

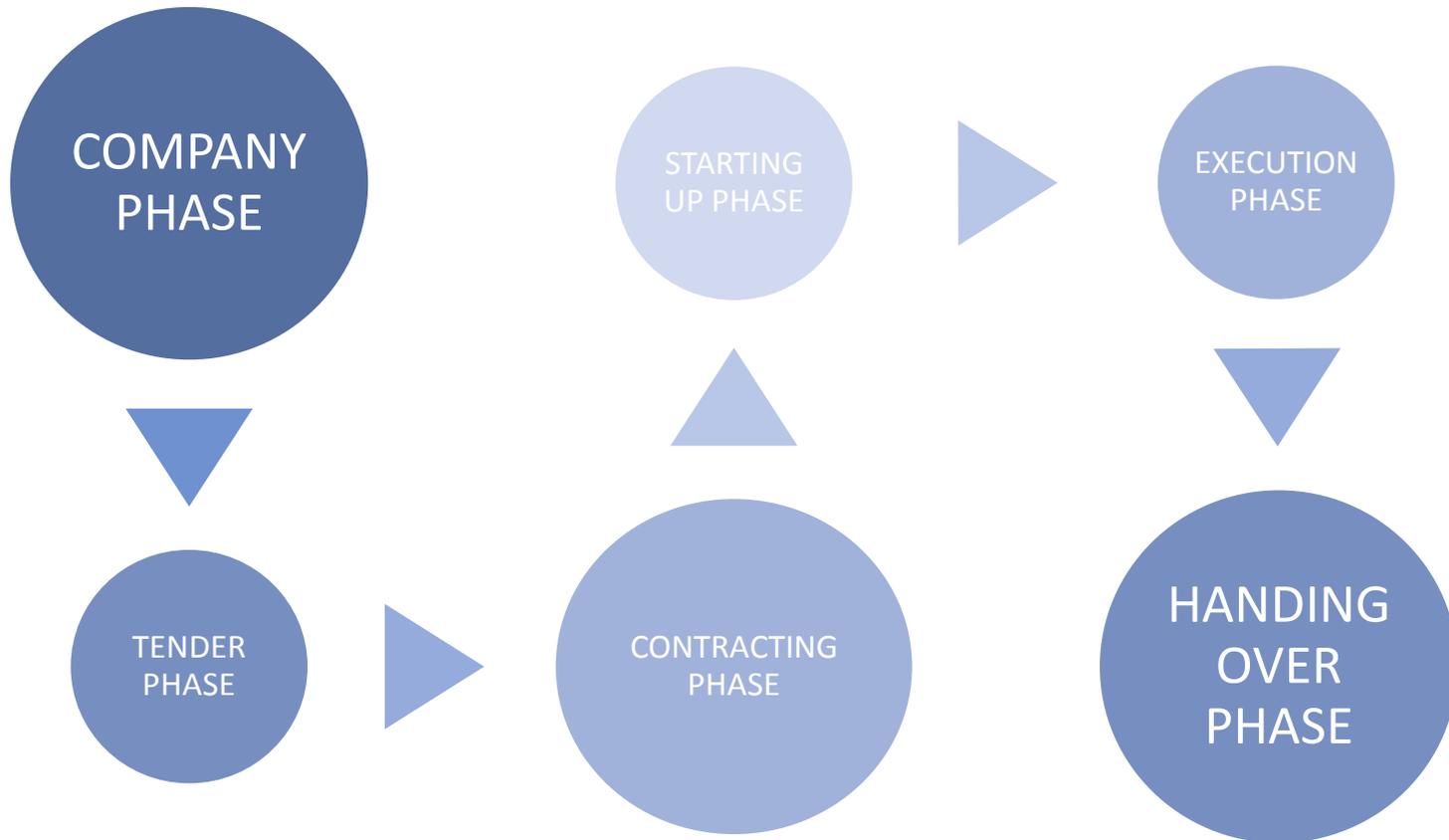
FINAL PROJECT 7TH SEMESTER
ARCHITECTURAL TECHNOLOGY
AND CONSTRUCTION
MANAGEMENT

PROJECT:
Vejlevej 19
Offices Building

María García Lloris



CONSTRUCTION PHASES



COMPANY PHASE

ORGANIZATION AND MANAGEMENT

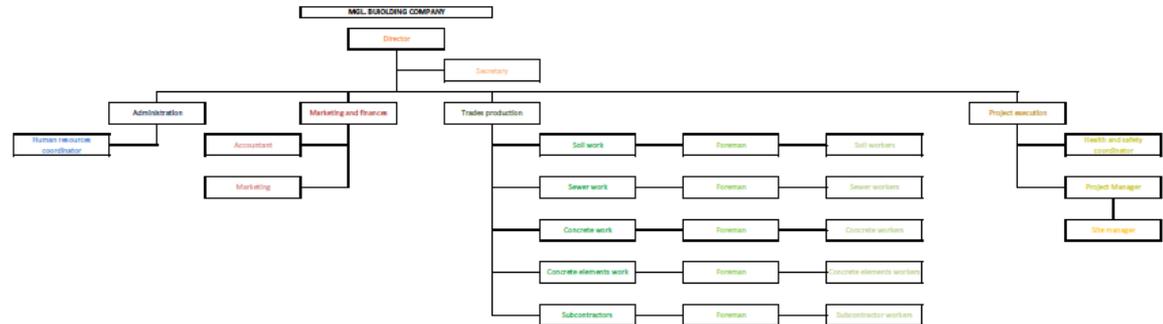
CONTRACT FORMS

	Individual Trade contract	Trade contract	Main contract	Turnkey contract
The building owner has entered into a contract with	Each Individual Trade contractor and the consultant of the project.	Each Trade contractor and the consultant of the project. The Trade contractor has made a contract with several of the Individual Trade contractors.	The Main contractor and the consultant of the project. The Main contractor has made a contract with all individual trade contractors.	The turnkey contractor. The turnkey contractor has made a contract with all specialist contractors and the project planners.
Organisation	Each Individual Trade contractor reports to the building management who reports to the building owner.	Each Trade contractor reports to the building management who reports to the building owner.	The Main contractor reports to the building management who reports to the building owner.	The turnkey contractor has the building management and reports to the building owner. Project planners and individual trade contractors report to the turnkey contractor.
The building management	The building management, who co-ordinates the Individual Trade contracts, is not included in the tender price.	The building management, who co-ordinates the construction contracts, is not included in the tender price.	The Main contractor is responsible for the building management and the building management is therefore included in the tender price.	The turnkey contractor is responsible for the building management and the building management is therefore included in the tender price.
Participants at building meetings	All contractors and the expert supervision		The Main contractor and the expert supervision	The turnkey contractor and counsellors of the building owner if required
Tender form	Public or restricted procedure			Restricted procedure
Implementation/ tender documents	Made by the consultant and paid as a separate fee			Made by counsellors in cooperation with project implementers. Included in the total tender amount and contract.

