_FL_PC_X_226

The Design Process

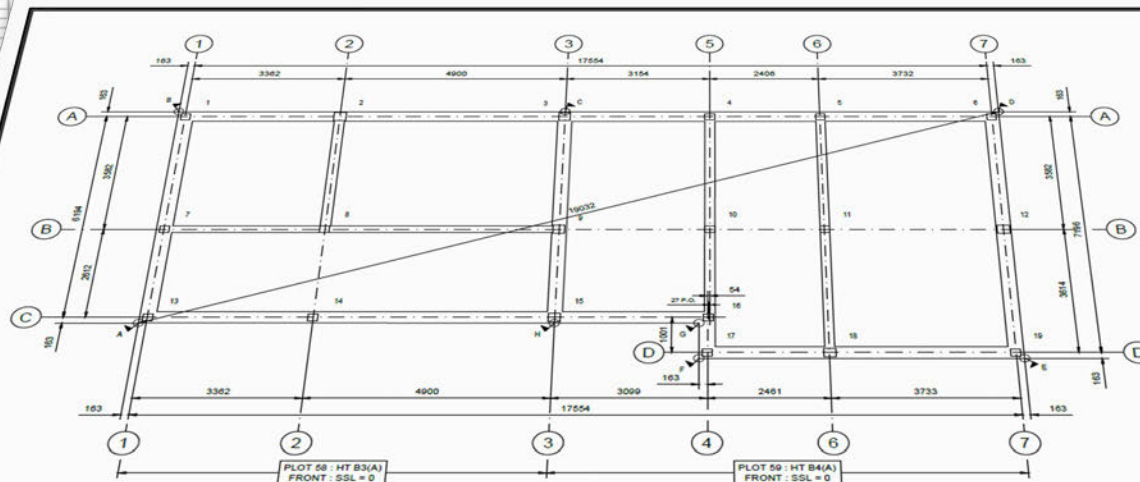




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Client:	NICHOLAS KING HOMES	By:	LK	Engineer:	JLS
Project:	MYTCHETT WE (VISIT 2)	Date:	JUNE 20	Sheet No:	1
Project No:	DH/19/0020	Checked:		Date:	15/07/20
Plot:	58-59 HT B3(A), B4(A)	Approved:	<i>[Signature]</i>	Date:	21/7/20
Title:	PROJECT CALCULATIONS	Rev:	-	Doc No:	226

Revision	Description	Date	Initials	Checked



NOTES:
FOR SECTIONS REFER TO DRAWING NUMBERS
DIMENSIONS - 1:200
FOR BEAM LAYOUT REFER TO DRAWING NUMBER
DIMENSIONS - 1:200
ALL PILES ARE TO BE DRIVEN WITHIN 10% OF THE
POSITIONS SHOWN ON THIS PLAN. IF THE POSITION
IS MORE THAN 10% FROM THE POSITION SHOWN
ON THIS PLAN THE ENGINEER SHOULD
BE NOTIFIED IMMEDIATELY.
ALL PILES TO BE CAPABLE OF SAFELY SUPPORTING THE
LOADS SHOWN IN THE TABLE WITH A FACTOR OF
SAFETY OF 1.5.
DEPTH OF CUT OFF INDICATES DISTANCE IN MM FROM
THE ADJACENT STRUCTURAL SLAB LEVEL IN THE
PROPERTY TO FINAL CUT OFF LEVEL.
USE FOLLOWED DIMENSIONS ONLY. DO NOT SCALE FROM
THIS DRAWING. DIMENSIONS INDICATED ARE
TAKEN FROM EXISTING WORK. THESE SHALL BE
CHECKED ON SITE BY THE CONTRACTOR.
UNDER NO CIRCUMSTANCES SHALL ANY PILES BE
CONSTRUCTED UNLESS THE UNDERPINNING AND OVERHEAD
SERVICES ARE TO BE MOVED AND PLACED IN
ACCORDANCE WITH ROGER BULLIVANT LIMITED WORK
RESTRICTION DOCUMENT GEN-001 1004.
A SUITABLE WORKING PLATFORM TOGETHER WITH THE
APPROPRIATE COMPLETED WORKING PLATFORM
CERTIFICATE ARE TO BE IN PLACE BEFORE ANY PILING
WORK IS UNDERTAKEN IN ACCORDANCE WITH
ROGER BULLIVANT LIMITED WORK RESTRICTION
DOCUMENT GEN-001 1004.
1. INDICATES PILE NUMBER.
P.O. INDICATES PILE OFFSET.
S.O. INDICATES GRID OFFSET.
THIS DRAWING IS BASED ON:
A. = AS
B. = DRAW
REF. DRAWING REFERENCE
A. AL 21-21-07 ED-07/20 (P1) 20-07-20
B. AL 21-21-07 ED-07/20 (P2) 20-07-20
C. AL 21-21-07 ED-07/20 (P3) 20-07-20
D. AL 21-21-07 ED-07/20 (P4) 20-07-20

