Alpha
Consulting Engineers Pte Ltd

PROJECT QUALITY PLAN

VIIO @ BALESTIER

For

TECHKON COMMERCIAL PTE LTD

Copy No.	1

Prepared By: Derek Ong / Jasmine Tan / Chong Lai Meng

Authorised By: Loh Fook Yuen

Date: 20 December 2017

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SECTION 1

QUALITY PLAN CONTROL AND DISTRIBUTION

1.1 List of Copy Holders

Copy No.	Copy Holder	Date of Issue
1	6214-PQP	20 December 2017

1.2 Revision Record

Revision	Date of Issue	Section Reference	Page(s)	Remarks
0	26 January 2016	1 to 11	29	+ 1 pgs (Section 9.1 – Sustainable Design Features) + 13 pgs (Section 4.1 – Overall Programme)
1	30 December 2016	1 to 11	29	+ 1 pgs (Section 9.1 – Sustainable Design Features) + 13 pgs (Section 4.1 – Overall Programme)
2	20 December 2017	1 to 11	29	+ 13 pgs (Section 4.1 – Overall Programme) + 1 pgs (Section 9.1 – Sustainable Design Features)

SECTION 2

PROJECT INFORMATION

2.1 Project Description

Type of Development	Commercial & Residential

Statistics of Development	
Site Area, m²	2049.7
Nett Floor Area, m²	-
Gross Floor Area, m²	6,560.35
Covered Carpark, m²	Fully Automated Mechanised CarPark (FAMCP - 75 lots)
No. of Covered Carpark Lots	75
No. of Apartments/Houses	56
No. of Beds (for Hospitals)	NA
No. of Guestroom (for Hotels)	NA
No. of Blocks / No. of Storeys	1 Block/ 11-Storey
Green Mark Category	Certified
No. of Phases	1

2.2 Project Cost

M&E Services Cost Plan (S$ x 1M)										
Services	EI	ACVI	LEI	FFAI	PSI	SPFI	FAMCP			
Estimate	1.3	1.0	1.5	0.4	0.95	0.15	-			
Awarded	1.3	1.0	0.825	0.55	1.132	0.063	1.625			

Total Project Construction Cost (S$ x1M)			
	Site Clearance	Piling Works	Main Contract
Estimate	-	-	-
Awarded	-	-	22.38

Site Clearance shall include earth work, soil improvement, service diversion and termination.

2.3 Scope of Works

2.3.1 Scope of Consultancy Services

Conceptual/Schematic Design	✓
Detailed Design	✓
Tender Documentation	✓
Tender Evaluation	✓
Contract Supervision	✓
M&E Costing	✓
Submissions to Authority	✓

(✓*where applicable*)

2.3.2 Scope of M&E Services

ELECTRICAL	✓	AIR CONDITIONING	✓	SPRINKLER	✓	SANITARY	✓	SWIMMING POOL	✓
LIFT	✓	MECHANICAL VENTILATION	✓	FIRE ALARM	✓	COLD WATER	✓	STEAM BOILER	
ESCALATOR	✓	MECHANICAL SMOKE EXTRACT		HOSEREEL	✓	HOT WATER	✓	FUEL STORAGE	
PABX		COMPUTER A/C		WET RISER		TOWN GAS	✓		
SECURITY	✓	BST CARPARK EXH		DRY RISER	✓	LPG GAS			
TELELIFT		HEATING				MEDICAL GAS			
DATA COMM.									
FLUSHFLOOR TRUNKING									

(✓*where applicable*)

2.3.3 Submission to Relevant Authorities by Others

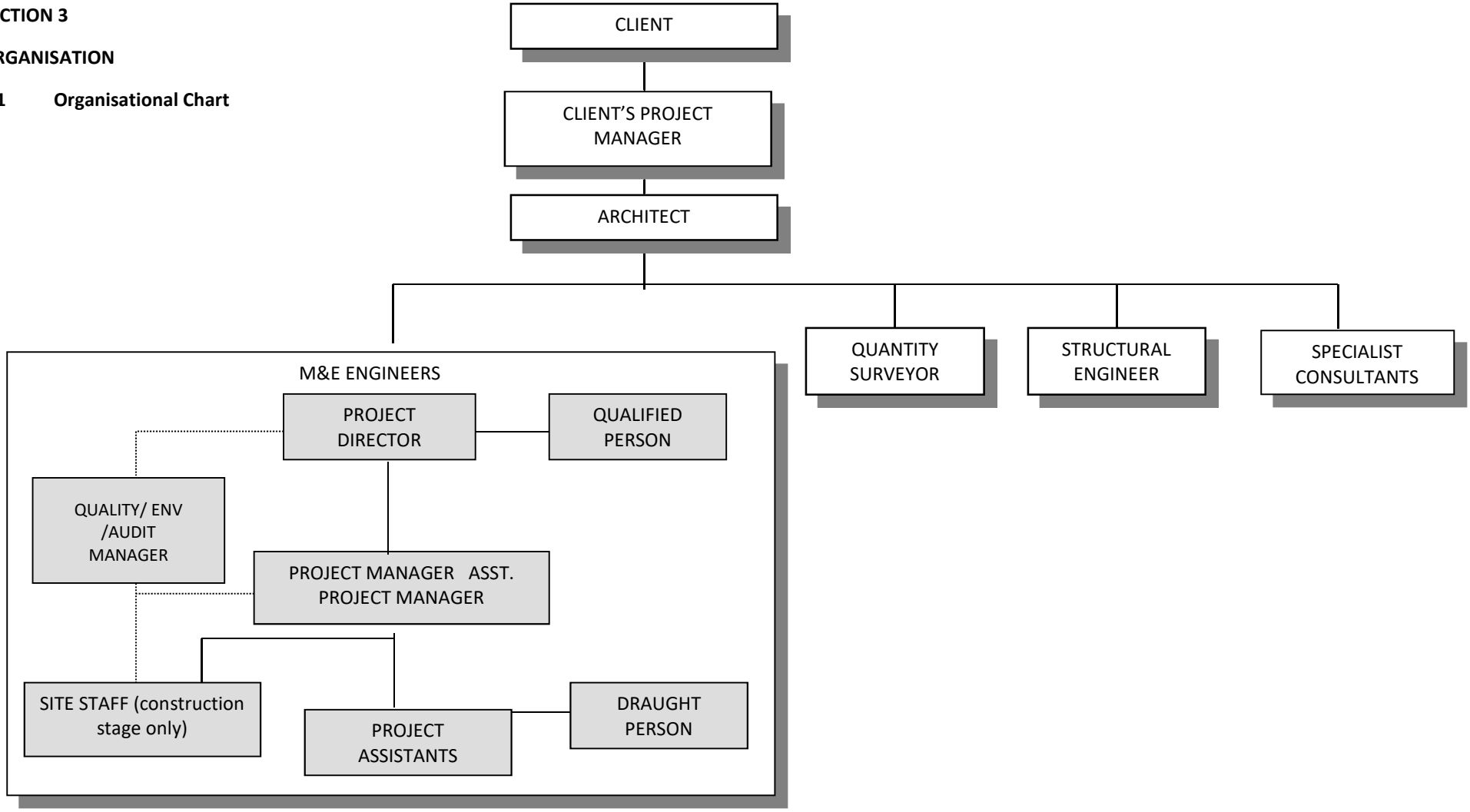
EJECTOR & DIVERTER		SUMP PUMP		FUEL OIL TANK		LIFT & ESCALATOR	✓	PRESSURE VESSEL		HOISTS		FOAM	

(✓*where applicable*)

SECTION 3

ORGANISATION

3.1 Organisational Chart



SECTION 3

ORGANISATION

3.2 ACEPL's Project Team Member

TITLE		NAME
Project Director		Loh Fook Yuen (LFY)
Qualified Person	Mechanical	Choong Choon Guan (CCG)
	Electrical	Loh Fook Yuen (LFY)
Project Manager		Chong Lai Meng (CLM)
Assistant Project Manager		Ong Kien Beng, Derek
Project Assistant (Mech)		Tan Qianping, Jasmine (TQP)
Project Assistant (Elect)		-
Draughtsperson		Common Pool
Resident Engineer (M&E)		-
Assistant Resident Engineer (M&E)		-
Clerk-of-Work (M&E)		-

3.3 Client/Client's Representatives

Client:- Techkon Commercial Pte Ltd

Address:- 237 Pandan Loop
#07-03 Westech Building
Singapore 128424

Tel:- 6873 7733

Fax:- 6873 3393

Client's Representatives:-

Name of Company	Contact Person	Contact
Techkon Commercial Pte Ltd	Name: Mr George Goh Position: Project Director	Tel: 6873 7733 Fax: 6873 3393 Handphone: Email: 150204_520balestier@techkon.com.sg
	Name: Position:	Tel: Fax: Handphone: Email:
	Name: Position:	Tel: Fax: Handphone: Email:
	Name: Position:	Tel: Fax: Handphone: Email:
	Name: Position:	Tel: Fax: Handphone: Email:

3.4 Other Consultants (Local)

Function / Name of Company	Contact Person	Contact
Architect MKPL Architects Pte Ltd	Name: Mr John McLaughlin / Mr Elfren Turiano Position: Director/Architect	Tel: 6223 4633 Fax: 6223 4233 Handphone: Email: balestier1502@mkpl.com.sg
Quantity Surveyor Rider Levett Bucknall LLP	Name: Ms Patricia Lee Huijun Position: Quantity Surveyor	Tel: 6339 1500 (ext. 887) Fax: 6339 1521 Handphone: Email: patricia.lee@sg.rlb.com
Structural Engineer Engineers Partnership LLP	Name: Mr Choy Chung Han Position:	Tel: 6220 0752 Fax: 6224 2073 Handphone: Email: chchoy@e-alliance.com.sg
Interior Designer	Name: Position:	Tel: Fax: Handphone: Email:
Lighting Consultant	Name: Position:	Tel: Fax: Handphone: Email:
Acoustic Consultant	Name: Position:	Tel: Fax: Handphone: Email:
Landscape Architect	Name: Position:	Tel: Fax: Handphone: Email:
_____	Name: Position:	Tel: Fax: Handphone: Email:

3.4 Other Consultants (Overseas) – **NOT APPLICABLE**

Function / Name of Company	Contact Person	Contact
Architect	Name: Position:	Tel: Fax: Handphone: Email:
M&E Consultant	Name: Position:	Tel: Fax: Handphone: Email:
Quantity Surveyor	Name: Position:	Tel: Fax: Handphone: Email:
Structural Engineer	Name: Position:	Tel: Fax: Handphone: Email:
Interior Designer	Name: Position:	Tel: Fax: Handphone: Email:
Lighting Consultant	Name: Position:	Tel: Fax: Handphone: Email:
Acoustic Consultant	Name: Position:	Tel: Fax: Handphone: Email:
_____	Name: Position:	Tel: Fax: Handphone: Email:

3.5 Contractors/Sub-Contractors

Function / Name of Company	Contract *	Contact Person	Contact
Main Contractor Techkon Pte Ltd	-	Name: Mr Zhang Xiao Tong Position: Project Manager	Tel: 6873 7733 Fax: 6873 3393 Handphone: 8450 6682 Email: xiaotong_zhang@techkon.com.sg
Air Conditioning & Ventilation Installation Sub-Contractor DIS Airconditioning & Electrical Pte Ltd	DSC	Name: Mr Karuna Position: Senior Project Manager	Tel: 6744 2207 Fax: 6744 7567 Handphone: 8233 7831 Email: karuna@dis-aircon.som.sg
Plumbing & Sanitary Installation Sub-Contractor Watertech Plumbing & Construction Pte Ltd	DSC	Name: Mr Tommy Yiah Position: Project Manager	Tel: 6444 6855 Fax:6444 7378 Handphone: Email: watertech@singnet.com.sg
Electrical Installation Sub-Contractor Symbuild Engineering Pte Ltd	DSC	Name: Mr Oh Chee Teck Position: Managing Director	Tel: 6250 2556 Fax: 6250 2557 Handphone: 9383 1926 Email: ohct@symbuild.sg
Lift & Escalator Installation Sub-Contractor Mitsubishi Elevator (Singapore) Pte Ltd	DSC	Name: Ms Freda Fang Position: Assistant Manager, New Sales Dept.	Tel: 6436 2827 Fax: 6748 2292 Handphone: Email: Freda.Fang@mesp.meap.com
Fire Fighting & Alarm Installation Sub-Contractor Fire Mech Pte Ltd	DSC	Name: Mr Alex Lee Position: Project Manager	Tel: 6896 6556 Fax: 6896 6646 Handphone: 9145 5955 Email: alexlee@firemech.com.sg
Swimming Pool Filtration Plant Installation Sub-Contractor Aquatech Products & Services Pte Ltd	DSC	Name: Mr Jonathan Teo Position: Project Manager	Tel: 6842 1188 Fax: 6842 0168 Handphone: 9040 4331 Email: jteo@aquatech.com.sg
Fully Automated Mechanised Carpark System (FAMCP) Installation Sub-Contractor Current Pte Ltd	DSC	Name: Ms Ariel Tan Position: General Manager	Tel: 6745 5383 Fax: 6745 5883 Handphone: 9188 9817 Email: ariel@current.com.sg
_____		Name: Position:	Tel: Fax: Handphone: Email:

** Type of Contract*
- *NSC (Nominated Sub-Contract)*
- *DSC (Domesticated Sub-Contract)*
- *DC (Direct Contract)*
- *NS (Nominated Supplier)*

3.6 Authorities

Authorities/Department	Contact Person	Tel/Fax Nos./E-mail
SP PowerGrid:		
(a) Sub-Station	Mr Abbas Mohd Supiah	6378 8557
(b) Diversion		
SP Services:	Mr Ernie Suriani	6671 7194
(a) Customer Supply		
(b) Installation		
(c) Meter Section		
(d) Road Lighting		
TFCC:		
(a) StarHub	Mr Jasper Tan	6825 5442
(b) SingTel	Mr Sim Hoe Yee	simhyoe@singtel.com
(c) Netlink Trust	Mr Lee Him Huan	9653 1397
BCA:		
(a) Building Plan		
(b) Green Mark		
FSSD:		
(a) Building Plan		
(b) M&E Plan	Mr Chung Yee Tan (ACMV) Ms Ang Ah Hua Nancy (FFAI)	-
PUB (Water Supply) Network Dept:		
(a) Water Conservation		
(b) Plumbing Plan	Ms Neshita Nair	6731 3552
(c) Diversion		
(d) NEWater		
PUB Water Reclamation (Network) Dept:		
(a) Building Plan/CBPU		
(b) M&E Plan	Mr Ashraf Pinto	6731 9527
(c) Diversion		
City Gas Pte Ltd:		
(a) Planning/Submission	Mr Liew Khee Boon	6578 7603
(b) Installation/Inspection	Mr Lim Teck Seng	6578 7814
PowerGas Pte Ltd		
(a) Diversion		
NEA (Pollution Control)		
(a) Planning/Submission		
(b) Inspection		