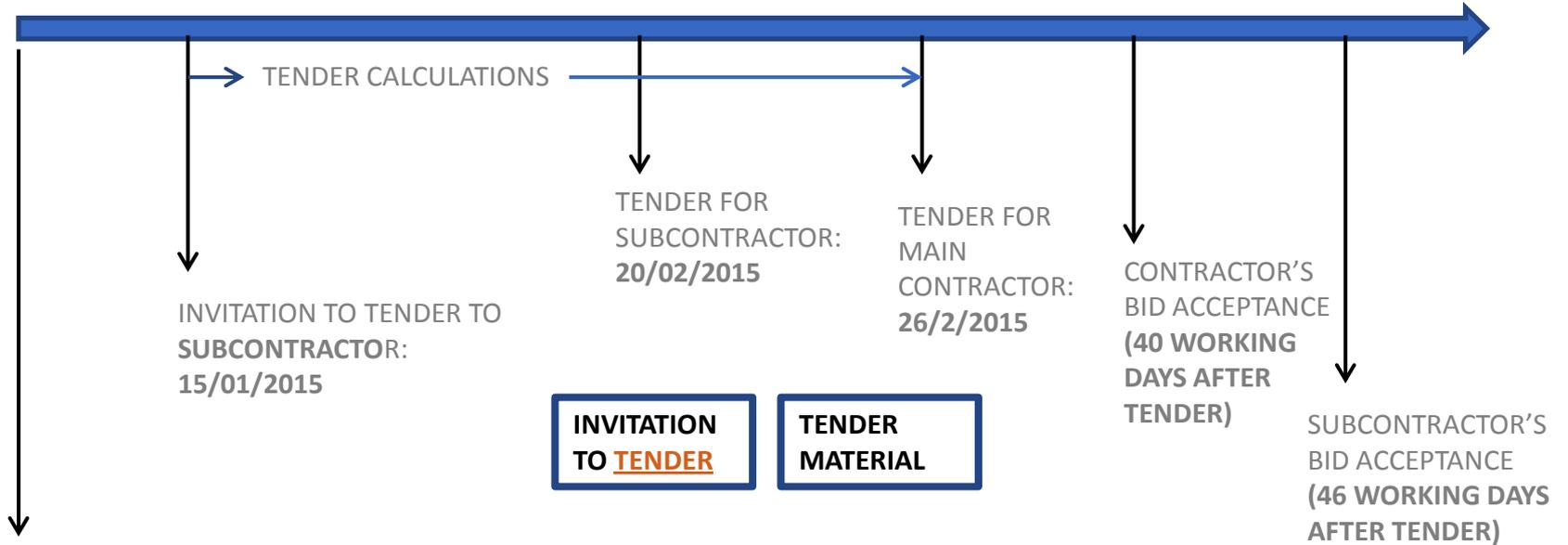
COMPANY HANDBOOK

MGL. BUILDING COMPANY

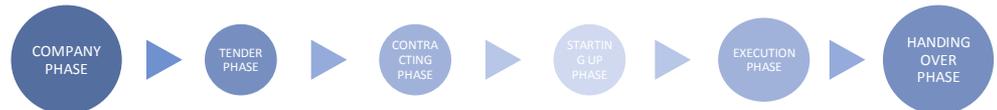
ORGANIZATION CHART



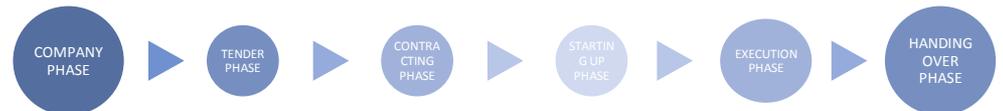
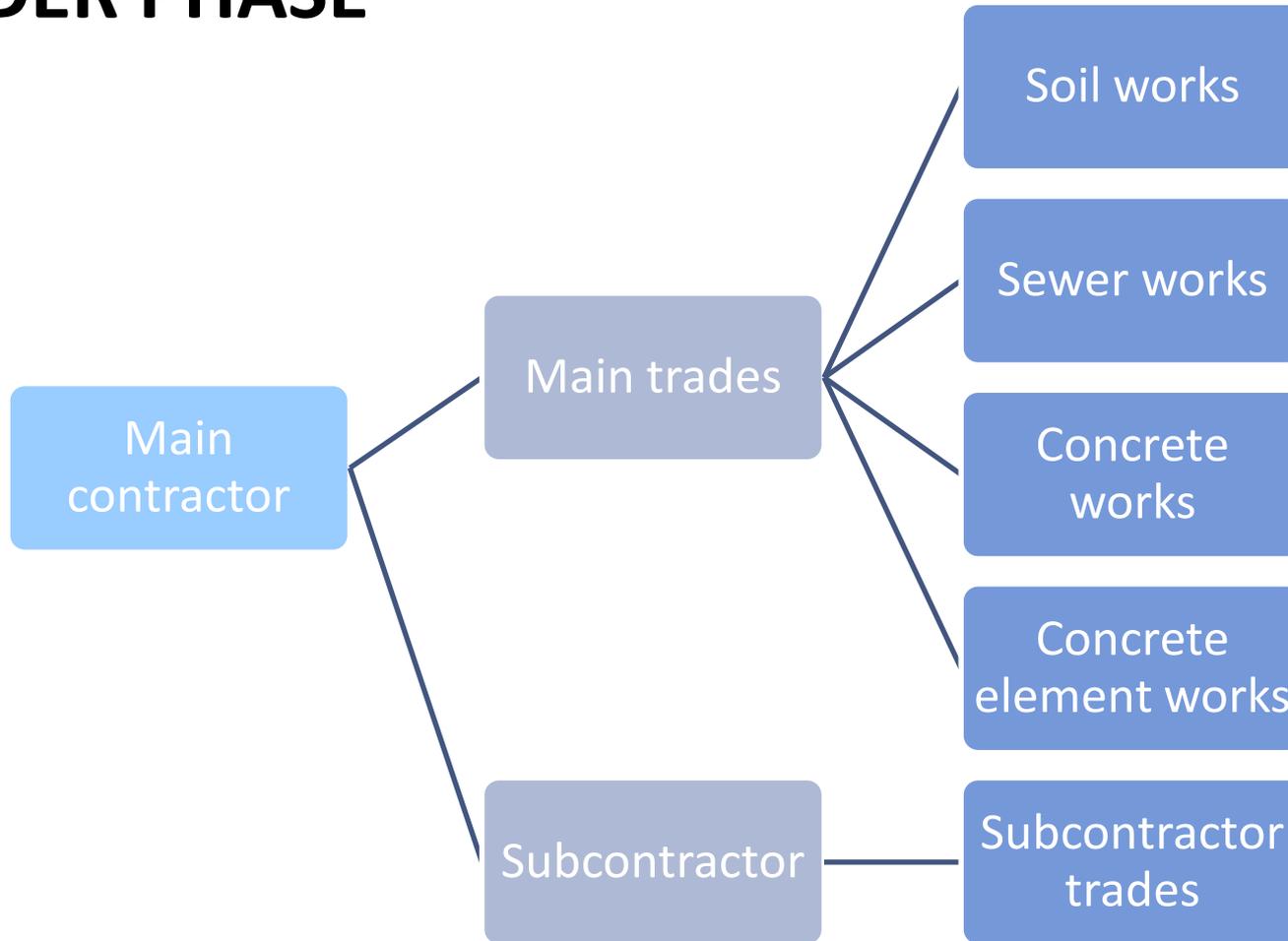
TENDER PHASE