FOR APPROVAL TO CONSTRUCT

REL. DATE DESCRIPTION
Foundation Design Department
Roger Bullivant Limited
Walton Park, Heathcote Road, Swadincote, Derbyshire, DE11 9DU
Tel: 01332 977 300
Fax: 01332 977 301
Email: info@roger-bullivant.co.uk
www.roger-bullivant.co.uk
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PLOT 58-59 (HT B3(A), B4(A))

PROJECT MYTCHETT WE (VISIT 2)

CLIENT NICHOLAS KING HOMES

DRAWING TITLE
PILE LAYOUT
PLOT 58-59 (HT B3(A), B4(A))

SCALE DATE DRAWN
1:25 JUNE 20 LK
DESIGNED BY CHECKED BY APPROVED BY
JLS *[Signature]* *[Signature]*
PROJECT NO. 265
DH/19/0020



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Email: info@roger-bullivant.co.uk

Document version v1.30

PLOT CORNER COORDINATES

REF	EASTINGS M	NORTHINGS M
A	100.000	200.000
B	100.000	206.520
C	106.425	206.520
D	117.880	206.520
E	117.880	198.998
F	111.581	198.998
G	111.581	199.998
H	106.425	200.000

PILE SCHEDULE & COORDINATES -

PILE No.	LOAD kN	DEPTH TO CUT OFF	DIM TO TOP OF PILECAP	*250 SQ PRECAST		200 SQ PRECAST	
				EASTINGS M	NORTHINGS M	EASTINGS M	NORTHINGS M
1	175	-695	-525	100.163	206.357		
2	250	-1070	-750	103.525	206.357		
3	300	-1070	-750	106.425	206.357		
4	175	-695	-525	111.579	206.357		
5	200	-695	-525	113.985	206.357		
6	200	-695	-525	117.717	206.357		
7	200	-695	-525	100.163	202.775		
8	200	-695	-525	103.525	202.775		
9	200	-695	-525	106.425	202.775		
10	125	-645	-475	111.579	202.775		