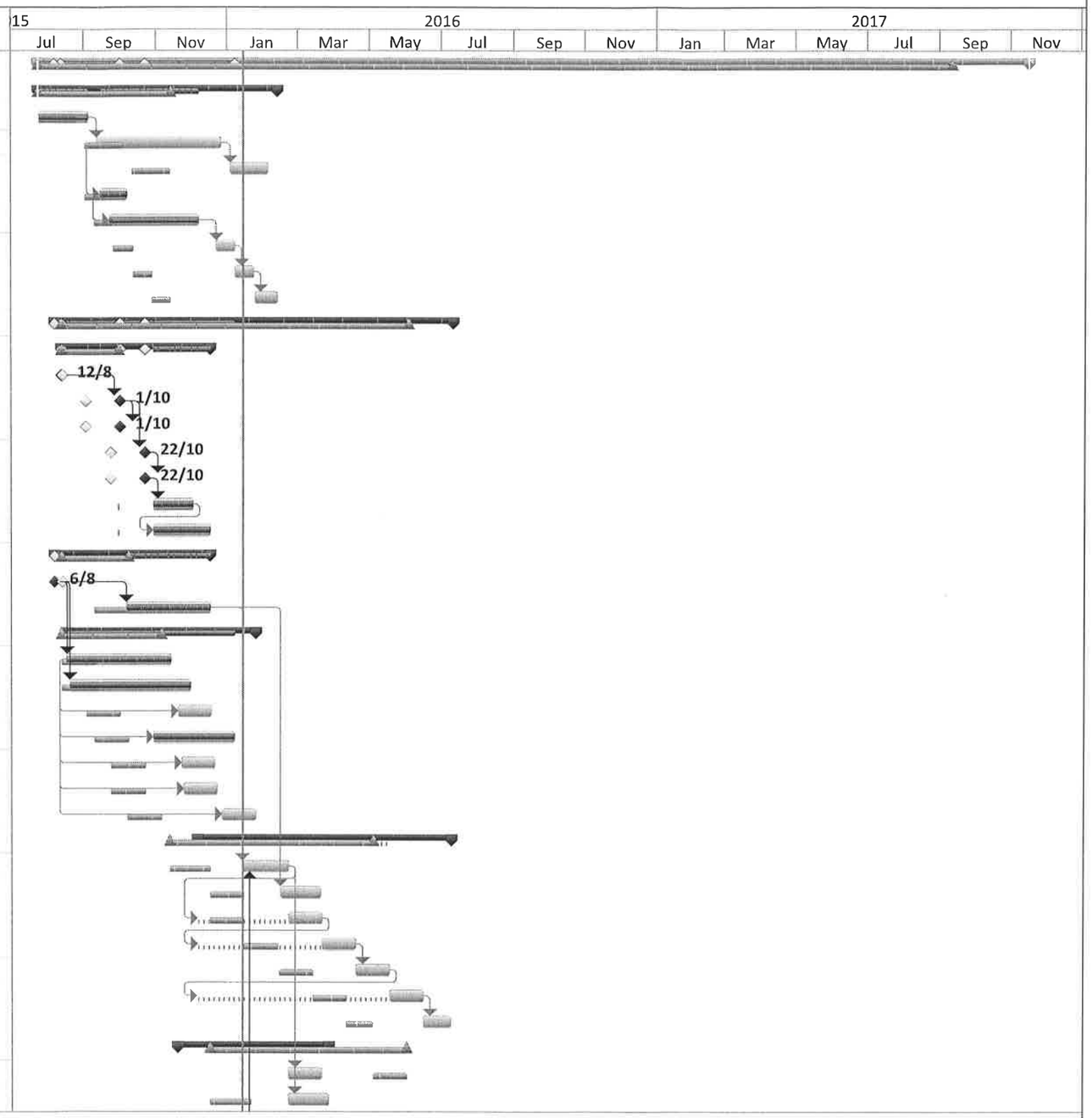
SECTION 4

PROGRAMME

4.1 Overall Programme (See attached Master Programme)

ID	TASK NAME	MONTHS	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D
1.	Preliminary Planning																									
2.	Planning Submission																									
3.	Detail Design																									
4.	BP Submission																									
5.	BP Submission (Amendments)																									
6.	Tender Period for Piling																									
7.	Tender Period for Sub-Structure																									
8.	Tender Period for Super-Structure																									
9.	Piling Period																									
10.	Sub-Structure Construction Period																									
11.	Super-Structure Construction Period																									
12.	TOP																									
13.	CSC																									

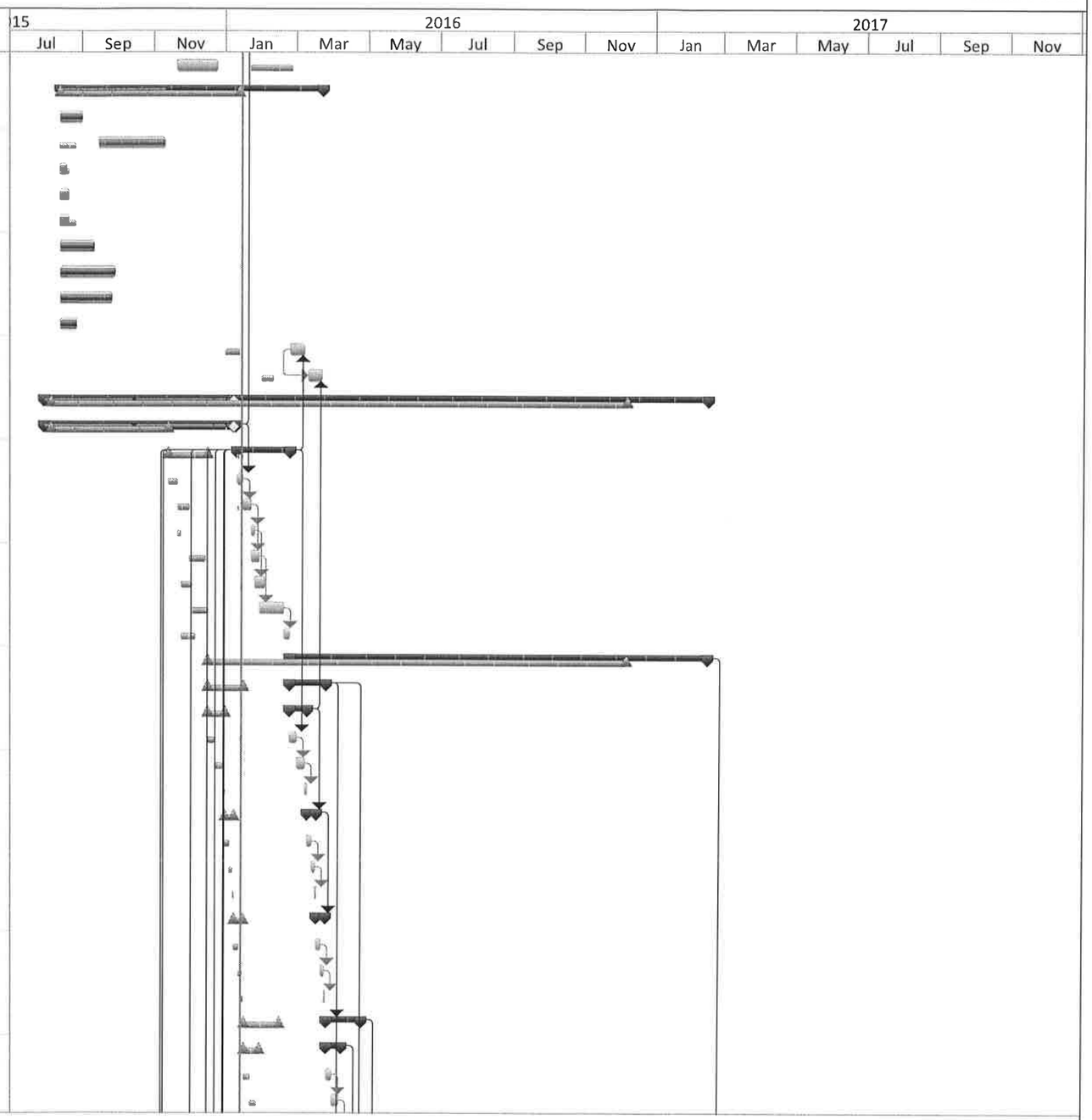
ID	Task Name	Duration	Baseline Start	Baseline Finish	Start	Finish
0	**VIIO @ 520 Balestier Road**	**723 days**	**24/7/15**	**11/9/17**	**24/7/15**	**16/11/17**
1	**Authority Submissions**	**172 days**	**24/7/15**	**13/11/15**	**24/7/15**	**12/2/16**
2	URA PP Approval	37 days	24/7/15	25/8/15	24/7/15	4/9/15
3	URA WP Approval	91 days	2/9/15	3/10/15	12/9/15	26/12/15
4	BCA BP Approval	28 days	12/10/15	12/11/15	4/1/16	4/2/16
5	ST01 - Piling	20 days	2/9/15	17/9/15	15/9/15	7/10/15
6	ST02 - Pile cap	65 days	10/9/15	25/9/15	23/9/15	7/12/15
7	ST03 - L1 to L3	14 days	26/9/15	12/10/15	23/12/15	7/1/16
8	ST04 - Transfer Level	14 days	13/10/15	28/10/15	8/1/16	23/1/16
9	ST05 - L5 to roof	14 days	29/10/15	13/11/15	25/1/16	12/2/16
10	**Award of Contract**	**288 days**	**13/8/15**	**3/6/16**	**6/8/15**	**11/7/16**
11	**Preliminaries**	**109 days**	**13/8/15**	**30/9/15**	**12/8/15**	**17/12/15**
12	Surveyor	0 days	13/8/15	13/8/15	12/8/15	12/8/15
13	Tower Crane Supplier	0 days	2/9/15	2/9/15	1/10/15	1/10/15
14	Passenger hoists supplier	0 days	2/9/15	2/9/15	1/10/15	1/10/15
15	System Formwork (by RC sub)	0 days	23/9/15	23/9/15	22/10/15	22/10/15
16	Scaffolding & safety screen	0 days	23/9/15	23/9/15	22/10/15	22/10/15
17	Anti Termite Specialist	29 days	30/9/15	30/9/15	29/10/15	2/12/15
18	Waterproofing (by RC sub)	42 days	30/9/15	30/9/15	29/10/15	17/12/15
19	**Structural works**	**114 days**	**13/8/15**	**8/10/15**	**6/8/15**	**17/12/15**
20	Piling works	0 days	13/8/15	13/8/15	6/8/15	6/8/15
21	Reinforced Concrete (RC) subcon	62 days	10/9/15	8/10/15	7/10/15	17/12/15
22	**M&E works**	**139 days**	**13/8/15**	**5/11/15**	**17/8/15**	**25/1/16**
23	Lift and Escalator	77 days	13/8/15	10/9/15	17/8/15	13/11/15
24	Machanized Car Lift	88 days	13/8/15	16/9/15	20/8/15	30/11/15
25	Plumbing and Sanitary, Gas	25 days	3/9/15	1/10/15	20/11/15	18/12/15
26	Electrical and Security	60 days	10/9/15	8/10/15	30/10/15	7/1/16
27	Fire Protection Works	25 days	24/9/15	22/10/15	23/11/15	21/12/15
28	ACMV works	25 days	24/9/15	22/10/15	25/11/15	23/12/15
29	Swimming pool & Water Feature	25 days	8/10/15	5/11/15	28/12/15	25/1/16
30	**Architectural works**	**184 days**	**13/11/15**	**5/5/16**	**7/12/15**	**11/7/16**
31	Alumminium works	30 days	13/11/15	17/12/15	15/1/16	22/2/16
32	PBU Supplier	30 days	18/12/15	15/1/16	16/2/16	21/3/16
33	Kitchen Cabinet, Wardrobe, Toilet c	25 days	18/12/15	15/1/16	7/12/15	22/3/16
34	Tiles and Stones	25 days	16/1/16	13/2/16	7/12/15	20/4/16
35	Ironmongery and Doors	25 days	15/2/16	14/3/16	21/4/16	19/5/16
36	Sanitary wares and fittings	25 days	15/3/16	12/4/16	7/12/15	17/6/16
37	Signages	20 days	13/4/16	5/5/16	18/6/16	11/7/16
38	**Others**	**108 days**	**18/12/15**	**3/6/16**	**20/11/15**	**28/3/16**
39	Landscape	25 days	6/5/16	3/6/16	23/2/16	22/3/16
40	Building Maintenance System	30 days	18/12/15	21/1/16	23/2/16	28/3/16



Project: VIIO @ 520 Balestier Rd
Date: 15/1/16
Progress Tracking

Task	External Tasks	Manual Task	Finish-only	Progress
Split	External Milestone	Duration-only	Deadline	
Milestone	Inactive Task	Manual Summary Rollup	Baseline	
Summary	Inactive Milestone	Manual Summary	Baseline Milestone	
Project Summary	Inactive Summary	Start-only	Baseline Summary	

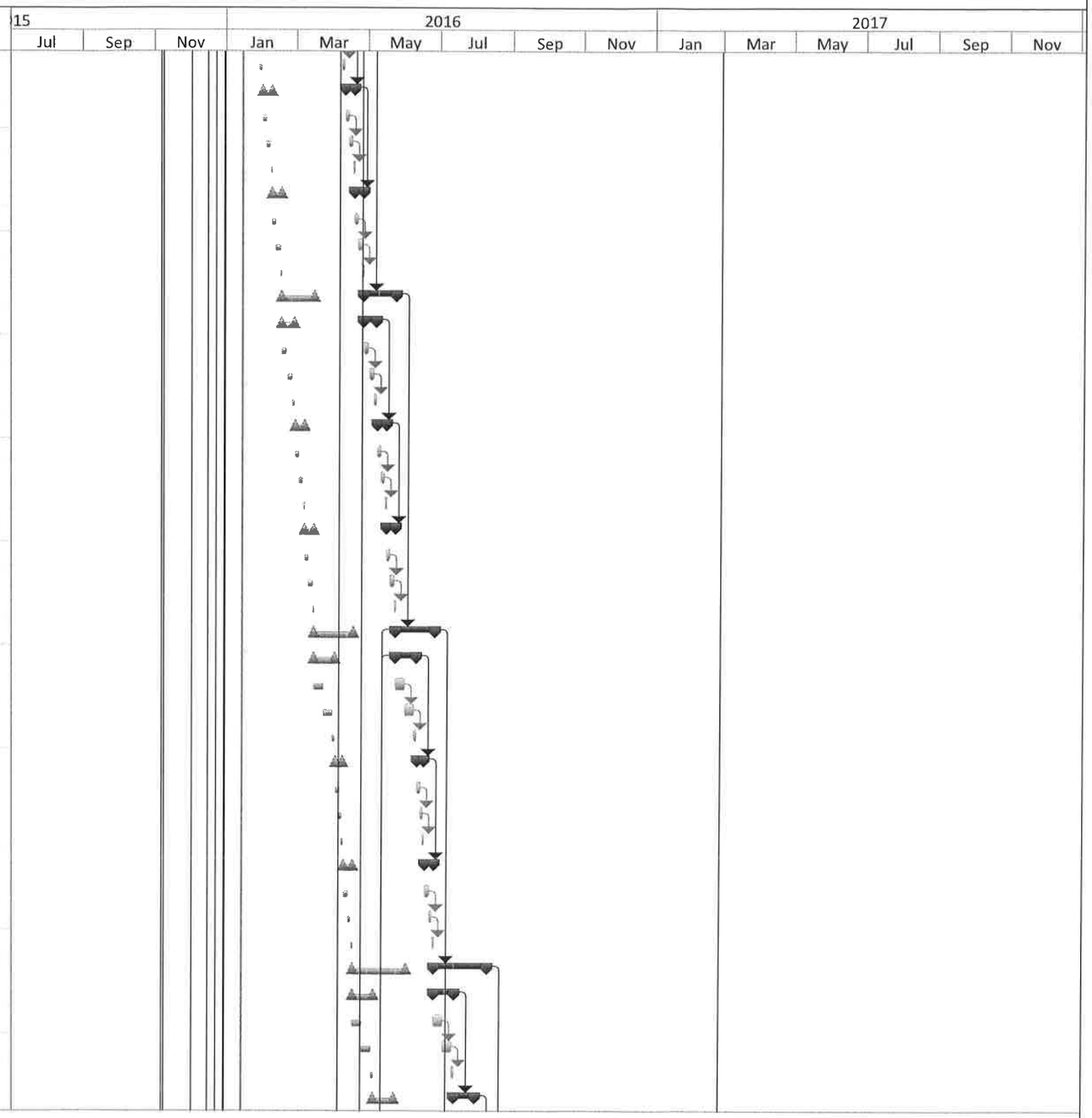
ID	Task Name	Duration	Baseline Start	Baseline Finish	Start	Finish
41	Smart Home Vendor	30 days	22/1/16	25/2/16	20/11/15	24/12/15
42	**Site Mobilisation**	**188 days**	**13/8/15**	**12/1/16**	**13/8/15**	**22/3/16**
43	Project Insurance	16 days	13/8/15	26/8/15	13/8/15	31/8/15
44	Permit to Work	48 days	13/8/15	26/8/15	15/9/15	9/11/15
45	Factory License	5 days	13/8/15	20/8/15	13/8/15	18/8/15
46	Project Signboard	7 days	13/8/15	20/8/15	13/8/15	20/8/15
47	Site Facility Plan	7 days	13/8/15	26/8/15	13/8/15	20/8/15
48	Earth Control Measures (ECM)	25 days	13/8/15	10/9/15	13/8/15	10/9/15
49	Site Survey	40 days	13/8/15	18/8/15	13/8/15	28/9/15
50	Noise & Vibration Monitoring	38 days	13/8/15	29/8/15	13/8/15	25/9/15
51	Site office & container	12 days	13/8/15	26/8/15	13/8/15	26/8/15
52	Erection of tower crane	10 days	1/1/16	12/1/16	25/2/16	7/3/16
53	Erection of passenger hoists	10 days	1/2/16	10/2/16	11/3/16	22/3/16
54	**Civil & Structural works**	**484 days**	**5/8/15**	**8/12/16**	**30/7/15**	**16/2/17**
55	**Piling**	**141 days**	**5/8/15**	**12/11/15**	**30/7/15**	**9/1/16**
68	**Substructure (Pile caps, etc)**	**36 days**	**13/11/15**	**16/12/15**	**11/1/16**	**24/2/16**
69	Slop cutting & Excavation	5 days	13/11/15	20/11/15	11/1/16	15/1/16
70	Excavation of water tank & pits	6 days	21/11/15	30/11/15	11/1/16	22/1/16
71	Pile hacking & ECC	2 days	21/11/15	23/11/15	23/1/16	25/1/16
72	Casting of water tank and pits	6 days	1/12/15	14/12/15	23/1/16	29/1/16
73	Adjustment of piles	8 days	24/11/15	2/12/15	26/1/16	3/2/16
74	Pile-caps casting (18 pieces)	15 days	3/12/15	16/12/15	30/1/16	19/2/16
75	Ground Beam	4 days	24/11/15	5/12/15	20/2/16	24/2/16
76	**Super Structure works**	**307 days**	**17/12/15**	**8/12/16**	**25/2/16**	**16/2/17**
77	**1st storey**	**27 days**	**17/12/15**	**16/1/16**	**25/2/16**	**26/3/16**
78	**L1 Slab & Beams**	**13 days**	**17/12/15**	**31/12/15**	**25/2/16**	**10/3/16**
79	Formwork	5 days	17/12/15	22/12/15	25/2/16	1/3/16
80	Reinforcement	6 days	23/12/15	29/12/15	2/3/16	8/3/16
81	Casting	2 days	30/12/15	31/12/15	9/3/16	10/3/16
82	**L1 Column**	**7 days**	**1/1/16**	**8/1/16**	**11/3/16**	**18/3/16**
83	Formwork	3 days	1/1/16	4/1/16	11/3/16	14/3/16
84	Reinforcement	3 days	5/1/16	7/1/16	15/3/16	17/3/16
85	Casting	1 day	8/1/16	8/1/16	18/3/16	18/3/16
86	**L1 Walls**	**7 days**	**9/1/16**	**16/1/16**	**19/3/16**	**26/3/16**
87	Formwork	3 days	9/1/16	12/1/16	19/3/16	22/3/16
88	Reinforcement	3 days	13/1/16	15/1/16	23/3/16	25/3/16
89	Casting	1 day	16/1/16	16/1/16	26/3/16	26/3/16
90	2nd storey	**26 days**	18/1/16	16/2/16	**28/3/16**	**26/4/16**
91	**Slab & Beams**	**12 days**	**18/1/16**	**30/1/16**	**28/3/16**	**9/4/16**
92	Formwork	5 days	18/1/16	22/1/16	28/3/16	1/4/16
93	Reinforcement	5 days	23/1/16	28/1/16	2/4/16	7/4/16