INVITATION TO TENDER TO MAIN CONTRACTOR: 20/01/2015
 -QUESTIONS SENT BEFORE: 22/11/2013
 -PRE-MEETING: 11/02/2015



TENDER PHASE

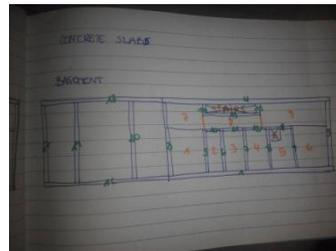


TENDER PHASE

TRADE CALCULATION: 3. CONCRETE WORKS

TRADE CALCULATIONS
2. SEWER WORKS

TRADE CALCULATIONS
4. ELEMENT WORKS



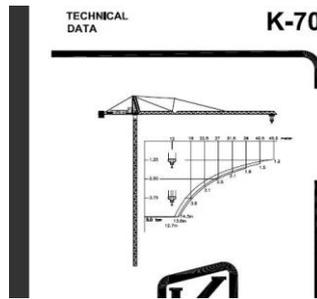
WORKING ZONES

Item	Description	Unit	Quantity	Rate	Amount
1	Concrete slab	m ²	100	100	10000
2	Concrete column	m ³	50	200	10000
3	Concrete wall	m ³	200	150	30000
4	Concrete floor	m ²	500	50	25000
5	Concrete ceiling	m ²	500	50	25000
6	Concrete staircase	m ³	100	200	20000
7	Concrete foundation	m ³	500	100	50000
8	Concrete retaining wall	m ³	100	200	20000
9	Concrete drainage channel	m	100	100	10000
10	Concrete curb	m	100	100	10000
11	Concrete kerb	m	100	100	10000
12	Concrete gutter	m	100	100	10000
13	Concrete downpipe	m	100	100	10000
14	Concrete manhole	m ³	100	200	20000
15	Concrete inspection chamber	m ³	100	200	20000
16	Concrete access cover	m ²	100	100	10000
17	Concrete drainage grate	m ²	100	100	10000
18	Concrete drainage pipe	m	100	100	10000
19	Concrete drainage manhole	m ³	100	200	20000
20	Concrete drainage chamber	m ³	100	200	20000
21	Concrete drainage access cover	m ²	100	100	10000
22	Concrete drainage grate	m ²	100	100	10000
23	Concrete drainage pipe	m	100	100	10000
24	Concrete drainage manhole	m ³	100	200	20000
25	Concrete drainage chamber	m ³	100	200	20000
26	Concrete drainage access cover	m ²	100	100	10000
27	Concrete drainage grate	m ²	100	100	10000
28	Concrete drainage pipe	m	100	100	10000
29	Concrete drainage manhole	m ³	100	200	20000
30	Concrete drainage chamber	m ³	100	200	20000
31	Concrete drainage access cover	m ²	100	100	10000
32	Concrete drainage grate	m ²	100	100	10000
33	Concrete drainage pipe	m	100	100	10000
34	Concrete drainage manhole	m ³	100	200	20000
35	Concrete drainage chamber	m ³	100	200	20000
36	Concrete drainage access cover	m ²	100	100	10000
37	Concrete drainage grate	m ²	100	100	10000
38	Concrete drainage pipe	m	100	100	10000
39	Concrete drainage manhole	m ³	100	200	20000
40	Concrete drainage chamber	m ³	100	200	20000
41	Concrete drainage access cover	m ²	100	100	10000
42	Concrete drainage grate	m ²	100	100	10000
43	Concrete drainage pipe	m	100	100	10000
44	Concrete drainage manhole	m ³	100	200	20000
45	Concrete drainage chamber	m ³	100	200	20000
46	Concrete drainage access cover	m ²	100	100	10000
47	Concrete drainage grate	m ²	100	100	10000
48	Concrete drainage pipe	m	100	100	10000
49	Concrete drainage manhole	m ³	100	200	20000
50	Concrete drainage chamber	m ³	100	200	20000
51	Concrete drainage access cover	m ²	100	100	10000
52	Concrete drainage grate	m ²	100	100	10000
53	Concrete drainage pipe	m	100	100	10000
54	Concrete drainage manhole	m ³	100	200	20000
55	Concrete drainage chamber	m ³	100	200	20000
56	Concrete drainage access cover	m ²	100	100	10000
57	Concrete drainage grate	m ²	100	100	10000
58	Concrete drainage pipe	m	100	100	10000
59	Concrete drainage manhole	m ³	100	200	20000
60	Concrete drainage chamber	m ³	100	200	20000
61	Concrete drainage access cover	m ²	100	100	10000
62	Concrete drainage grate	m ²	100	100	10000
63	Concrete drainage pipe	m	100	100	10000
64	Concrete drainage manhole	m ³	100	200	20000
65	Concrete drainage chamber	m ³	100	200	20000
66	Concrete drainage access cover	m ²	100	100	10000
67	Concrete drainage grate	m ²	100	100	10000
68	Concrete drainage pipe	m	100	100	10000
69	Concrete drainage manhole	m ³	100	200	20000
70	Concrete drainage chamber	m ³	100	200	20000
71	Concrete drainage access cover	m ²	100	100	10000
72	Concrete drainage grate	m ²	100	100	10000
73	Concrete drainage pipe	m	100	100	10000
74	Concrete drainage manhole	m ³	100	200	20000
75	Concrete drainage chamber	m ³	100	200	20000
76	Concrete drainage access cover	m ²	100	100	10000
77	Concrete drainage grate	m ²	100	100	10000
78	Concrete drainage pipe	m	100	100	10000
79	Concrete drainage manhole	m ³	100	200	20000
80	Concrete drainage chamber	m ³	100	200	20000
81	Concrete drainage access cover	m ²	100	100	10000
82	Concrete drainage grate	m ²	100	100	10000
83	Concrete drainage pipe	m	100	100	10000
84	Concrete drainage manhole	m ³	100	200	20000
85	Concrete drainage chamber	m ³	100	200	20000
86	Concrete drainage access cover	m ²	100	100	10000
87	Concrete drainage grate	m ²	100	100	10000
88	Concrete drainage pipe	m	100	100	10000
89	Concrete drainage manhole	m ³	100	200	20000
90	Concrete drainage chamber	m ³	100	200	20000
91	Concrete drainage access cover	m ²	100	100	10000
92	Concrete drainage grate	m ²	100	100	10000
93	Concrete drainage pipe	m	100	100	10000
94	Concrete drainage manhole	m ³	100	200	20000
95	Concrete drainage chamber	m ³	100	200	20000
96	Concrete drainage access cover	m ²	100	100	10000
97	Concrete drainage grate	m ²	100	100	10000
98	Concrete drainage pipe	m	100	100	10000
99	Concrete drainage manhole	m ³	100	200	20000
100	Concrete drainage chamber	m ³	100	200	20000