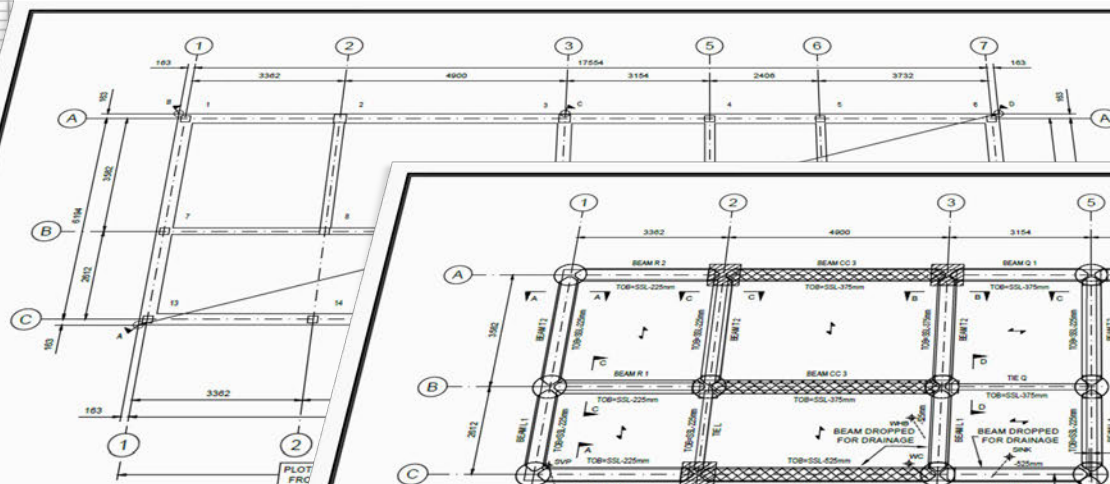
PILE SCHEDULE & COORDINATES -

PILE No.	LOAD kN	DEPTH TO CUT OFF	DIM TO TOP OF PILECAP	*250 SQ PRECAST		200 SQ PRECAST	
				EASTINGS M	NORTHINGS M	EASTINGS M	NORTHINGS M
11	150	-695	-525	113.985	202.775		
12	225	-695	-525	117.717	202.775		
13	150	-695	-525	100.163	200.163		
14	200	-1220	-900	103.525	200.163		
15	200	-1070	-750	106.425	200.163		
16	150	-695	-525	111.551	200.163		
17	150	-695	-525	111.551	199.161		
18	150	-695	-525	113.985	199.161		
19	200	-695	-525	117.717	199.161		

The Design Process

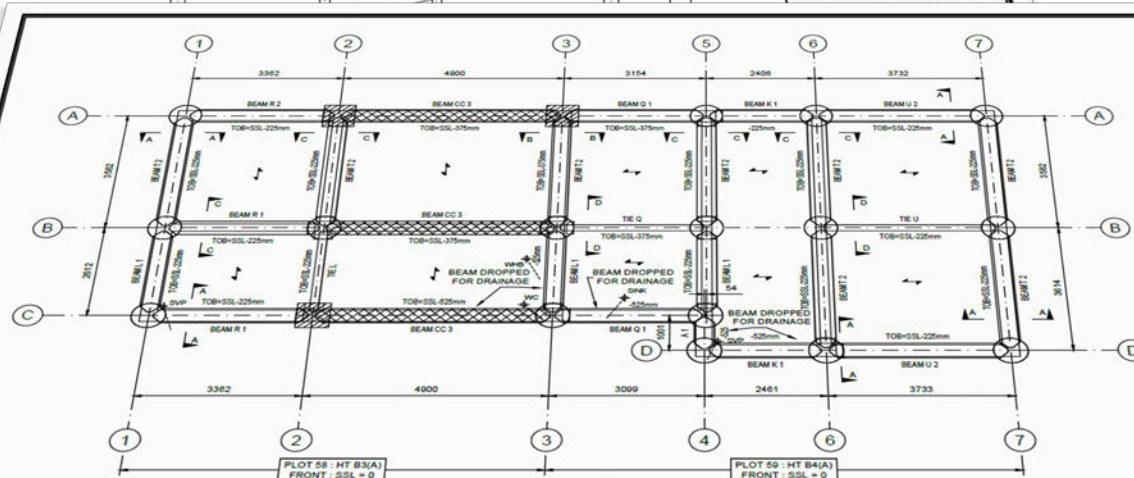


Client:	NICHOLAS KING HOMES	By:	LK	Engineer:	JLS
Project:	MYTCHT T WE (VISIT 2)	Date:	JUNE 20	Project No.:	4
Project No.:	04-19-0020	Created:	<i>[Signature]</i>	Date:	15/07/20
Plot:	58-59 HT B3(A), B4(A)	Approved:	<i>[Signature]</i>	Date:	21/7/20
Title:		PROJECT CALCULATIONS			
		Rev.:	-	Doc. No.:	226