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Date: 15/1/16
Progress Tracking

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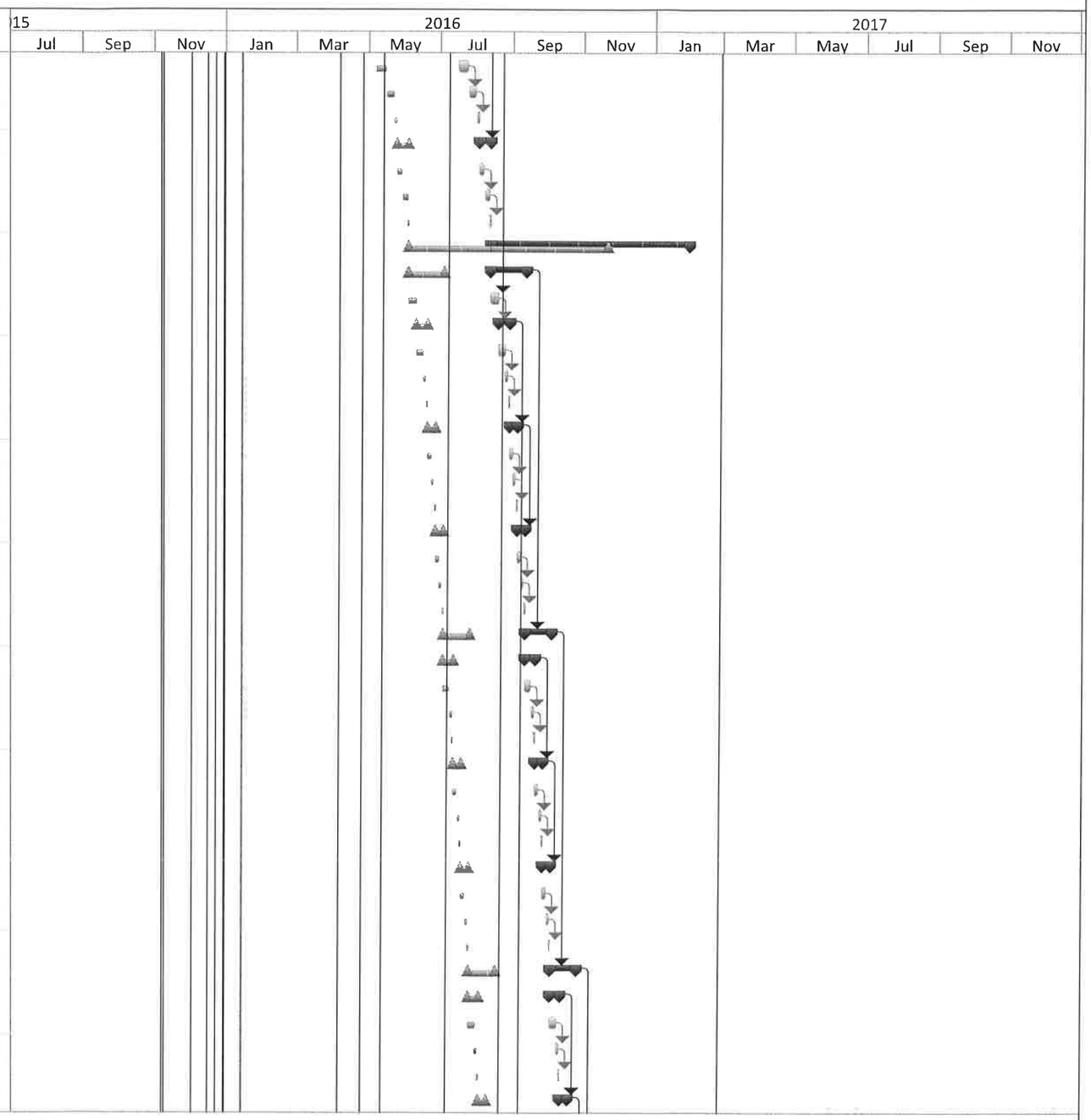
ID	Task Name	Duration	Baseline Start	Baseline Finish	Start	Finish
94	Casting	2 days	29/1/16	30/1/16	8/4/16	9/4/16
95	**Column**	**7 days**	**1/2/16**	**8/2/16**	**11/4/16**	**18/4/16**
96	Formwork	3 days	1/2/16	3/2/16	11/4/16	13/4/16
97	Reinforcement	3 days	4/2/16	6/2/16	14/4/16	16/4/16
98	Casting	1 day	8/2/16	8/2/16	18/4/16	18/4/16
99	**Walls**	**7 days**	**9/2/16**	**16/2/16**	**19/4/16**	**26/4/16**
100	Formwork	3 days	9/2/16	11/2/16	19/4/16	21/4/16
101	Reinforcement	3 days	12/2/16	15/2/16	22/4/16	25/4/16
102	Casting	1 day	16/2/16	16/2/16	26/4/16	26/4/16
103	3rd storey	**24 days**	17/2/16	15/3/16	**27/4/16**	**24/5/16**
104	**Slab & Beams**	**10 days**	**17/2/16**	**27/2/16**	**27/4/16**	**7/5/16**
105	Formwork	4 days	17/2/16	20/2/16	27/4/16	30/4/16
106	Reinforcement	4 days	22/2/16	25/2/16	2/5/16	5/5/16
107	Casting	2 days	26/2/16	27/2/16	6/5/16	7/5/16
108	**Column**	**7 days**	**29/2/16**	**7/3/16**	**9/5/16**	**16/5/16**
109	Formwork	3 days	29/2/16	2/3/16	9/5/16	11/5/16
110	Reinforcement	3 days	3/3/16	5/3/16	12/5/16	14/5/16
111	Casting	1 day	7/3/16	7/3/16	16/5/16	16/5/16
112	**Walls**	**7 days**	**8/3/16**	**15/3/16**	**17/5/16**	**24/5/16**
113	Formwork	3 days	8/3/16	10/3/16	17/5/16	19/5/16
114	Reinforcement	3 days	11/3/16	14/3/16	20/5/16	23/5/16
115	Casting	1 day	15/3/16	15/3/16	24/5/16	24/5/16
116	4th storey (lower) (transfer)	**29 days**	16/3/16	18/4/16	**25/5/16**	**27/6/16**
117	**Slab & Beams**	**16 days**	**16/3/16**	**2/4/16**	**25/5/16**	**11/6/16**
118	Formwork	7 days	16/3/16	23/3/16	25/5/16	1/6/16
119	Reinforcement	7 days	24/3/16	31/3/16	2/6/16	9/6/16
120	Casting	2 days	1/4/16	2/4/16	10/6/16	11/6/16
121	**Column**	**6 days**	**4/4/16**	**9/4/16**	**13/6/16**	**18/6/16**
122	Formwork	3 days	4/4/16	6/4/16	13/6/16	15/6/16
123	Reinforcement	2 days	7/4/16	8/4/16	16/6/16	17/6/16
124	Casting	1 day	9/4/16	9/4/16	18/6/16	18/6/16
125	**Walls**	**7 days**	**11/4/16**	**18/4/16**	**20/6/16**	**27/6/16**
126	Formwork	4 days	11/4/16	14/4/16	20/6/16	23/6/16
127	Reinforcement	2 days	15/4/16	16/4/16	24/6/16	25/6/16
128	Casting	1 day	18/4/16	18/4/16	27/6/16	27/6/16
129	**4th storey (higher) (transfer)**	**40 days**	**19/4/16**	**3/6/16**	**28/6/16**	**12/8/16**
130	**Slab & Beams**	**16 days**	**19/4/16**	**6/5/16**	**28/6/16**	**15/7/16**
131	Formwork	7 days	19/4/16	26/4/16	28/6/16	5/7/16
132	Reinforcement	7 days	27/4/16	4/5/16	6/7/16	13/7/16
133	Casting	2 days	5/5/16	6/5/16	14/7/16	15/7/16
134	**Column**	**15 days**	**7/5/16**	**24/5/16**	**16/7/16**	**2/8/16**



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Task	External Tasks	Manual Task	Finish-only	Progress	
Split	External Milestone	Duration-only	Deadline		
Milestone	Inactive Task	Manual Summary Rollup	Baseline		
Summary	Inactive Milestone	Manual Summary	Baseline Milestone		
Project Summary	Inactive Summary	Start-only	Baseline Summary		

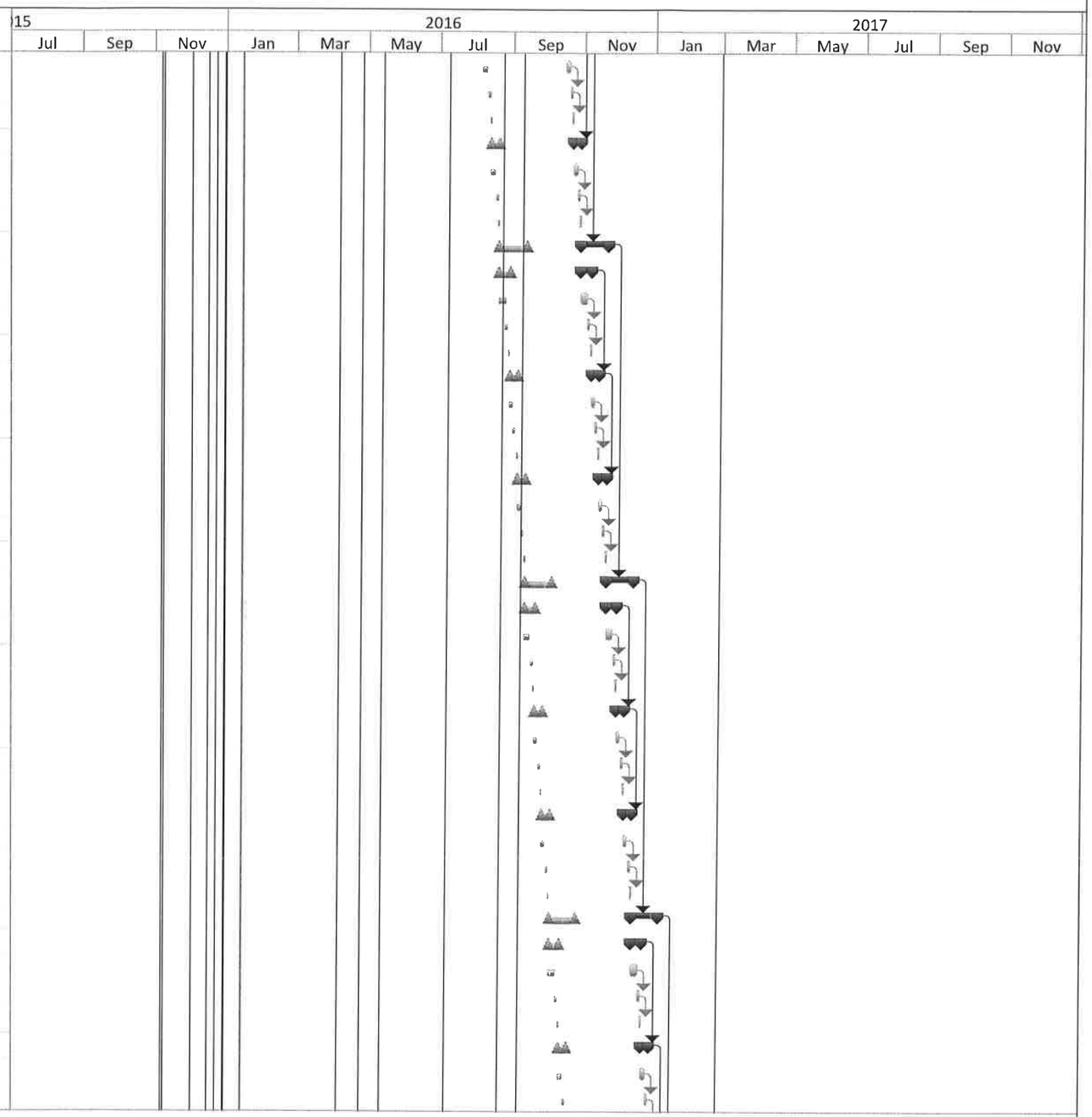
ID	Task Name	Duration	Baseline Start	Baseline Finish	Start	Finish
135	Formwork	7 days	7/5/16	14/5/16	16/7/16	23/7/16
136	Reinforcement	6 days	16/5/16	21/5/16	25/7/16	30/7/16
137	Casting	2 days	23/5/16	24/5/16	1/8/16	2/8/16
138	**Walls**	**9 days**	**25/5/16**	**3/6/16**	**3/8/16**	**12/8/16**
139	Formwork	4 days	25/5/16	28/5/16	3/8/16	6/8/16
140	Reinforcement	4 days	30/5/16	2/6/16	8/8/16	11/8/16
141	Casting	1 day	3/6/16	3/6/16	12/8/16	12/8/16
142	**Tower L5 - L11**	**146 days**	**4/6/16**	**21/11/16**	**13/8/16**	**30/1/17**
143	**L5**	**26 days**	**4/6/16**	**4/7/16**	**13/8/16**	**12/9/16**
144	Scaffolding & safety screen	6 days	4/6/16	10/6/16	13/8/16	19/8/16
145	**Slab / Beam**	**8 days**	**11/6/16**	**20/6/16**	**20/8/16**	**29/8/16**
146	Table form and form works	5 days	11/6/16	16/6/16	20/8/16	25/8/16
147	Reinforcement	2 days	17/6/16	18/6/16	26/8/16	27/8/16
148	Casting	1 day	20/6/16	20/6/16	29/8/16	29/8/16
149	**Column**	**6 days**	**21/6/16**	**27/6/16**	**30/8/16**	**5/9/16**
150	Form works	3 days	21/6/16	23/6/16	30/8/16	1/9/16
151	Reinforcement	2 days	24/6/16	25/6/16	2/9/16	3/9/16
152	Casting	1 day	27/6/16	27/6/16	5/9/16	5/9/16
153	**Wall**	**6 days**	**28/6/16**	**4/7/16**	**6/9/16**	**12/9/16**
154	Form works	3 days	28/6/16	30/6/16	6/9/16	8/9/16
155	Reinforcement	2 days	1/7/16	2/7/16	9/9/16	10/9/16
156	Casting	1 day	4/7/16	4/7/16	12/9/16	12/9/16
157	**L6**	**20 days**	**5/7/16**	**27/7/16**	**13/9/16**	**5/10/16**
158	**Slab / Beam**	**8 days**	**5/7/16**	**13/7/16**	**13/9/16**	**21/9/16**
159	Form works	5 days	5/7/16	9/7/16	13/9/16	17/9/16
160	Reinforcement	2 days	11/7/16	12/7/16	19/9/16	20/9/16
161	Casting	1 day	13/7/16	13/7/16	21/9/16	21/9/16
162	**Column**	**6 days**	**14/7/16**	**20/7/16**	**22/9/16**	**28/9/16**
163	Form works	3 days	14/7/16	16/7/16	22/9/16	24/9/16
164	Reinforcement	2 days	18/7/16	19/7/16	26/9/16	27/9/16
165	Casting	1 day	20/7/16	20/7/16	28/9/16	28/9/16
166	**Wall**	**6 days**	**21/7/16**	**27/7/16**	**29/9/16**	**5/10/16**
167	Form works	3 days	21/7/16	23/7/16	29/9/16	1/10/16
168	Reinforcement	2 days	25/7/16	26/7/16	3/10/16	4/10/16
169	Casting	1 day	27/7/16	27/7/16	5/10/16	5/10/16
170	**L7**	**20 days**	**28/7/16**	**19/8/16**	**6/10/16**	**28/10/16**
171	**Slab / Beam**	**8 days**	**28/7/16**	**5/8/16**	**6/10/16**	**14/10/16**
172	Form works	5 days	28/7/16	2/8/16	6/10/16	11/10/16
173	Reinforcement	2 days	3/8/16	4/8/16	12/10/16	13/10/16
174	Casting	1 day	5/8/16	5/8/16	14/10/16	14/10/16
175	**Column**	**6 days**	**6/8/16**	**12/8/16**	**15/10/16**	**21/10/16**