CALCULATION OF QUANTITIES

DKK

PRICES



CRANE ANALYSIS

Activity	Unit	Quantity	Rate	Amount
1	Manhour	100	100	10000
2	Manhour	200	100	20000
3	Manhour	300	100	30000
4	Manhour	400	100	40000
5	Manhour	500	100	50000
6	Manhour	600	100	60000
7	Manhour	700	100	70000
8	Manhour	800	100	80000
9	Manhour	900	100	90000
10	Manhour	1000	100	100000
11	Manhour	1100	100	110000
12	Manhour	1200	100	120000
13	Manhour	1300	100	130000
14	Manhour	1400	100	140000
15	Manhour	1500	100	150000
16	Manhour	1600	100	160000
17	Manhour	1700	100	170000
18	Manhour	1800	100	180000
19	Manhour	1900	100	190000
20	Manhour	2000	100	200000
21	Manhour	2100	100	210000
22	Manhour	2200	100	220000
23	Manhour	2300	100	230000
24	Manhour	2400	100	240000
25	Manhour	2500	100	250000
26	Manhour	2600	100	260000
27	Manhour	2700	100	270000
28	Manhour	2800	100	280000
29	Manhour	2900	100	290000
30	Manhour	3000	100	300000
31	Manhour	3100	100	310000
32	Manhour	3200	100	320000
33	Manhour	3300	100	330000
34	Manhour	3400	100	340000
35	Manhour	3500	100	350000
36	Manhour	3600	100	360000
37	Manhour	3700	100	370000
38	Manhour	3800	100	380000
39	Manhour	3900	100	390000
40	Manhour	4000	100	400000
41	Manhour	4100	100	410000
42	Manhour	4200	100	420000
43	Manhour	4300	100	430000
44	Manhour	4400	100	440000
45	Manhour	4500	100	450000
46	Manhour	4600	100	460000
47	Manhour	4700	100	470000
48	Manhour	4800	100	480000
49	Manhour	4900	100	490000
50	Manhour	5000	100	500000
51	Manhour	5100	100	510000
52	Manhour	5200	100	520000
53	Manhour	5300	100	530000
54	Manhour	5400	100	540000
55	Manhour	5500	100	550000
56	Manhour	5600	100	560000
57	Manhour	5700	100	570000
58	Manhour	5800	100	580000
59	Manhour	5900	100	590000
60	Manhour	6000	100	600000
61	Manhour	6100	100	610000
62	Manhour	6200	100	620000
63	Manhour	6300	100	630000
64	Manhour	6400	100	640000
65	Manhour	6500	100	650000
66	Manhour	6600	100	660000
67	Manhour	6700	100	670000
68	Manhour	6800	100	680000
69	Manhour	6900	100	690000
70	Manhour	7000	100	700000
71	Manhour	7100	100	710000
72	Manhour	7200	100	720000
73	Manhour	7300	100	730000
74	Manhour	7400	100	740000
75	Manhour	7500	100	750000
76	Manhour	7600	100	760000
77	Manhour	7700	100	770000
78	Manhour	7800	100	780000
79	Manhour	7900	100	790000
80	Manhour	8000	100	800000
81	Manhour	8100	100	810000
82	Manhour	8200	100	820000
83	Manhour	8300	100	830000
84	Manhour	8400	100	840000
85	Manhour	8500	100	850000
86	Manhour	8600	100	860000
87	Manhour	8700	100	870000
88	Manhour	8800	100	880000
89	Manhour	8900	100	890000
90	Manhour	9000	100	900000
91	Manhour	9100	100	910000
92	Manhour	9200	100	920000
93	Manhour	9300	100	930000
94	Manhour	9400	100	940000
95	Manhour	9500	100	950000
96	Manhour	9600	100	960000
97	Manhour	9700	100	970000
98	Manhour	9800	100	980000
99	Manhour	9900	100	

TENDER PHASE

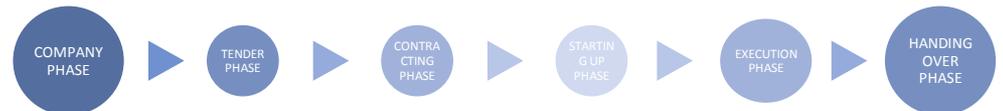
MAIN CONTRACTOR CALCULATION:

Calculation		Cases:		Percentage	
Maincontract				Other	
		MKT		Merk	
Item	Quantity	Unit	Price	Value	Percentage
1	100	m	100	10000	100%
2	50	m	50	2500	25%
3	20	m	20	1000	10%
4	10	m	10	500	5%
5	5	m	5	250	2.5%
6	2	m	2	100	1%
7	1	m	1	50	0.5%
8	0.5	m	0.5	25	0.25%
9	0.2	m	0.2	10	0.1%
10	0.1	m	0.1	5	0.05%
11	0.05	m	0.05	2.5	0.025%
12	0.02	m	0.02	1	0.01%
13	0.01	m	0.01	0.5	0.005%
14	0.005	m	0.005	0.25	0.0025%
15	0.002	m	0.002	0.1	0.001%
16	0.001	m	0.001	0.05	0.0005%
17	0.0005	m	0.0005	0.025	0.00025%
18	0.0002	m	0.0002	0.01	0.0001%
19	0.0001	m	0.0001	0.005	0.00005%
20	0.00005	m	0.00005	0.0025	0.000025%
21	0.00002	m	0.00002	0.001	0.00001%
22	0.00001	m	0.00001	0.0005	0.000005%
23	0.000005	m	0.000005	0.00025	0.0000025%
24	0.000002	m	0.000002	0.0001	0.000001%
25	0.000001	m	0.000001	0.00005	0.0000005%
26	0.0000005	m	0.0000005	0.000025	0.00000025%
27	0.0000002	m	0.0000002	0.00001	0.0000001%
28	0.0000001	m	0.0000001	0.000005	0.00000005%
29	0.00000005	m	0.00000005	0.0000025	0.000000025%
30	0.00000002	m	0.00000002	0.000001	0.00000001%
31	0.00000001	m	0.00000001	0.0000005	0.000000005%
32	0.000000005	m	0.000000005	0.00000025	0.0000000025%
33	0.000000002	m	0.000000002	0.0000001	0.000000001%
34	0.000000001	m	0.000000001	0.00000005	0.0000000005%
35	0.0000000005	m	0.0000000005	0.000000025	0.00000000025%
36	0.0000000002	m	0.0000000002	0.00000001	0.0000000001%
37	0.0000000001	m	0.0000000001	0.000000005	0.00000000005%
38	0.00000000005	m	0.00000000005	0.0000000025	0.000000000025%
39	0.00000000002	m	0.00000000002	0.000000001	0.00000000001%
40	0.00000000001	m	0.00000000001	0.0000000005	0.000000000005%
41	0.000000000005	m	0.000000000005	0.00000000025	0.0000000000025%
42	0.000000000002	m	0.000000000002	0.0000000001	0.000000000001%
43	0.000000000001	m	0.000000000001	0.00000000005	0.0000000000005%
44	0.0000000000005	m	0.0000000000005	0.000000000025	0.00000000000025%
45	0.0000000000002	m	0.0000000000002	0.00000000001	0.0000000000001%
46	0.0000000000001	m	0.0000000000001	0.000000000005	0.00000000000005%
47	0.00000000000005	m	0.00000000000005	0.0000000000025	0.000000000000025%
48	0.00000000000002	m	0.00000000000002	0.000000000001	0.00000000000001%
49	0.00000000000001	m	0.00000000000001	0.0000000000005	0.000000000000005%
50	0.000000000000005	m	0.000000000000005	0.00000000000025	0.0000000000000025%
51	0.000000000000002	m	0.000000000000002	0.0000000000001	0.000000000000001%
52	0.000000000000001	m	0.000000000000001	0.00000000000005	0.0000000000000005%
53	0.0000000000000005	m	0.0000000000000005	0.000000000000025	0.00000000000000025%
54	0.0000000000000002	m	0.0000000000000002	0.00000000000001	0.0000000000000001%
55	0.0000000000000001	m	0.0000000000000001	0.000000000000005	0.00000000000000005%
56	0.00000000000000005	m	0.00000000000000005	0.0000000000000025	0.000000000000000025%
57	0.00000000000000002	m	0.00000000000000002	0.000000000000001	0.00000000000000001%
58	0.00000000000000001	m	0.00000000000000001	0.0000000000000005	0.000000000000000005%
59	0.000000000000000005	m	0.000000000000000005	0.00000000000000025	0.0000000000000000025%
60	0.000000000000000002	m	0.000000000000000002	0.0000000000000001	0.000000000000000001%
61	0.000000000000000001	m	0.000000000000000001	0.00000000000000005	0.0000000000000000005%
62	0.0000000000000000005	m	0.0000000000000000005	0.000000000000000025	0.00000000000000000025%
63	0.0000000000000000002	m	0.0000000000000000002	0.00000000000000001	0.0000000000000000001%
64	0.0000000000000000001	m	0.0000000000000000001	0.000000000000000005	0.00000000000000000005%
65	0.00000000000000000005	m	0.00000000000000000005	0.0000000000000000025	0.000000000000000000025%
66	0.00000000000000000002	m	0.00000000000000000002	0.000000000000000001	0.00000000000000000001%
67	0.00000000000000000001	m	0.00000000000000000001	0.0000000000000000005	0.000000000000000000005%
68	0.000000000000000000005	m	0.000000000000000000005	0.00000000000000000025	0.0000000000000000000025%