[illegible]

REF	EASTINGS M	NORTHINGS M
A	100 000	200 000
B	100 000	206 520
C	108 425	206 520
D	117 850	206 520
E	117 850	198 995
F	111 381	198 995
G	111 381	199 999
H	108 425	200 000

PILE No.
1
2
3
4
5
6
7
8
9
10



HEAVE PROTECTION REQUIRED

<p>ENSURE ALL BEAMS HAVE A MINIMUM BEARING OF:</p> <p>SECTION TYPE 1, 2, 3 & RTIE = 150mm</p> <p>SECTION TYPE 4 & 5 = 200mm</p>

RBEAM_400 & RTIE SCHEDULE					
BEAM REF	CONCRETE LENGTH (mm)	FACTORED LINE LOAD (kN/m)	BEAM SECTION TYPE	QTY	WEIGHT PER BEAM (Tonne)
A 1	900	66	1	1	0.24
X 1	2750	5.61	1	2	0.81
G 1	5200	55.61 (53)	1	2	0.81
G 2	5200	1.4	1	2	0.81
R 1	3150	55.66	1	2	0.85
R 2	3150	55.66	1	2	0.85

RBEAM_400 & RTIE SCHEDULE						SEC
BEAM REF	CONCRETE LENGTH (mm)	FACTORED LINE LOAD (kN/m)	BEAM SECTION TYPE	QTY	WEIGHT PER BEAM (Tonne)	
T 2	3450	31.55/51.81/386	2	8	0.96	
U 2	3000	44.8/1	2	2	1.00	
CC 3	4500	55.6/84	3	2	1.89	
L	2400	-	RTIE	1	0.31	
O	3000	-	RTIE	1	0.23	
	3000	-	RTIE	1	0.23	

[illegible]

FOR APPROVAL TO CONSTRUCT

REV	DATE	DESCRIPTION	CHKD
		Foundation Design Department Roger Bullivant Limited 755 Waterloo Park, Waterloo Road, Dorchester, Dorset, DE1 1WU Tel: +44 (0)1305 577 500 Email: design@rogerbullivant.co.uk	

PROJECT
MYTCHETT WE (VISIT 2)

NICHOLAS KING HOMES

DRAWING TITLE
BEAM LAYOUT
PLOT 58-59(HT B3(A),B4(A))

SCALE	DATE	DRAWN
N.T.S.	JUNE 20	LK
ENGINEER	CHECKED BY	APPROVED BY
JLS	<i>[Signature]</i>	<i>[Signature]</i>
PROJECT NO.	DISG. NO.	REVISION
DH/19/0020	266	



Roger Bullivant – lessons learnt

Site investigation – sufficient and detailed appropriate for the site with boreholes to areas to significant depth minimum 3.0 to 5.0m below estimated depth of pile.

Knowledge of any remediation or any environmental issues to ensure details are taken into consideration

Preparation works – any cut and fill, and method of installing the ‘working platform’ that could have an affect on the works ahead.

Receipt of relevant Construction drawings, Engineering layouts at an early stage to enable a relevant estimate to be submitted. (Changes to design during this process can lead to additional abortive charges)

The ‘working platform’ is at minimum soffit of the Precast beam.

LAST is to have dialogue with your customer and where possible the Design team to understand the project, their expectations and what we can provide.





Presentations

Upcoming

- Offsite Manufacturing On Site Piling
- The Completed Solution

www.roger-bullivant.co.uk/webinars-2



Thank you for listening!
We will now move onto a Q&A,
followed by a survey.

All questions are welcome!

www.roger-bullivant.co.uk

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