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Task	External Tasks	Manual Task	Finish-only		Progress		
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Milestone	Inactive Task	Manual Summary Rollup	Baseline				
Summary	Inactive Milestone	Manual Summary	Baseline Milestone				
Project Summary	Inactive Summary	Start-only	Baseline Summary				

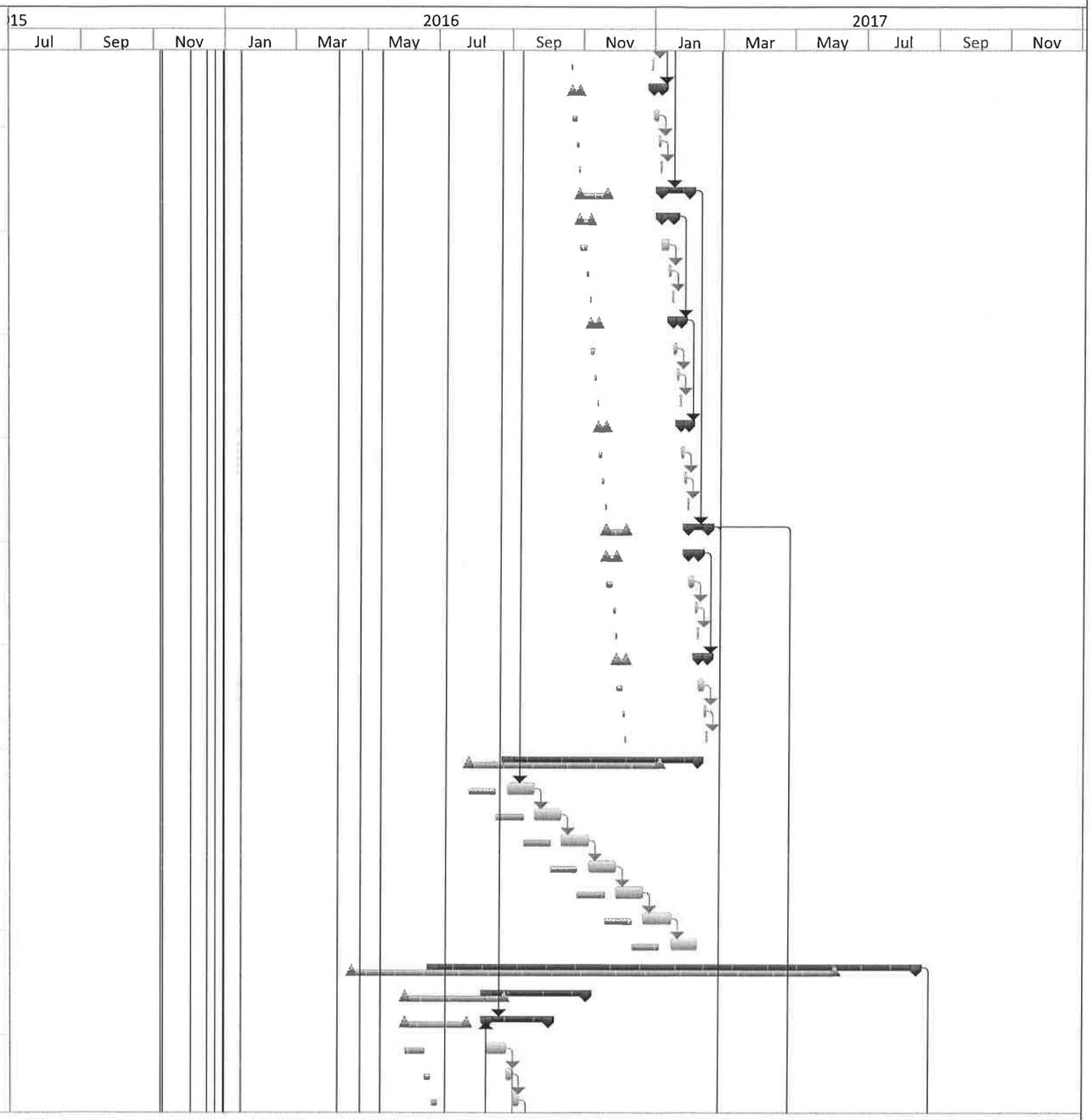
ID	Task Name	Duration	Baseline Start	Baseline Finish	Start	Finish
176	Form works	3 days	6/8/16	9/8/16	15/10/16	18/10/16
177	Reinforcement	2 days	10/8/16	11/8/16	19/10/16	20/10/16
178	Casting	1 day	12/8/16	12/8/16	21/10/16	21/10/16
179	**Wall**	**6 days**	**13/8/16**	**19/8/16**	**22/10/16**	**28/10/16**
180	Form works	3 days	13/8/16	16/8/16	22/10/16	25/10/16
181	Reinforcement	2 days	17/8/16	18/8/16	26/10/16	27/10/16
182	Casting	1 day	19/8/16	19/8/16	28/10/16	28/10/16
183	**L8**	**20 days**	**20/8/16**	**12/9/16**	**29/10/16**	**21/11/16**
184	**Slab / Beam**	**8 days**	**20/8/16**	**29/8/16**	**29/10/16**	**7/11/16**
185	Form works	5 days	20/8/16	25/8/16	29/10/16	3/11/16
186	Reinforcement	2 days	26/8/16	27/8/16	4/11/16	5/11/16
187	Casting	1 day	29/8/16	29/8/16	7/11/16	7/11/16
188	**Column**	**6 days**	**30/8/16**	**5/9/16**	**8/11/16**	**14/11/16**
189	Form works	3 days	30/8/16	1/9/16	8/11/16	10/11/16
190	Reinforcement	2 days	2/9/16	3/9/16	11/11/16	12/11/16
191	Casting	1 day	5/9/16	5/9/16	14/11/16	14/11/16
192	**Wall**	**6 days**	**6/9/16**	**12/9/16**	**15/11/16**	**21/11/16**
193	Form works	3 days	6/9/16	8/9/16	15/11/16	17/11/16
194	Reinforcement	2 days	9/9/16	10/9/16	18/11/16	19/11/16
195	Casting	1 day	12/9/16	12/9/16	21/11/16	21/11/16
196	**L9**	**20 days**	**13/9/16**	**5/10/16**	**22/11/16**	**14/12/16**
197	**Slab / Beam**	**8 days**	**13/9/16**	**21/9/16**	**22/11/16**	**30/11/16**
198	Form works	5 days	13/9/16	17/9/16	22/11/16	26/11/16
199	Reinforcement	2 days	19/9/16	20/9/16	28/11/16	29/11/16
200	Casting	1 day	21/9/16	21/9/16	30/11/16	30/11/16
201	**Column**	**6 days**	**22/9/16**	**28/9/16**	**1/12/16**	**7/12/16**
202	Form works	3 days	22/9/16	24/9/16	1/12/16	3/12/16
203	Reinforcement	2 days	26/9/16	27/9/16	5/12/16	6/12/16
204	Casting	1 day	28/9/16	28/9/16	7/12/16	7/12/16
205	**Wall**	**6 days**	**29/9/16**	**5/10/16**	**8/12/16**	**14/12/16**
206	Form works	3 days	29/9/16	1/10/16	8/12/16	10/12/16
207	Reinforcement	2 days	3/10/16	4/10/16	12/12/16	13/12/16
208	Casting	1 day	5/10/16	5/10/16	14/12/16	14/12/16
209	**L10**	**20 days**	**6/10/16**	**28/10/16**	**15/12/16**	**6/1/17**
210	**Slab / Beam**	**8 days**	**6/10/16**	**14/10/16**	**15/12/16**	**23/12/16**
211	Form works	5 days	6/10/16	11/10/16	15/12/16	20/12/16
212	Reinforcement	2 days	12/10/16	13/10/16	21/12/16	22/12/16
213	Casting	1 day	14/10/16	14/10/16	23/12/16	23/12/16
214	**Column**	**6 days**	**15/10/16**	**21/10/16**	**24/12/16**	**30/12/16**
215	Form works	3 days	15/10/16	18/10/16	24/12/16	27/12/16
216	Reinforcement	2 days	19/10/16	20/10/16	28/12/16	29/12/16



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Milestone	Inactive Task	Manual Summary Rollup	Baseline
Summary	Inactive Milestone	Manual Summary	Baseline Milestone
Project Summary	Inactive Summary	Start-only	Baseline Summary

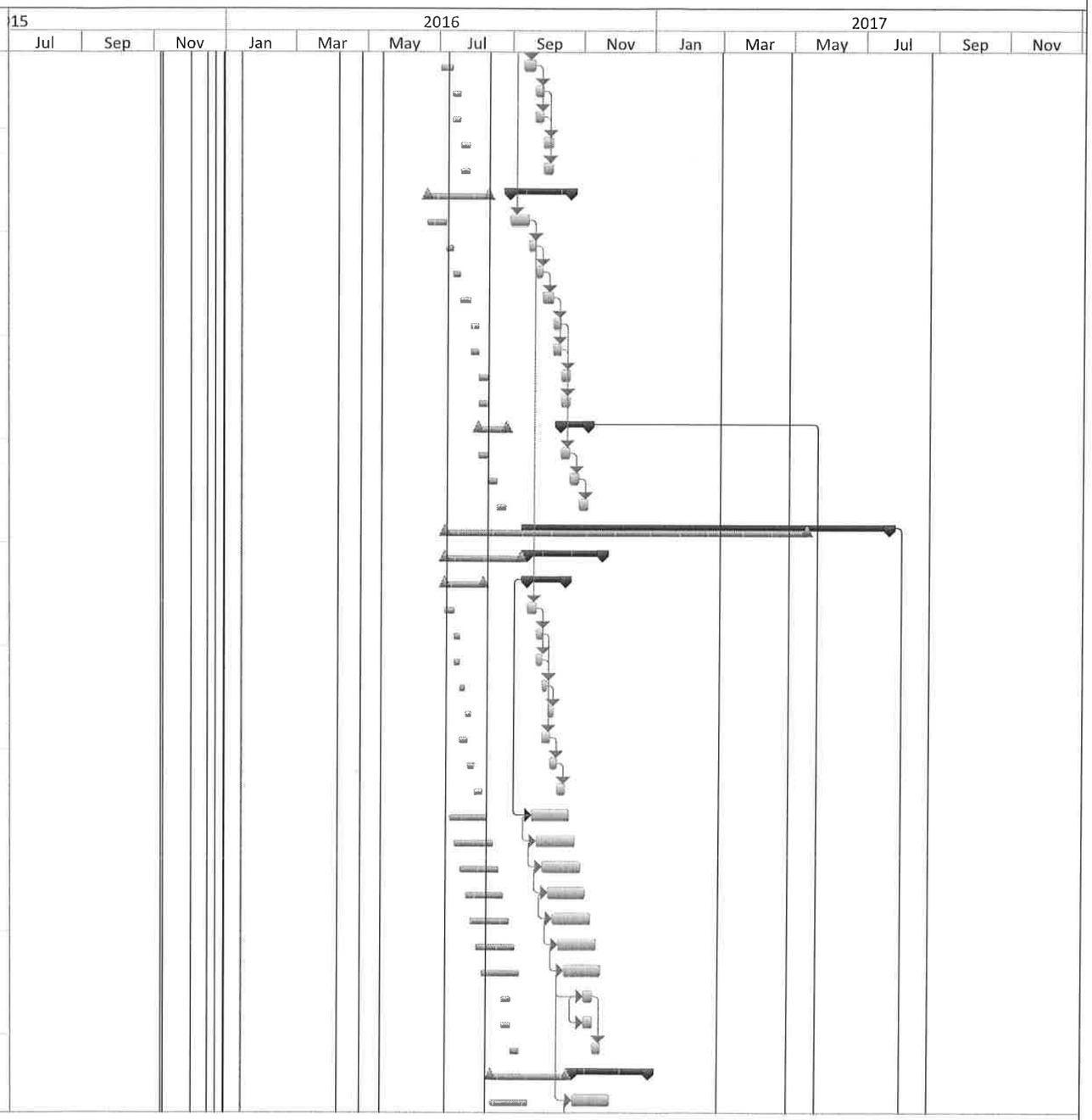
ID	Task Name	Duration	Baseline Start	Baseline Finish	Start	Finish
217	Casting	1 day	21/10/16	21/10/16	30/12/16	30/12/16
218	**Wall**	**6 days**	**22/10/16**	**28/10/16**	**31/12/16**	**6/1/17**
219	Form works	3 days	22/10/16	25/10/16	31/12/16	3/1/17
220	Reinforcement	2 days	26/10/16	27/10/16	4/1/17	5/1/17
221	Casting	1 day	28/10/16	28/10/16	6/1/17	6/1/17
222	**L11**	**20 days**	**29/10/16**	**21/11/16**	**7/1/17**	**30/1/17**
223	**Slab / Beam**	**8 days**	**29/10/16**	**7/11/16**	**7/1/17**	**16/1/17**
224	Form works	5 days	29/10/16	3/11/16	7/1/17	12/1/17
225	Reinforcement	2 days	4/11/16	5/11/16	13/1/17	14/1/17
226	Casting	1 day	7/11/16	7/11/16	16/1/17	16/1/17
227	**Column**	**6 days**	**8/11/16**	**14/11/16**	**17/1/17**	**23/1/17**
228	Form works	3 days	8/11/16	10/11/16	17/1/17	19/1/17
229	Reinforcement	2 days	11/11/16	12/11/16	20/1/17	21/1/17
230	Casting	1 day	14/11/16	14/11/16	23/1/17	23/1/17
231	**Wall**	**6 days**	**15/11/16**	**21/11/16**	**24/1/17**	**30/1/17**
232	Form works	3 days	15/11/16	17/11/16	24/1/17	26/1/17
233	Reinforcement	2 days	18/11/16	19/11/16	27/1/17	28/1/17
234	Casting	1 day	21/11/16	21/11/16	30/1/17	30/1/17
235	**Roof**	**15 days**	**22/11/16**	**8/12/16**	**31/1/17**	**16/2/17**
236	**Slab / Beam**	**8 days**	**22/11/16**	**30/11/16**	**31/1/17**	**8/2/17**
237	Form works	5 days	22/11/16	26/11/16	31/1/17	4/2/17
238	Reinforcement	2 days	28/11/16	29/11/16	6/2/17	7/2/17
239	Casting	1 day	30/11/16	30/11/16	8/2/17	8/2/17
240	**Parapet Wall & Others**	**7 days**	**1/12/16**	**8/12/16**	**9/2/17**	**16/2/17**
241	Form works	4 days	1/12/16	5/12/16	9/2/17	13/2/17
242	Reinforcement	2 days	6/12/16	7/12/16	14/2/17	15/2/17
243	Casting	1 day	8/12/16	8/12/16	16/2/17	16/2/17
244	**PBU Installation**	**140 days**	**28/7/16**	**6/1/17**	**30/8/16**	**8/2/17**
245	L5	20 days	28/7/16	19/8/16	30/8/16	21/9/16
246	L6	20 days	20/8/16	12/9/16	22/9/16	14/10/16
247	L7	20 days	13/9/16	5/10/16	15/10/16	7/11/16
248	L8	20 days	6/10/16	28/10/16	8/11/16	30/11/16
249	L9	20 days	29/10/16	21/11/16	1/12/16	23/12/16
250	L10	20 days	22/11/16	14/12/16	24/12/16	16/1/17
251	L11	20 days	15/12/16	6/1/17	17/1/17	8/2/17
252	**Architectural works**	**354 days**	**19/4/16**	**5/6/17**	**28/6/16**	**14/8/17**
253	**Podium Level 2 , 3 & 4**	**73 days**	**4/6/16**	**27/8/16**	**13/8/16**	**5/11/16**
254	**Level 2**	**45 days**	**4/6/16**	**26/7/16**	**13/8/16**	**4/10/16**
255	Partition & Wall for shops, toilet	14 days	4/6/16	20/6/16	13/8/16	29/8/16
256	Conceal piping and ducting	5 days	21/6/16	25/6/16	30/8/16	3/9/16
257	Ceiling	5 days	27/6/16	1/7/16	5/9/16	9/9/16