69	0.000000000000000000002	m	0.000000000000000000002	0.0000000000000000001	0.000000000000000000001%
70	0.000000000000000000001	m	0.000000000000000000001	0.00000000000000000005	0.0000000000000000000005%
71	0.0000000000000000000005	m	0.0000000000000000000005	0.000000000000000000025	0.00000000000000000000025%
72	0.0000000000000000000002	m	0.0000000000000000000002	0.00000000000000000001	0.0000000000000000000001%
73	0.0000000000000000000001	m	0.0000000000000000000001	0.000000000000000000005	0.00000000000000000000005%
74	0.00000000000000000000005	m	0.00000000000000000000005	0.0000000000000000000025	0.000000000000000000000025%
75	0.00000000000000000000002	m	0.00000000000000000000002	0.000000000000000000001	0.00000000000000000000001%
76	0.00000000000000000000001	m	0.00000000000000000000001	0.0000000000000000000005	0.000000000000000000000005%
77	0.000000000000000000000005	m	0.000000000000000000000005	0.00000000000000000000025	0.0000000000000000000000025%
78	0.000000000000000000000002	m	0.000000000000000000000002	0.0000000000000000000001	0.000000000000000000000001%
79	0.000000000000000000000001	m	0.000000000000000000000001	0.00000000000000000000005	0.0000000000000000000000005%
80	0.0000000000000000000000005	m	0.0000000000000000000000005	0.000000000000000000000025	0.00000000000000000000000025%
81	0.0000000000000000000000002	m	0.0000000000000000000000002	0.00000000000000000000001	0.0000000000000000000000001%
82	0.0000000000000000000000001	m	0.0000000000000000000000001	0.000000000000000000000005	0.00000000000000000000000005%
83	0.00000000000000000000000005	m	0.00000000000000000000000005	0.000000000000000000000025	0.000000000000000000000000025%
84	0.00000000000000000000000002	m	0.00000000000000000000000002	0.00000000000000000000001	0.00000000000000000000000001%
85	0.00000000000000000000000001	m	0.00000000000000000000000001	0.000000000000000000000005	0.000000000000000000000000005%
86	0.000000000000000000000000005	m	0.000000000000000000000000005	0.000000000000000000000025	0.0000000000000000000000000025%
87	0.000000000000000000000000002	m	0.000000000000000000000000002	0.00000000000000000000001	0.000000000000000000000000001%
88	0.000000000000000000000000001	m	0.000000000000000000000000001	0.000000000000000000000005	0.0000000000000000000000000005%
89	0.0000000000000000000000000005	m	0.0000000000000000000000000005	0.000000000000000000000025	0.00000000000000000000000000025%
90	0.0000000000000000000000000002	m	0.0000000000000000000000000002	0.00000000000000000000001	0.0000000000000000000000000001%
91	0.0000000000000000000000000001	m	0.0000000000000000000000000001	0.000000000000000000000005	0.00000000000000000000000000005%
92	0.00000000000000000000000000005	m	0.00000000000000000000000000005	0.000000000000000000000025	0.000000000000000000000000000025%
93	0.00000000000000000000000000002	m	0.00000000000000000000000000002	0.00000000000000000000001	0.00000000000000000000000000001%
94	0.00000000000000000000000000001	m	0.00000000000000000000000000001	0.000000000000000000000005	0.000000000000000000000000000005%
95	0.000000000000000000000000000005	m	0.000000000000000000000000000005	0.000000000000000000000025	0.0000000000000000000000000000025%
96	0.000000000000000000000000000002	m	0.000000000000000000000000000002	0.00000000000000000000001	0.000000000000000000000000000001%
97	0.000000000000000000000000000001	m	0.000000000000000000000000000001	0.000000000000000000000005	0.0000000000000000000000000000005%
98	0.0000000000000000000000000000005	m	0.0000000000000000000000000000005	0.000000000000000000000025	0.00000000000000000000000000000025%
99	0.0000000000000000000000000000002	m	0.0000000000000000000000000000002	0.00000000000000000000001	0.0000000000000000000000000000001%
100	0.0000000000000000000000000000001	m	0.0000000000000000000000000000001	0.000000000000000000000005	0.00000000000000000000000000000005%