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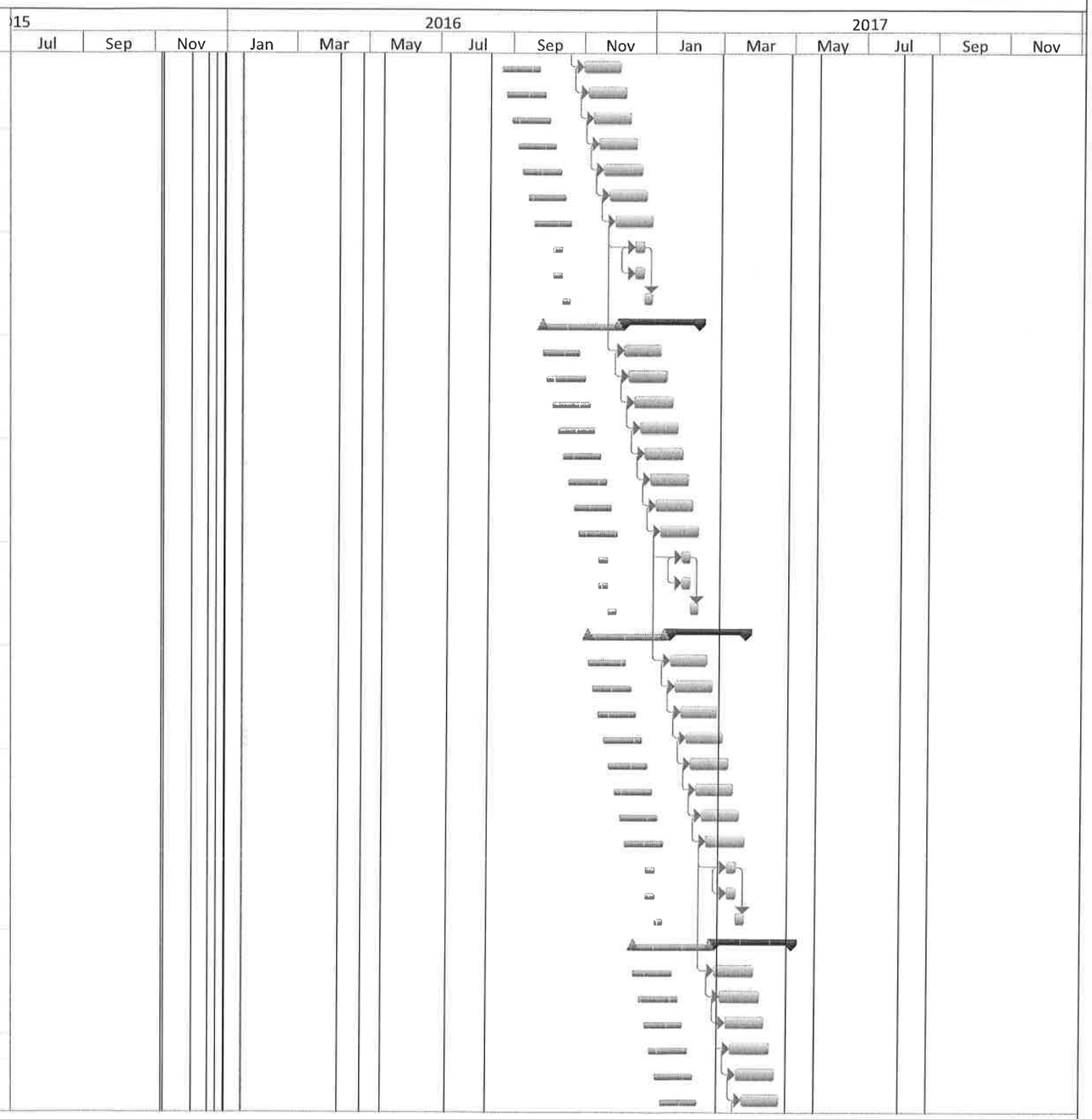
ID	Task Name	Duration	Baseline Start	Baseline Finish	Start	Finish
258	Flooring	8 days	2/7/16	11/7/16	10/9/16	19/9/16
259	Door & Ironmongery	6 days	12/7/16	18/7/16	20/9/16	26/9/16
260	Lift lobby tiling & finishes	6 days	12/7/16	18/7/16	20/9/16	26/9/16
261	Toilet finishes	7 days	19/7/16	26/7/16	27/9/16	4/10/16
262	Corridor & Service area	7 days	19/7/16	26/7/16	27/9/16	4/10/16
263	**Level 3**	**45 days**	**21/6/16**	**11/8/16**	**30/8/16**	**20/10/16**
264	Partition & Wall	14 days	21/6/16	6/7/16	30/8/16	14/9/16
265	Conceal piping and ducting	5 days	7/7/16	12/7/16	15/9/16	20/9/16
266	Ceiling	5 days	13/7/16	18/7/16	21/9/16	26/9/16
267	Flooring	8 days	19/7/16	27/7/16	27/9/16	5/10/16
268	Door & Ironmongery	6 days	28/7/16	3/8/16	6/10/16	12/10/16
269	Lift lobby tiling & finishes	6 days	28/7/16	3/8/16	6/10/16	12/10/16
270	Toilet finishes	7 days	4/8/16	11/8/16	13/10/16	20/10/16
271	Internal Painting	7 days	4/8/16	11/8/16	13/10/16	20/10/16
272	**Level 4**	**21 days**	**4/8/16**	**27/8/16**	**13/10/16**	**5/11/16**
273	Swimming pool area	7 days	4/8/16	11/8/16	13/10/16	20/10/16
274	Landscape garden	7 days	12/8/16	19/8/16	21/10/16	28/10/16
275	Communical Deck	7 days	20/8/16	27/8/16	29/10/16	5/11/16
276	**Tower Level 5 to 11 storey**	**266 days**	**7/7/16**	**12/5/17**	**15/9/16**	**21/7/17**
277	**L5**	**56 days**	**7/7/16**	**9/9/16**	**15/9/16**	**18/11/16**
278	**Unit D1**	**28 days**	**7/7/16**	**8/8/16**	**15/9/16**	**17/10/16**
279	Partition & Wall	7 days	7/7/16	14/7/16	15/9/16	22/9/16
280	Conceal piping and ducting	4 days	15/7/16	19/7/16	23/9/16	27/9/16
281	Windows & Doors	4 days	15/7/16	19/7/16	23/9/16	27/9/16
282	Ceiling	4 days	20/7/16	23/7/16	28/9/16	1/10/16
283	Wall finish & Painting	5 days	25/7/16	29/7/16	3/10/16	7/10/16
284	Flooring & Tiling	6 days	20/7/16	26/7/16	28/9/16	4/10/16
285	Carpentary works	5 days	27/7/16	1/8/16	5/10/16	10/10/16
286	Kitchen & Toilet	6 days	2/8/16	8/8/16	11/10/16	17/10/16
287	Unit C1	28 days	12/7/16	12/8/16	20/9/16	21/10/16
288	Unit B1	28 days	16/7/16	17/8/16	24/9/16	26/10/16
289	Unit A1	28 days	21/7/16	22/8/16	29/9/16	31/10/16
290	Unit D2	28 days	26/7/16	26/8/16	4/10/16	4/11/16
291	Unit C2	28 days	30/7/16	31/8/16	8/10/16	9/11/16
292	Unit B2	28 days	4/8/16	5/9/16	13/10/16	14/11/16
293	Unit A2	28 days	9/8/16	9/9/16	18/10/16	18/11/16
294	Lift Lobby	7 days	26/8/16	2/9/16	4/11/16	11/11/16
295	M&E Service Area	7 days	26/8/16	2/9/16	4/11/16	11/11/16
296	Corridor & Staircase	6 days	3/9/16	9/9/16	12/11/16	18/11/16
297	**L6**	**56 days**	**17/8/16**	**20/10/16**	**26/10/16**	**29/12/16**
298	Unit D1	28 days	17/8/16	17/9/16	26/10/16	26/11/16



Project: VIIO @ 520 Balestier Rd
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Progress Tracking

Task	External Tasks	Manual Task	Finish-only	Progress
Split	External Milestone	Duration-only	Deadline
Milestone	Inactive Task	Manual Summary Rollup	Baseline
Summary	Inactive Milestone	Manual Summary	Baseline Milestone
Project Summary	Inactive Summary	Start-only	Baseline Summary

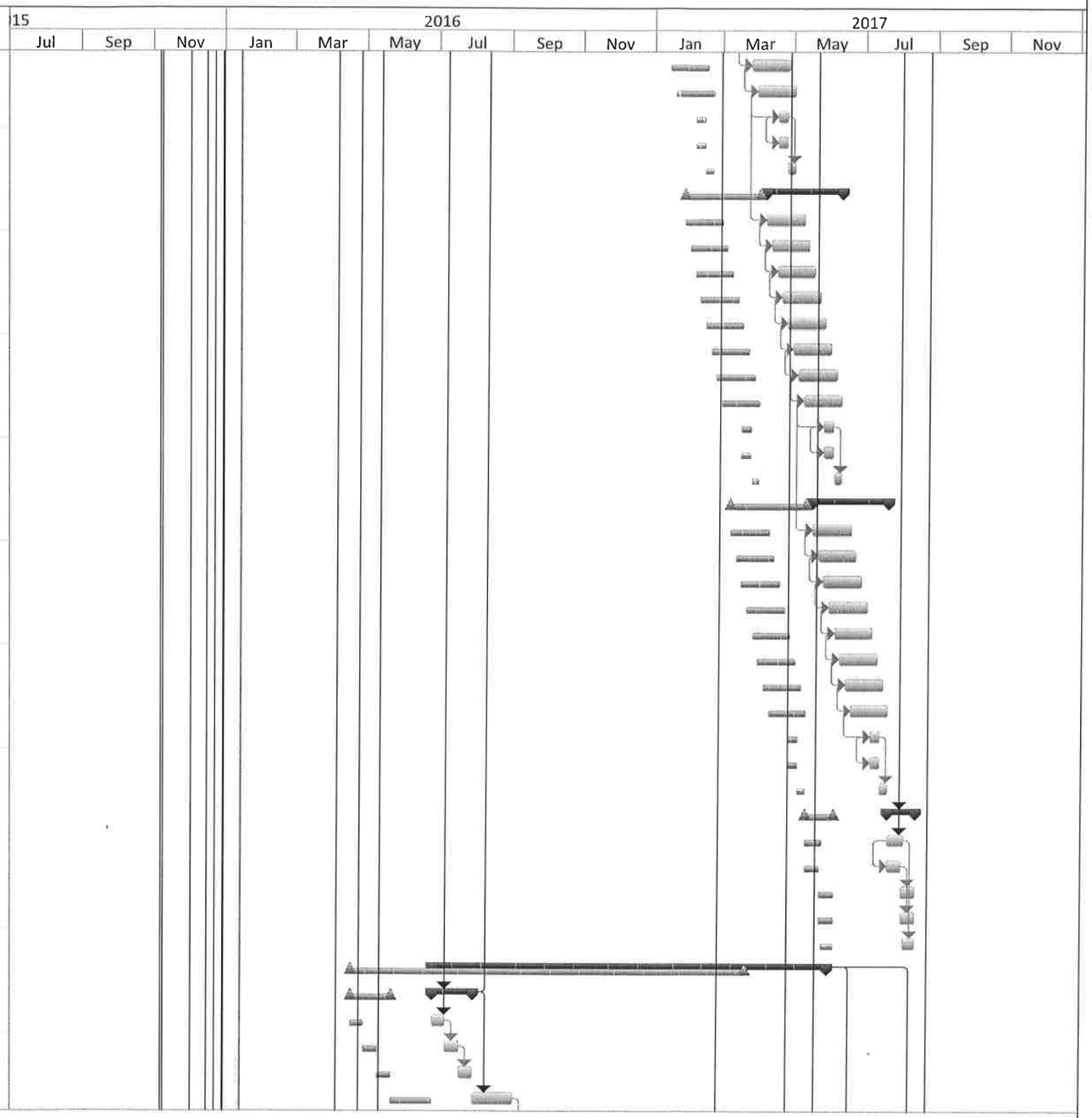
ID	Task Name	Duration	Baseline Start	Baseline Finish	Start	Finish
299	Unit C1	28 days	22/8/16	22/9/16	31/10/16	1/12/16
300	Unit B1	28 days	26/8/16	27/9/16	4/11/16	6/12/16
301	Unit A1	28 days	31/8/16	1/10/16	9/11/16	10/12/16
302	Unit D2	28 days	5/9/16	6/10/16	14/11/16	15/12/16
303	Unit C2	28 days	9/9/16	11/10/16	18/11/16	20/12/16
304	Unit B2	28 days	14/9/16	15/10/16	23/11/16	24/12/16
305	Unit A2	28 days	19/9/16	20/10/16	28/11/16	29/12/16
306	Lift Lobby	7 days	6/10/16	13/10/16	15/12/16	22/12/16
307	M&E Service Area	7 days	6/10/16	13/10/16	15/12/16	22/12/16
308	Corridor & Staircase	6 days	14/10/16	20/10/16	23/12/16	29/12/16
309	**L7**	**56 days**	**27/9/16**	**30/11/16**	**6/12/16**	**8/2/17**
310	Unit D1	28 days	27/9/16	28/10/16	6/12/16	6/1/17
311	Unit C1	28 days	1/10/16	2/11/16	10/12/16	11/1/17
312	Unit B1	28 days	6/10/16	7/11/16	15/12/16	16/1/17
313	Unit A1	28 days	11/10/16	11/11/16	20/12/16	20/1/17
314	Unit D2	28 days	15/10/16	16/11/16	24/12/16	25/1/17
315	Unit C2	28 days	20/10/16	21/11/16	29/12/16	30/1/17
316	Unit B2	28 days	25/10/16	25/11/16	3/1/17	3/2/17
317	Unit A2	28 days	29/10/16	30/11/16	7/1/17	8/2/17
318	Lift Lobby	7 days	16/11/16	23/11/16	25/1/17	1/2/17
319	M&E Service Area	7 days	16/11/16	23/11/16	25/1/17	1/2/17
320	Corridor & Staircase	6 days	24/11/16	30/11/16	2/2/17	8/2/17
321	**L8**	**56 days**	**7/11/16**	**10/1/17**	**16/1/17**	**21/3/17**
322	Unit D1	28 days	7/11/16	8/12/16	16/1/17	16/2/17
323	Unit C1	28 days	11/11/16	13/12/16	20/1/17	21/2/17
324	Unit B1	28 days	16/11/16	17/12/16	25/1/17	25/2/17
325	Unit A1	28 days	21/11/16	22/12/16	30/1/17	2/3/17
326	Unit D2	28 days	25/11/16	27/12/16	3/2/17	7/3/17
327	Unit C2	28 days	30/11/16	31/12/16	8/2/17	11/3/17
328	Unit B2	28 days	5/12/16	5/1/17	13/2/17	16/3/17
329	Unit A2	28 days	9/12/16	10/1/17	17/2/17	21/3/17
330	Lift Lobby	7 days	27/12/16	3/1/17	7/3/17	14/3/17
331	M&E Service Area	7 days	27/12/16	3/1/17	7/3/17	14/3/17
332	Corridor & Staircase	6 days	4/1/17	10/1/17	15/3/17	21/3/17
333	**L9**	**56 days**	**17/12/16**	**20/2/17**	**25/2/17**	**1/5/17**
334	Unit D1	28 days	17/12/16	18/1/17	25/2/17	29/3/17
335	Unit C1	28 days	22/12/16	23/1/17	2/3/17	3/4/17
336	Unit B1	28 days	27/12/16	27/1/17	7/3/17	7/4/17
337	Unit A1	28 days	31/12/16	1/2/17	11/3/17	12/4/17
338	Unit D2	28 days	5/1/17	6/2/17	16/3/17	17/4/17
339	Unit C2	28 days	10/1/17	10/2/17	21/3/17	21/4/17



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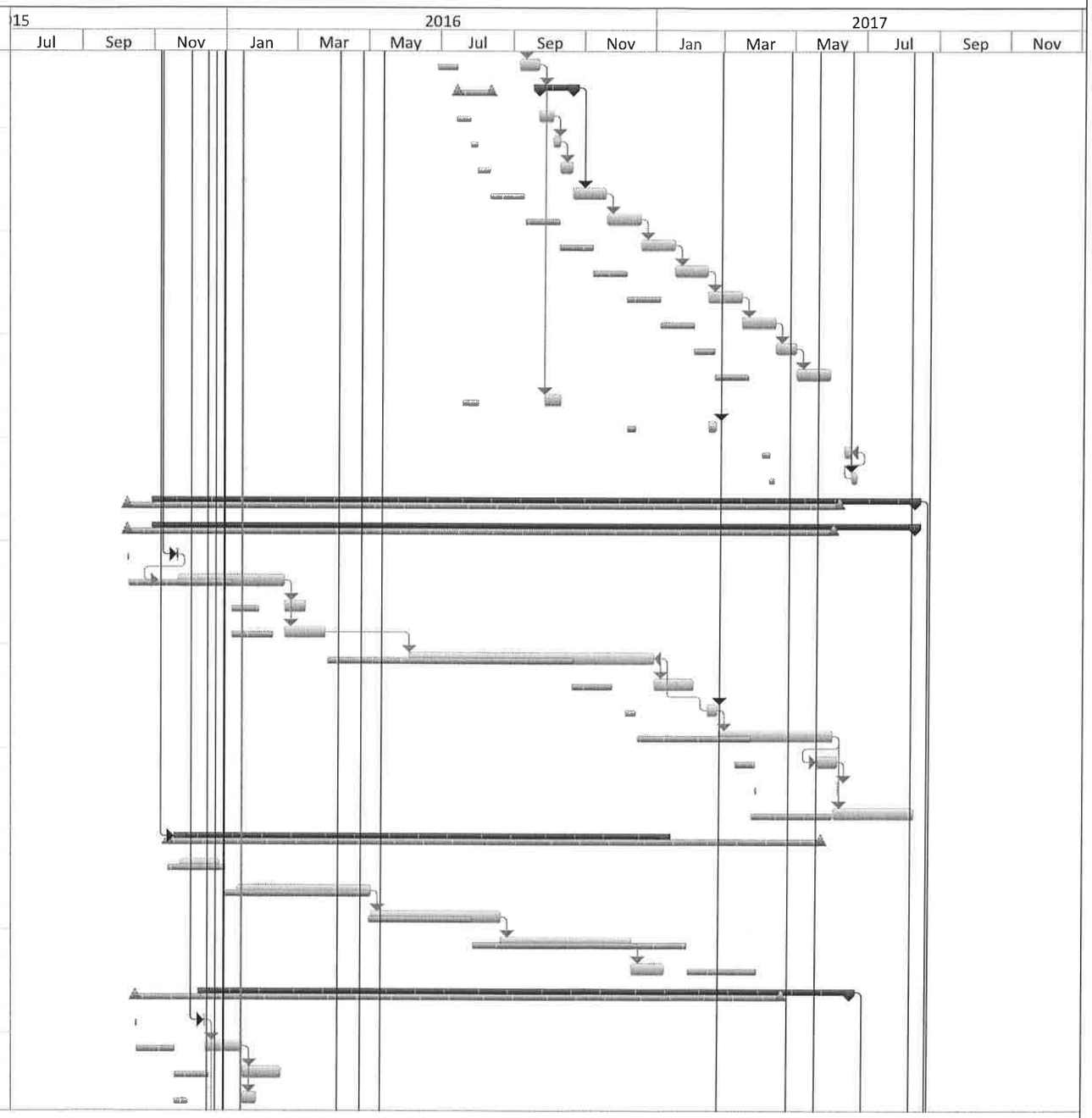
ID	Task Name	Duration	Baseline Start	Baseline Finish	Start	Finish
340	Unit B2	28 days	14/1/17	15/2/17	25/3/17	26/4/17
341	Unit A2	28 days	19/1/17	20/2/17	30/3/17	1/5/17
342	Lift Lobby	7 days	6/2/17	13/2/17	17/4/17	24/4/17
343	M&E Service Area	7 days	6/2/17	13/2/17	17/4/17	24/4/17
344	Corridor & Staircase	6 days	14/2/17	20/2/17	25/4/17	1/5/17
345	**L10**	**56 days**	**27/1/17**	**1/4/17**	**7/4/17**	**10/6/17**
346	Unit D1	28 days	27/1/17	28/2/17	7/4/17	9/5/17
347	Unit C1	28 days	1/2/17	4/3/17	12/4/17	13/5/17
348	Unit B1	28 days	6/2/17	9/3/17	17/4/17	18/5/17
349	Unit A1	28 days	10/2/17	14/3/17	21/4/17	23/5/17
350	Unit D2	28 days	15/2/17	18/3/17	26/4/17	27/5/17
351	Unit C2	28 days	20/2/17	23/3/17	1/5/17	1/6/17
352	Unit B2	28 days	24/2/17	28/3/17	5/5/17	6/6/17
353	Unit A2	28 days	1/3/17	1/4/17	10/5/17	10/6/17
354	Lift Lobby	7 days	18/3/17	25/3/17	27/5/17	3/6/17
355	M&E Service Area	7 days	18/3/17	25/3/17	27/5/17	3/6/17
356	Corridor & Staircase	6 days	27/3/17	1/4/17	5/6/17	10/6/17
357	**L11**	**56 days**	**9/3/17**	**12/5/17**	**18/5/17**	**21/7/17**
358	Unit D1	28 days	9/3/17	10/4/17	18/5/17	19/6/17
359	Unit C1	28 days	14/3/17	14/4/17	23/5/17	23/6/17
360	Unit B1	28 days	18/3/17	19/4/17	27/5/17	28/6/17
361	Unit A1	28 days	23/3/17	24/4/17	1/6/17	3/7/17
362	Unit D2	28 days	28/3/17	28/4/17	6/6/17	7/7/17
363	Unit C2	28 days	1/4/17	3/5/17	10/6/17	12/7/17
364	Unit B2	28 days	6/4/17	8/5/17	15/6/17	17/7/17
365	Unit A2	28 days	11/4/17	12/5/17	20/6/17	21/7/17
366	Lift Lobby	7 days	28/4/17	5/5/17	7/7/17	14/7/17
367	M&E Service Area	7 days	28/4/17	5/5/17	7/7/17	14/7/17
368	Corridor & Staircase	6 days	6/5/17	12/5/17	15/7/17	21/7/17
369	**Level 1**	**20 days**	**13/5/17**	**5/6/17**	**22/7/17**	**14/8/17**
370	M&E room finishes	12 days	13/5/17	26/5/17	22/7/17	4/8/17
371	Shops, F&B units finishes	10 days	13/5/17	24/5/17	22/7/17	2/8/17
372	Toilets	10 days	25/5/17	5/6/17	3/8/17	14/8/17
373	Lift lobby	10 days	25/5/17	5/6/17	3/8/17	14/8/17
374	Plaza & cooridors	8 days	27/5/17	5/6/17	5/8/17	14/8/17
375	**Façade & Glazing Works**	**290 days**	**19/4/16**	**22/3/17**	**28/6/16**	**31/5/17**
376	**L2**	**30 days**	**19/4/16**	**23/5/16**	**28/6/16**	**1/8/16**
377	Façade alumnium frame	10 days	19/4/16	29/4/16	28/6/16	8/7/16
378	Façade glazing works	10 days	30/4/16	11/5/16	9/7/16	20/7/16
379	Internal galzing works	10 days	12/5/16	23/5/16	21/7/16	1/8/16
380	L3	30 days	24/5/16	27/6/16	2/8/16	5/9/16



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Milestone	Inactive Task	Manual Summary Rollup	Baseline	
Summary	Inactive Milestone	Manual Summary	Baseline Milestone	
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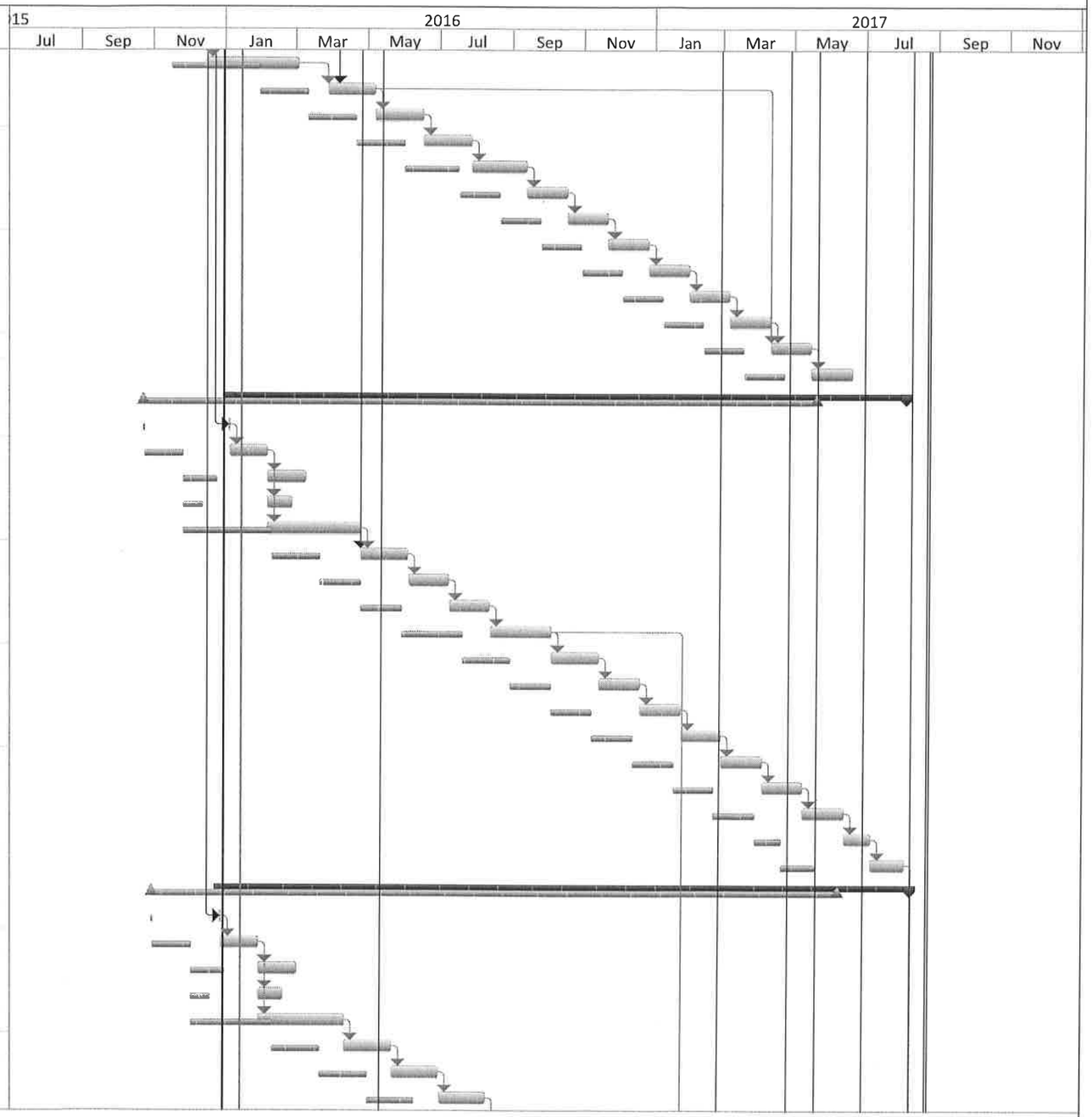
ID	Task Name	Duration	Baseline Start	Baseline Finish	Start	Finish
381	L4	15 days	28/6/16	14/7/16	6/9/16	22/9/16
382	**L5**	**25 days**	**15/7/16**	**12/8/16**	**23/9/16**	**21/10/16**
383	Window frame and glazing	10 days	15/7/16	26/7/16	23/9/16	4/10/16
384	Alumnium doors	5 days	27/7/16	1/8/16	5/10/16	10/10/16
385	Façade	10 days	2/8/16	12/8/16	11/10/16	21/10/16
386	L6	25 days	13/8/16	10/9/16	22/10/16	19/11/16
387	L7	25 days	12/9/16	10/10/16	21/11/16	19/12/16
388	L8	25 days	11/10/16	8/11/16	20/12/16	17/1/17
389	L9	25 days	9/11/16	7/12/16	18/1/17	15/2/17
390	L10	25 days	8/12/16	5/1/17	16/2/17	16/3/17
391	L11	25 days	6/1/17	3/2/17	17/3/17	14/4/17
392	Roof	15 days	4/2/17	21/2/17	15/4/17	2/5/17
393	L1 façade and canopy	25 days	22/2/17	22/3/17	3/5/17	31/5/17
394	Scaffold dismantling (L1-L3)	12 days	21/7/16	3/8/16	29/9/16	12/10/16
395	Dismantle of formwork & platform	6 days	9/12/16	15/12/16	17/2/17	23/2/17
396	Passenger Hoist dismantle	5 days	4/4/17	10/4/17	13/6/17	19/6/17
397	Tower Crane dismantle	5 days	10/4/17	14/4/17	19/6/17	23/6/17
398	**MEP works**	**553 days**	**9/10/15**	**8/6/17**	**4/11/15**	**12/8/17**
399	**Lift and Escalator**	**553 days**	**9/10/15**	**3/6/17**	**4/11/15**	**12/8/17**
400	Contract kickoff	1 day	9/10/15	9/10/15	20/11/15	20/11/15
401	Shop drawing submission/approval	75 days	10/10/15	5/1/16	4/11/15	19/2/16
402	Lift pit provision	15 days	6/1/16	28/1/16	20/2/16	8/3/16
403	Sample submission/approval	30 days	6/1/16	9/2/16	20/2/16	25/3/16
404	Manufacturing	180 days	28/3/16	24/10/16	6/6/16	2/1/17
405	Shipment	30 days	24/10/16	26/11/16	2/1/17	4/2/17
406	Handover lift shaft for installation	8 days	9/12/16	17/12/16	17/2/17	25/2/17
407	Lift and escalator installation	3.5 mons	19/12/16	25/3/17	27/2/17	3/6/17
408	Test for Lift 1	15 days	13/3/17	29/3/17	22/5/17	7/6/17
409	Temp Use ready for Lift 1	1 day	30/3/17	30/3/17	8/6/17	8/6/17
410	Testing and certificate	60 days	27/3/17	3/6/17	5/6/17	12/8/17
411	**Machanized Car Lift System**	**354 days**	**13/11/15**	**25/5/17**	**23/11/15**	**11/1/17**
412	Shopdrawing submission & approve	30 days	13/11/15	31/12/15	23/11/15	26/12/15
413	Coordination & Authority	4 mons	1/1/16	2/5/16	11/1/16	4/5/16
414	Manufacturing & Shipment	4 mons	3/5/16	30/7/16	5/5/16	24/8/16
415	Installation	4 mons	1/8/16	30/1/17	25/8/16	14/12/16
416	Testing & Commissioning	1 mon	1/2/17	31/3/17	15/12/16	11/1/17
417	**Plumbing and Sanitary, Gas**	**472 days**	**16/10/15**	**22/4/17**	**14/12/15**	**19/6/17**
418	Contract kickoff	1 day	16/10/15	16/10/15	14/12/15	14/12/15
419	Shop drawing submission/approval	28 days	17/10/15	18/11/15	15/12/15	15/1/16
420	Sample submission/approval	25 days	19/11/15	17/12/15	16/1/16	17/2/16
421	Underground piping	10 days	19/11/15	30/11/15	16/1/16	27/1/16