MAIN CONTRACTOR CALCULATION

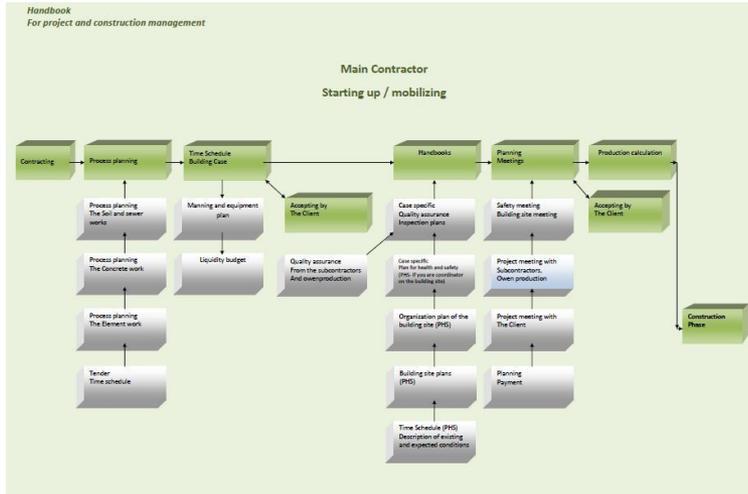
Item	Quantity	Unit	Price	Value
1	100	m	100	10000
2	50	m	50	2500
3	20	m	20	1000
4	10	m	10	500
5	5	m	5	250
6	2	m	2	100
7	1	m	1	50
8	0.5	m	0.5	25
9	0.2	m	0.2	10
10	0.1	m	0.1	5
11	0.05	m	0.05	2.5
12	0.02	m	0.02	1
13	0.01	m	0.01	0.5
14	0.005	m	0.005	0.25
15	0.002	m	0.002	0.1
16	0.001	m	0.001	0.05
17	0.0005	m	0.0005	0.025
18	0			

CONTRACTING PHASE



STARTING UP PHASE

MAIN CONTRACTOR:



**NOTIFICATION TO
WORK INSPECTION**

FINANTIAL ASPECTS:

-LIQUIDITY BUDGET

-INTERIM CERTIFICATES

PLANNING:

-GENERAL PLAN

-MANNING PLAN

-MACHINERY PLAN

QUALITY ASSURANCE:

-QA HANDBOOK

HEALTH AND SAFETY:

-B.SITE PLAN

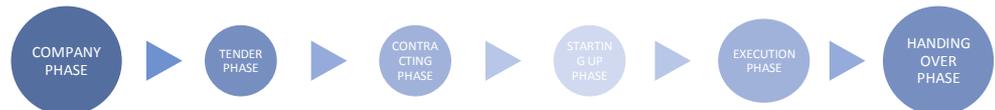
-EMERGENCIES NUMBERS

MEETINGS:

-AGENDA

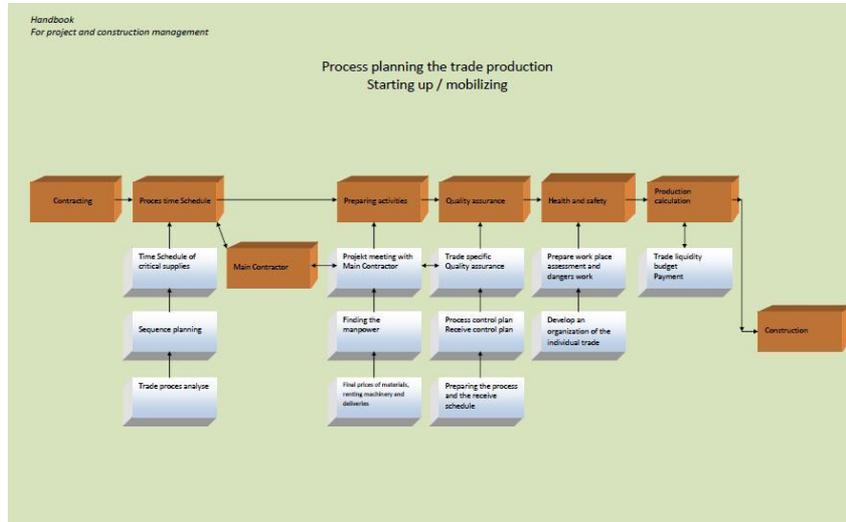
-INVITATION TO SECURITY

-RESUME OF SECURITY



EXECUTION PHASE

TRADE CONTRACTOR:



PLANNING:

-3 WEEK PLAN CONCRETE WORKS

HEALTH AND SAFETY:

-WORK PLACE ASSESSMENT

FINANTIAL ASPECTS:

-LIQUIDITY BUDGET

-INTERIM CERTIFICATES



EXECUTION PHASE

CONTROL DOCUMENTS DURING CONCRETE WORKS

PROCESS CONTROL

- FORMWORKS
- REINFORCEMENTS
- CAST CONCRETE

← PROCESS CONTROLPLAN

RECEIVE CONTROL

- FORMWORKS
- REINFORCEMENTS
- CAST CONCRETE

← RECEIVE CONTROLPLAN

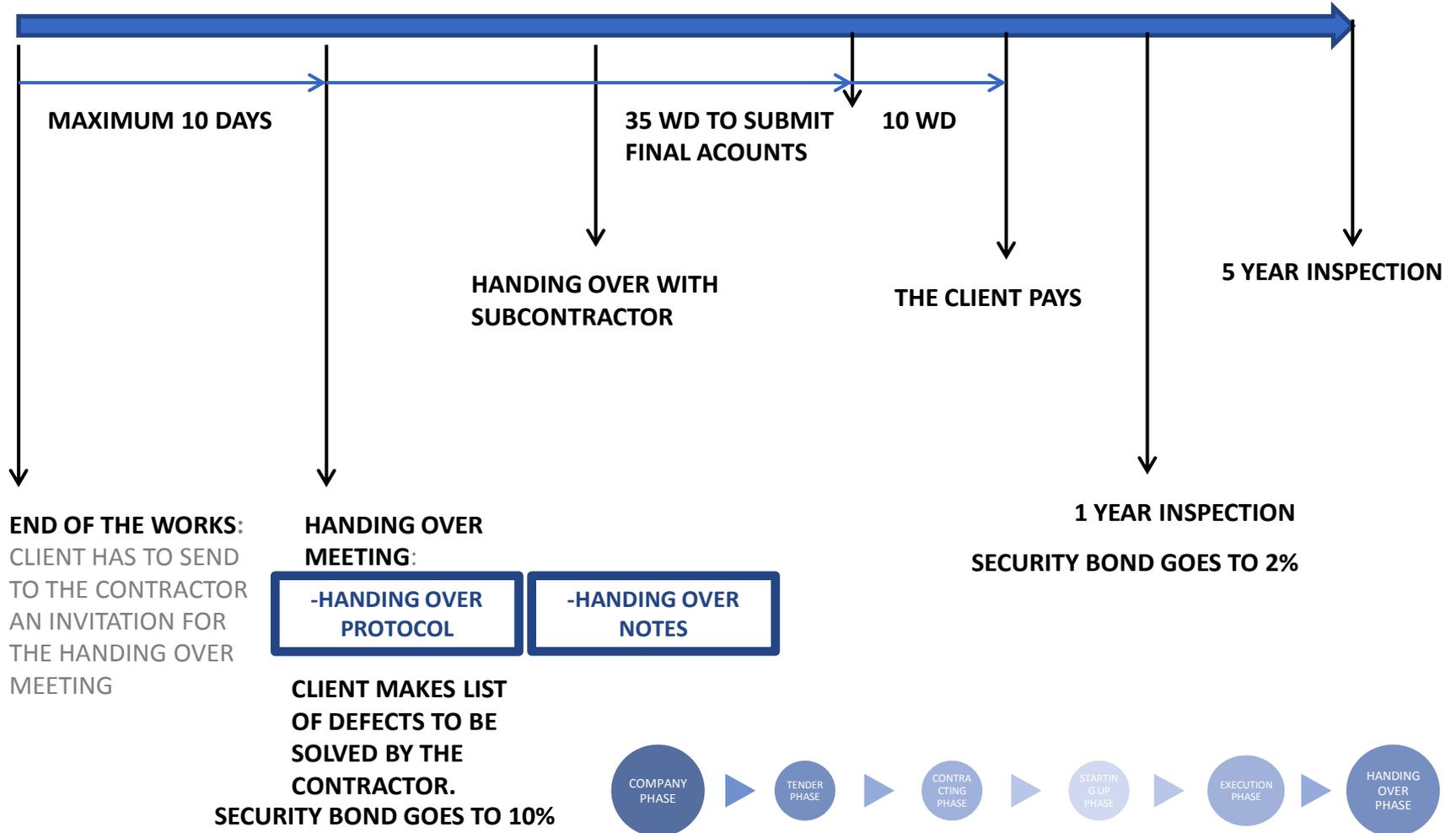


OTHER DOCUMENTS:

- B.SITE DIARY
- DELIVERY PLAN
- PRODUCTION CARD
- FINAL CONTROL



HANDING OVER PHASE



TAK FOR JERES OPMÆRKSOMHEDEN.