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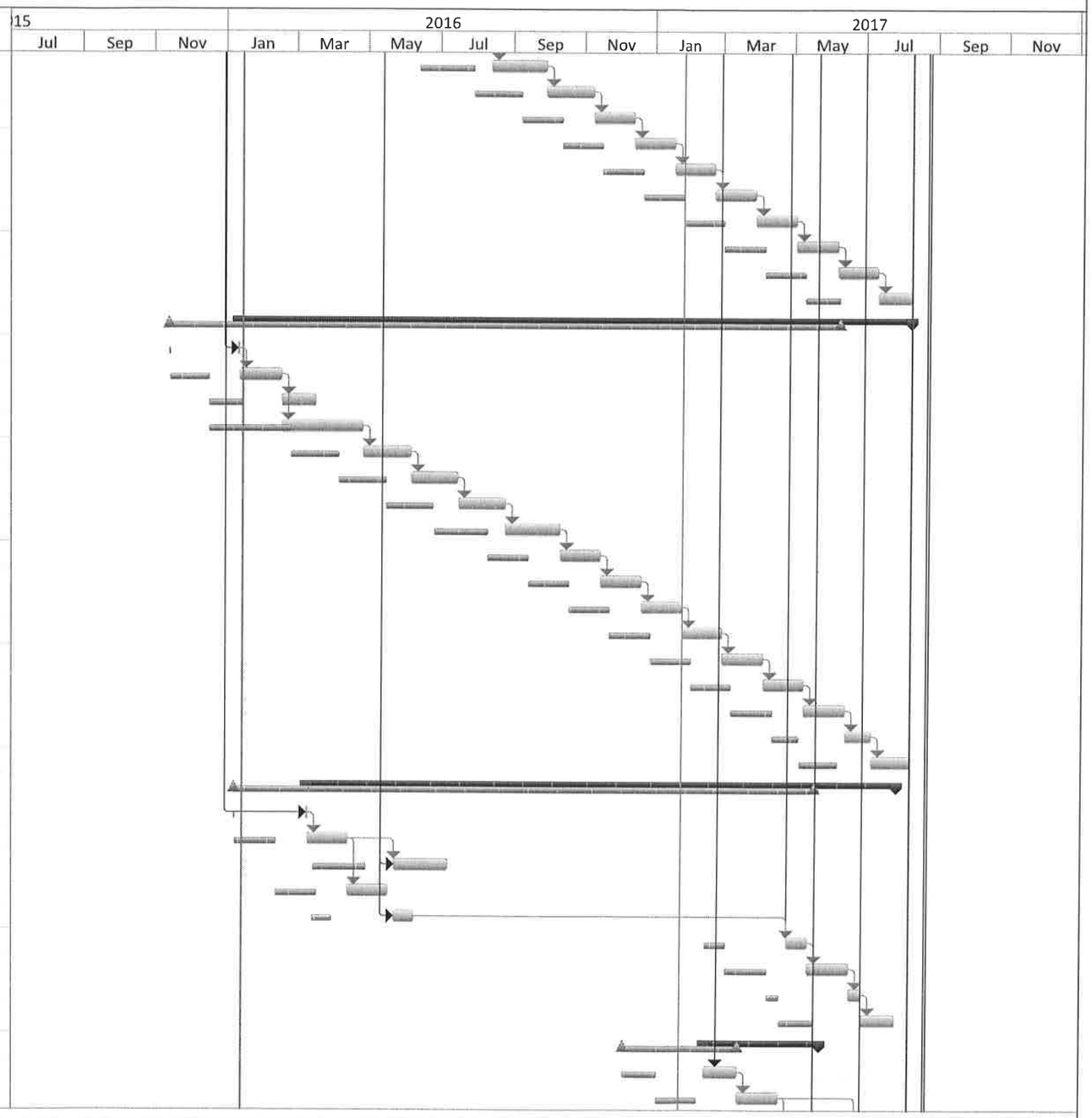
ID	Task Name	Duration	Baseline Start	Baseline Finish	Start	Finish
422	Technical coordination & CSD	65 days	16/11/15	29/1/16	15/12/15	2/3/16
423	L1 installation	35 days	30/1/16	10/3/16	28/3/16	6/5/16
424	L2	35 days	11/3/16	20/4/16	7/5/16	16/6/16
425	L3	35 days	21/4/16	31/5/16	17/6/16	27/7/16
426	L4	40 days	1/6/16	16/7/16	28/7/16	12/9/16
427	L5	30 days	18/7/16	20/8/16	13/9/16	17/10/16
428	L6	30 days	22/8/16	24/9/16	18/10/16	21/11/16
429	L7	30 days	26/9/16	29/10/16	22/11/16	26/12/16
430	L8	30 days	31/10/16	3/12/16	27/12/16	30/1/17
431	L9	30 days	5/12/16	7/1/17	31/1/17	6/3/17
432	L10	30 days	9/1/17	11/2/17	7/3/17	10/4/17
433	L11	30 days	13/2/17	18/3/17	11/4/17	15/5/17
434	Testing & Commissioning	30 days	20/3/17	22/4/17	16/5/17	19/6/17
435	**Electrical and Security Installtion**	**494 days**	**23/10/15**	**20/5/17**	**4/1/16**	**4/8/17**
436	Contract kickoff	1 day	23/10/15	23/10/15	4/1/16	4/1/16
437	Shop drawing submission/approval	28 days	24/10/15	25/11/15	5/1/16	5/2/16
438	Sample submission/approval	25 days	26/11/15	24/12/15	6/2/16	9/3/16
439	Underground piping	15 days	26/11/15	12/12/15	6/2/16	26/2/16
440	Technical coordination & CSD	65 days	26/11/15	9/2/16	6/2/16	25/4/16
441	L1 (Conduit, wiring, switch, CCTV, E	35 days	10/2/16	21/3/16	26/4/16	4/6/16
442	L2	30 days	22/3/16	25/4/16	6/6/16	9/7/16
443	L3	30 days	26/4/16	30/5/16	11/7/16	13/8/16
444	L4	45 days	31/5/16	21/7/16	15/8/16	5/10/16
445	L5	35 days	22/7/16	31/8/16	6/10/16	15/11/16
446	L6	30 days	1/9/16	5/10/16	16/11/16	20/12/16
447	L7	30 days	6/10/16	9/11/16	21/12/16	24/1/17
448	L8	30 days	10/11/16	14/12/16	25/1/17	28/2/17
449	L9	30 days	15/12/16	18/1/17	1/3/17	4/4/17
450	L10	30 days	19/1/17	22/2/17	5/4/17	9/5/17
451	L11	30 days	23/2/17	29/3/17	10/5/17	13/6/17
452	FCC and other service rooms	20 days	30/3/17	21/4/17	14/6/17	6/7/17
453	Testing & Commissioning	25 days	22/4/17	20/5/17	7/7/17	4/8/17
454	**Fire Protection Works**	**504 days**	**30/10/15**	**8/6/17**	**28/12/15**	**9/8/17**
455	Contract kickoff	1 day	30/10/15	30/10/15	28/12/15	28/12/15
456	Shop drawing submission/approval	28 days	31/10/15	2/12/15	29/12/15	29/1/16
457	Sample submission/approval	25 days	3/12/15	31/12/15	30/1/16	2/3/16
458	Underground pit size coordination	15 days	3/12/15	19/12/15	30/1/16	19/2/16
459	Technical coordination & CSD	60 days	3/12/15	10/2/16	30/1/16	12/4/16
460	L1 (sprinker point, call point, bell, e	35 days	11/2/16	22/3/16	13/4/16	23/5/16
461	L2	35 days	23/3/16	2/5/16	24/5/16	2/7/16
462	L3	35 days	3/5/16	11/6/16	4/7/16	12/8/16



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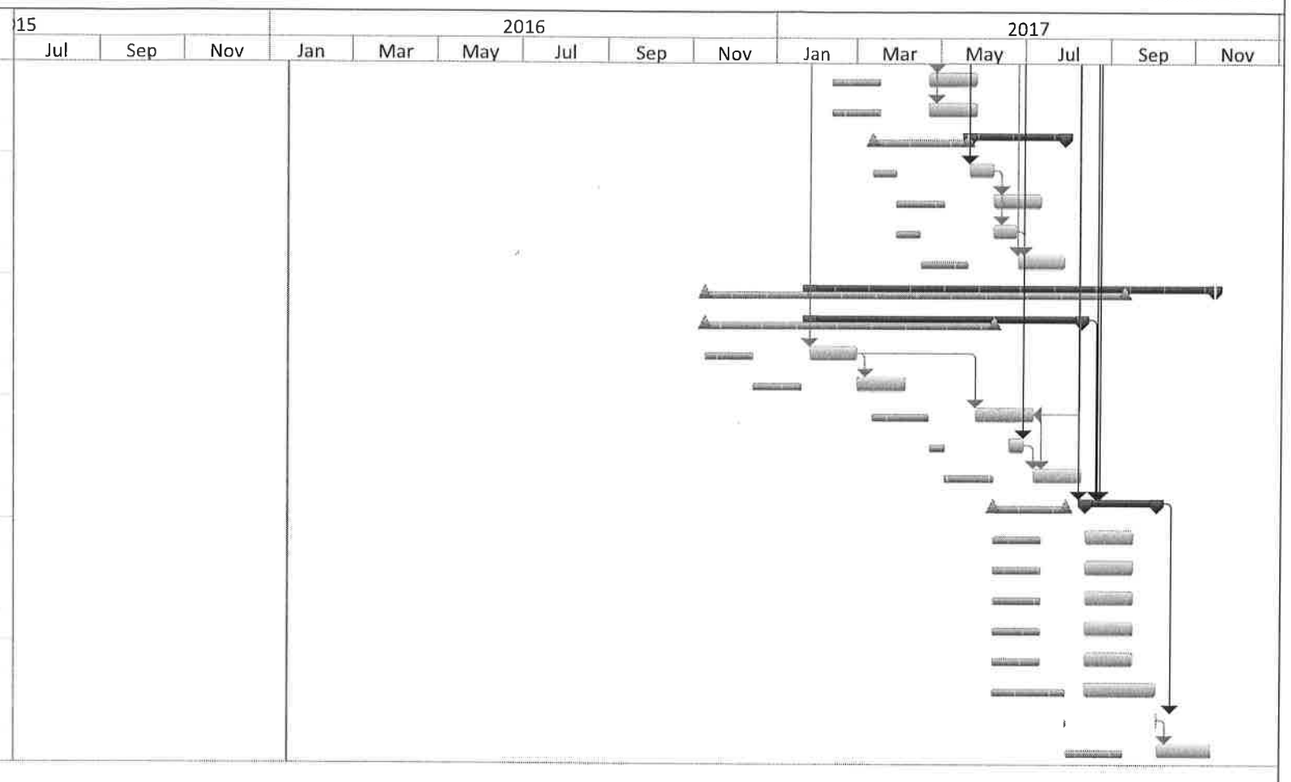
ID	Task Name	Duration	Baseline Start	Baseline Finish	Start	Finish
463	L4	40 days	13/6/16	28/7/16	13/8/16	28/9/16
464	L5	35 days	29/7/16	7/9/16	29/9/16	8/11/16
465	L6	30 days	8/9/16	12/10/16	9/11/16	13/12/16
466	L7	30 days	13/10/16	16/11/16	14/12/16	17/1/17
467	L8	30 days	17/11/16	21/12/16	18/1/17	21/2/17
468	L9	30 days	22/12/16	25/1/17	22/2/17	28/3/17
469	L10	30 days	26/1/17	1/3/17	29/3/17	2/5/17
470	L11	30 days	2/3/17	5/4/17	3/5/17	6/6/17
471	FCC and other service rooms	30 days	6/4/17	10/5/17	7/6/17	11/7/17
472	Testing & Commissioning	25 days	11/5/17	8/6/17	12/7/17	9/8/17
473	**ACMV Works**	**492 days**	**13/11/15**	**8/6/17**	**11/1/16**	**9/8/17**
474	Contract kickoff	1 day	13/11/15	13/11/15	11/1/16	11/1/16
475	Shop drawing submission/approval	28 days	14/11/15	16/12/15	12/1/16	16/2/16
476	Sample submission/approval	25 days	17/12/15	14/1/16	17/2/16	16/3/16
477	Technical coordination & CSD	60 days	17/12/15	24/2/16	17/2/16	26/4/16
478	L1 (ducting, piping, etc)	35 days	25/2/16	5/4/16	27/4/16	6/6/16
479	L2	35 days	6/4/16	16/5/16	7/6/16	16/7/16
480	L3	35 days	17/5/16	25/6/16	18/7/16	26/8/16
481	L4	40 days	27/6/16	11/8/16	27/8/16	12/10/16
482	L5	30 days	12/8/16	15/9/16	13/10/16	16/11/16
483	L6	30 days	16/9/16	20/10/16	17/11/16	21/12/16
484	L7	30 days	21/10/16	24/11/16	22/12/16	25/1/17
485	L8	30 days	25/11/16	29/12/16	26/1/17	1/3/17
486	L9	30 days	30/12/16	2/2/17	2/3/17	5/4/17
487	L10	30 days	3/2/17	9/3/17	6/4/17	10/5/17
488	L11	30 days	10/3/17	13/4/17	11/5/17	14/6/17
489	FCC and other service rooms	20 days	14/4/17	6/5/17	15/6/17	7/7/17
490	Testing & Commissioning	28 days	8/5/17	8/6/17	8/7/17	9/8/17
491	**Swimming pool & Water Feature**	**435 days**	**8/1/16**	**20/5/17**	**10/3/16**	**29/7/17**
492	Contract kickoff	1 day	8/1/16	8/1/16	10/3/16	10/3/16
493	Shop drawing submission/approval	30 days	9/1/16	12/2/16	11/3/16	14/4/16
494	Provision & coordination	40 days	16/3/16	30/4/16	25/5/16	9/7/16
495	Sample submission/approval	30 days	13/2/16	18/3/16	15/4/16	19/5/16
496	Installation of pipe /conduit	15 days	16/3/16	1/4/16	25/5/16	10/6/16
497	Installation of fittings	15 days	17/2/17	6/3/17	28/4/17	15/5/17
498	Installation of equipment	30 days	7/3/17	10/4/17	16/5/17	19/6/17
499	Testing & Commissioning	10 days	11/4/17	21/4/17	20/6/17	30/6/17
500	Application of Liceiense	25 days	22/4/17	20/5/17	1/7/17	29/7/17
501	**External works**	**85 days**	**9/12/16**	**17/3/17**	**17/2/17**	**26/5/17**
502	External drains	25 days	9/12/16	6/1/17	17/2/17	17/3/17
503	Driveway, drop off, entrance	30 days	7/1/17	10/2/17	18/3/17	21/4/17



Project: VIIO @ 520 Balestier Rd
Date: 15/1/16
Progress Tracking

Task	External Tasks	Manual Task	Finish-only	Progress
Split	External Milestone	Duration-only	Deadline
Milestone	Inactive Task	Manual Summary Rollup	Baseline
Summary	Inactive Milestone	Manual Summary	Baseline Milestone
Project Summary	Inactive Summary	Start-only	Baseline Summary

ID	Task Name	Duration	Baseline Start	Baseline Finish	Start	Finish
504	Car Park System	30 days	11/2/17	17/3/17	22/4/17	26/5/17
505	Signages	30 days	11/2/17	17/3/17	22/4/17	26/5/17
506	**Landscape works**	**60 days**	**13/3/17**	**20/5/17**	**22/5/17**	**29/7/17**
507	L4 soiling	15 days	13/3/17	29/3/17	22/5/17	7/6/17
508	L4 trees/shrubs	30 days	30/3/17	3/5/17	8/6/17	12/7/17
509	L1 soiling	15 days	30/3/17	15/4/17	8/6/17	24/6/17
510	L1 trees/ shrubs	30 days	17/4/17	20/5/17	26/6/17	29/7/17
511	**Completion and Handover**	**253 days**	**11/11/16**	**11/9/17**	**26/1/17**	**16/11/17**
512	**Authority Facilities**	**170 days**	**11/11/16**	**8/6/17**	**26/1/17**	**11/8/17**
513	Substation handover	30 days	11/11/16	15/12/16	26/1/17	1/3/17
514	Handover MDF and SCV rooms	30 days	16/12/16	19/1/17	2/3/17	5/4/17
515	Consumer switch room power on	1.5 mons	13/3/17	22/4/17	27/5/17	7/7/17
516	Sewer connection & inspection	10 days	24/4/17	4/5/17	20/6/17	30/6/17
517	Water on & unit testing	30 days	5/5/17	8/6/17	8/7/17	11/8/17
518	**Pre-RI inspection & Rectification**	**45 days**	**9/6/17**	**31/7/17**	**15/8/17**	**5/10/17**
519	FSB clearance	30 days	9/6/17	13/7/17	15/8/17	18/9/17
520	LTA carpark clearance	30 days	9/6/17	13/7/17	15/8/17	18/9/17
521	NEA & PUB clearance	30 days	9/6/17	13/7/17	15/8/17	18/9/17
522	Power Grid clearance	30 days	9/6/17	13/7/17	15/8/17	18/9/17
523	BCA Green Mark clearance	30 days	9/6/17	13/7/17	15/8/17	18/9/17
524	Other authorities	45 days	9/6/17	31/7/17	15/8/17	5/10/17
525	**RI Inspection**	1 day	1/8/17	1/8/17	6/10/17	6/10/17
526	**TOP clearance**	35 days	2/8/17	11/9/17	7/10/17	16/11/17



Project: VIIO @ 520 Balestier Rd
Date: 15/1/16
Progress Tracking

Task	External Tasks	Manual Task	Finish-only	Progress
Split	External Milestone	Duration-only	Deadline	
Milestone	Inactive Task	Manual Summary Rollup	Baseline	
Summary	Inactive Milestone	Manual Summary	Baseline Milestone	
Project Summary	Inactive Summary	Start-only	Baseline Summary	

SECTION 4

PROGRAMME

4.2 Authority Submission Status for M&E Services - 1st Submission

Service	Authority	Original Submission		Comments/Resubmission						Approval/
		Scheduled	Actual	Comment	Resubmit	Comment	Resubmit	Comment	Resubmit	Clearance
Application for Electricity Supply	SP Services Ltd	-	-	-	-	-	-	-	-	-
Power Supply Substation	SP PowerGrid Ltd	15 Sep 15	3 Sep 15	02 Oct 15	11 Apr 16					4 May 16
Metering Layout	SP Services Ltd	01 Jun 16								
Sanitary Installation	PUB Water Reclamation (Network) Dept	29 Feb 16	1 Jul 16							26 Jul 16
Domestic Water Supply	PUB (Water Supply) Network Dept	31 Jan 16	14 Nov 16	18 Apr 16	24 Jun 16	15 Aug 16	13 Sep 16			28 Mar 16
Gas Supply Installation	City Gas Pte Ltd	31 Jan 16	3 Mar 16	4 Apr 16	27 Apr 16	16 May 16	17 Jun 16	21 Jun 16	24 Jun 16	1 Jul 16
Air Conditioning & Ventilation Inst.	FSSD	31 Mar 16	26 Apr 16							23 May 16
Fire Fighting & Alarm Installation	FSSD	31 Mar 16	26 Apr 16							17 May 16
Telecommunication Facilities	TFCC	31 Jan 16	21 Apr 16	4 Apr 16	9 May 16	12 May 16	6 Jun 17			13 Jun 17
	NEA (Pollution Control)									

SECTION 4

PROGRAMME

4.3 Authority Submission Status for M&E Services (Amendments) - 2nd Submission

Service	Authority	Original Submission		Comments/Resubmission						Approval/
		Scheduled	Actual	Comment	Resubmit	Comment	Resubmit	Comment	Resubmit	Clearance
Application for Electricity Supply	SP Services Ltd									
Power Supply Substation	SP PowerGrid Ltd									
Metering Layout	SP Services Ltd									
Sanitary Installation	PUB Water Reclamation (Network) Dept	28-Sep-17	28-Sep-17	6-Oct-17	7-Nov-17					30-Nov-17
Domestic Water Supply	PUB (Water Supply) Network Dept	4-Sep-17	4-Sep-17	8-Sep-17 (Verbal comment)	13-Sep-17					8-Dec-17
Gas Supply Installation	City Gas Pte Ltd	25-Oct-17	25-Oct-17	30-Oct-17 (Verbal comment)	6-Nov-17					16-Nov-17
Air Conditioning & Ventilation Inst.	FSSD	1-May-18								
Fire Fighting & Alarm Installation	FSSD	1-May-18								
Telephone Installation	TFCC									
Broadband Co-axial Cable System (BCS)	Starhub Cable Vision									
Fuel Storage	FSSD									
	NEA (Pollution Control)									

SECTION 5

PROJECT RECORDS

5.1 List of Internal Files

Standard Files

File Ref:		File Ref:	
- Owner	✓	- Architect	✓
- Authorities	✓	- Other Consultants	✓
- Contractors	✓	- CC	✓
- CF	✓	- PQP/QSP	✓

Project Files to be initiated by PM as and when required

File Ref:		File Ref:		File Ref:	
EC/MC	✓				

(✓*where applicable*)

SECTION 5

PROJECT RECORDS

5.2 Filing of Drawings

The following team members shall take charge of filing of drawings, stamping "SUPERSEDED" drawings, etc.

Description	Team Member
Incoming Architectural Floor Plans	Soft copy saved in server
Incoming Architectural Sketches/Details	
Incoming Structural Drawings	
M&E Drawings - Electrical Installation - Lift & Escalator Installation - Air Conditioning & Ventilation Installation - Fire Fighting & Alarm Installation - Plumbing & Sanitary Installation - Swimming Pool & Filtration Installation	
Other Drawings - Landscape Drawings - FSSD Approval Building Plan	

SECTION 6

INTERFACING

6.1 Method of Interface

Description	Method of Interface	
Client's Review & Approval	M&E Design Report	✓
	Pre-planned meeting at fixed intervals	✓
	Telefax, letter and telephone	✓
	Email	✓
Interface With External Design Teams	M&E Design Report	✓
	Pre-planned meeting at fixed intervals	✓
	Telefax, letter and telephone	✓
	Email	✓
Interface Between Internal Design Teams	Telephone	✓
	Email	✓
	Internal Project Team Meeting	✓
	Circulation of Information	✓

(✓*where applicable*)

SECTION 6

INTERFACING

6.2 Internal Design Interface – NOT APPLICABLE

Item No.	Description*	Required From	Required By	Date Required	Remarks

** Information required by INTERNAL DESIGN TEAM MEMBERS*

SECTION 6

INTERFACING

6.3 Circulation of Documents to External Parties

	Code: A - Approval Required C - For Comments I - For Information Only	Client/ Client Rep.	Client's Project Manager	Architect	Structural Engineer	Quantity Surveyor	
1.	**Letters/Fax:**						
a.	Project Design	A	A	A	C	I	
b.	Project Administration	A	A	C	C	I	
c.	Project Cost Estimate/Contract Cost	A	A	C	C	I	
2.	**Drawings**						
a.	Outline Design Drgs.	A	A	A	C	-	
b.	Sketch Design Drgs.	A	A	A	C	-	
c.	Final Design Drgs.	A	A	A	C	-	
d.	Shop Drawings	I	I	A/C	C	-	
e.	As Built Drgs.	I	I	I	I	-	
3.	**Other Document**						
a.	Specification	A	A	A	I	I	
b.	Tender Document	A	A	A	I	I	
c.	Tender Evaluation Report	A	A	A	I	I	
d.	Design Report	C	C	I	-	-	
e.	Progress Report	-	-	-	-	-	
f.	Financial Report	-	-	-	-	-	
g.	Minutes of Meeting	I	I	I	I	-	
h.	Inspection Report	I	I	I	-	-	
i.	Testing & Comm. Report	I	I	I	-	-	
j.	O & M Manual	I	I	I	-	-	

SECTION 7

WORK AUTHORISATION

Activity \ Authorised Signatories	PD	QP	PM	AE	SS
General Correspondences with Client	✓	✓	✓		
General Correspondences with Other Consultants			✓	✓	
M&E Cost Estimate Report	✓	✓			
M&E Design Report	✓	✓			
Check Prints	✓	✓			
Tender Drawing Approval	✓	✓			
Tender Specification Approval	✓	✓			
List of Tenderers	✓	✓			
Tender Questionnaires	✓	✓			
Tender Reports	✓	✓			
Draft Letter of Award			✓		
Review of Contractor's Shop Drawing			✓	✓	
Review of Contractor's Technical Submittal			✓	✓	
Review of Contractor's Sample Submittal			✓	✓	
Contractor's Request for Deviation	✓	✓	✓		
Progress Payment Valuation Form	✓	✓			
Final Account Valuation	✓	✓			
Draft Variation Order	✓	✓			
Engineer/Architect's Instruction/Direction	✓	✓			
Site Instruction/Direction	✓		✓		
Correspondence/Submission to Authorities	✓	✓	✓		

(✓*where authorised*)

Key to abbreviations:-

PD : Project Director
QP : Qualified Person
PM : Project Manager/Assistant Project Manager
AE : Assistant Engineer
SS : ACEPL Site Staff

SECTION 8

DESIGN INPUT & METHODOLOGY

8.1 List of Client's Standards, Reference Documents or Brief – NOT APPLICABLE

ITEM	KEPT BY

8.2 List of Applicable Code of Practice and Regulations

Services	Title of Code of Practice/Standard
Electrical Wiring	SS CP5
Lightning Protection System	SS 555
Emergency Voice Communication System	SS 546
Telecommunication Facilities	Code of Info-Communication Facilities for Buildings
Air Conditioning & Ventilation Installation	SS 553
Lift & Escalator Installation	SS 550
Sprinkler System	SS CP 52
Wet Riser System	NA
Automatic Fire Alarm System	SS CP 10
Sanitary System	Code of Practice on Sewerage & Sanitary Works
Plumbing System	SS CP 48
Town Gas/LPG Supply System	SS 608
Boiler and Steam Supply System	NA
Mechanical Smoke Control System	NA

SECTION 8

DESIGN INPUT & METHODOLOGY

8.3 List of Design Guide or Handbook Used

Carrier's Handbook of Air Conditioning System Design

ASHRAE Handbooks

Institute of Plumbing's Plumbing Services Design Guide

8.4 List of Pre-Consultation and Waiver

S/N	Description	Date of Application	Date of Approval	Remarks
1	Fire Code - Appendix 5, Category 2 Waiver Ref. No. WVR/01581/15	8 Jun 2015	28 Jun 2015	Sprinkler in FAMCP to be OH3 instead of High Hazard
2	CP52 – Clause 5.11 Fire Code – Clause 6.2.4 (f) Waiver Ref. No. WVR/02550/15	07 Sep 2015	25 Sep 2015	To allow sprinkler fire pumps to be housed within underground dry chamber
3	COPIF – Clause 7.6.4 Waiver Ref. No. IMDA.INTC.96.0701/SKC	2 Dec 2016	15 Dec 2016	To allow telecom Riser of 760mm (W) x 650mm (D)

8.5 List of Applicable Quality System Procedures

Alpha Consulting Engineers Pte Ltd's Quality Management System Procedures

Section	Title	✓ where applicable
M1	Preparation of Consultancy Offer	✓
M2	Project Commissioning and Service Agreement	✓
M3	Design Control	✓
M4	Design Change Control	✓
M5	Tender Process and Evaluation	✓
M6	Authority Submission	✓
M7	Construction Process Control	✓
M8	Testing and Commissioning	✓
S1	Document Control	✓
S2	Documentation of Quality & Environmental Management System Procedure	✓
S3	Documentation of Project Quality Plan	✓
S4	Specification Control	✓
S5	Library Control	
S6	Archive Control	✓
S7	Filing Control	✓
S8	Drawing Control	✓
S9	Administration Control	✓
S10	Purchasing Control	
S11	Training Control	
S12	Computer Control	
S13	Non-Conformity and Corrective Action Procedures	✓
S14	Quality & Environmental System Audit	✓
S15	Feedback Reporting	✓
S16	Clients Feedback	✓
S17	Management Review	✓
S18	Risk Identification, Assessment & Control	✓

8.6 List of Software Used For Design/Analysis

DESCRIPTION/ PACKAGE NAME	VERSION	SUPPLIER/ SOURCE	PURPOSE	
Calculux	2.30	Philips	Lighting design	
Cophos	3.31	Zumtobel	Lighting design	
Carrier E20-II	3.21	Carrier	Programme for determination of heat load, duct size and its losses, etc.	✓
Gensize 2	2.1	Onan	Generator sizing	
Lift Traffic	-	Alpha Consulting Engineers Pte Ltd	Lift traffic calculation	
Econdial	2.5	Merlin Gerlin	Design for low voltage network	
Hyena	4.00.1	ACADS-BSG	Fire Sprinkler & Hydrant Analysis	
Fault Level Calculation	-	Alpha Consulting Engineers Pte Ltd	Calculation of voltage drop and fault level	
Dialux	4.11	Freeware	Lighting Design	✓
Lift Traffic	7.18	Elevate	Lift Traffic Calculation	✓
Fault Level Calculation	11.1.11	Etap	Calculation of fault level and voltage drop	

(✓*where applicable*)

SECTION 9

ENVIRONMENTAL CONSIDERATIONS

9.1 Sustainable Design Features / Criteria

Item	Remarks
Green Mark criteria	Certified
Green Design Features	Refer to attached list

9.2 Site PPE Requirement

The necessary Personal Protective Equipment (detailed below) shall be provided by the main contractor / Company in accordance to the site EHS requirements prior to the site monitoring.

PPE	✓ where applicable
Safety Helmet	✓
Safety Shoes	✓
Eye Protection	-
Ear Protection	-
Safety Harness / Belt	-
Others:	-

9.3 Site Emergency Preparedness

Site staff shall comply with the site emergency preparedness and response procedure, established by the main contractor / owner, which shall include the following details.

Items	✓ where applicable
Evacuation Route	✓
Emergency Exit	✓
Assembly Point	✓
Emergency Contact List / Person	✓
Alarm system / methods	✓

Project Number: 6214

Project Name: VIIO @ Balestier

List of Green Features

1. T5 light fittings used in common areas
2. Clothes drying facilities in all apartment units
3. Natural ventilation to all units and common areas
4. Inverter and environment friendly air conditioner split units with 4 NEA 'ticks' green label is used in all apartment units
5. Variable voltage variable frequency (VVVF) drive lifts. The lights and fans in the lifts will be switched off after a predetermined time delay when there are no hall calls.
6. Escalators fitted with energy saving device which slows down escalators on low traffic.
7. 1 tick for water efficient fittings
8. Private sub-meter to common areas
9. Building users guide
10. Provision of bicycle lots
11. Siphonic rainwater system

SECTION 9

ENVIRONMENTAL CONSIDERATIONS

9.4 Reporting of Environmental Non-conformances

When encountering environmental non-conformances, Site Staff shall be responsible to feedback to the main contractor.

9.5 List of Applicable Environmental Management System Procedures

Alpha Consulting Engineers Pte Ltd's Environmental Management System Procedures

Section	Title	✓ where applicable
E1	Aspect / Impact Identification, Risk Assessment & Risk Control	✓
E2	Identifying Legal & Other Requirements	✓
E3	Objectives, Targets & Programmes	✓
E4	Communication	✓
E5	Emergency Preparedness & Response	✓
E6	Monitoring & Measurement	✓
E7	Control of Air & Noise Pollution	✓
E8	Management of Wastes	✓

SECTION 10

CLIENT'S REQUIREMENTS

10.1 List of Output Required by Client:-

Item	* Remarks
M&E Design Report	A
M&E Cost Estimate Report	A
Pre-Qualification of Tenderers	NA
Tender Documents	A
Tender Report	A
Payment Valuation for QS	A
Certificates of Supervision for TOP/CSC	I

* *Remarks*

A: for approval *C: for comment* *I: for Information* *Re: for record*

Other purposes and for action: please specify.

10.2 Specific Procedures Required By Client *(If applicable)*

NOT APPLICABLE

SECTION 11

LIST OF SUB-JOB

11.1 List of Sub-Job Numbers – NOT APPLICABLE

Sub Job No	Description	Allocation Details