



Zoomlion  
(QY50D251) 50t

2024

# LIFTING PLAN



HSE MANAGER

BRANCH OF CHINA HARBOUR

11/11/2024

## LIFT PLAN ZOOMLINE QY50D521

<b>Contract:</b>	ROSHN SEDRA	<b>Contact No:</b>	
<b>Lift plan</b>	00103_CHE_PLN_HSE_000012_240924_R01	<b>Method Statement Ref</b>	
<b>Date of Lifting Operation:</b>	10 Nov, 2024 to 10 Jan, 2025	<b>Location</b>	PHASE-3
<b>Lift Plan Prepared By</b>	HSE Manager	<b>Title</b>	
<b>Date:</b>	/ / 2024	<b>Signed:</b>	
<b>Lift Team</b>			
<b>Appointed Person</b>		<b>Crane Supervisor</b>	

<b>Please refer to briefing sheet for Crane Operator, Slinger / Signaler, Lift Supervisor and Crane Co-Ordinator.</b>							
<b>Type of Lifts</b>	Basic		Intermediate		Complex	<input checked="" type="checkbox"/>	Contract

<b>Description of Lifts, if multiple lifts positions are involved state sequencing.</b>		
<i>LOADING, UNLOADING and installation of manhole, sewerage pipes, precast with 50-ton mobile crane.</i>		
<b>DETAILS OF CRANE OWNER / HIRE COMPANY</b>		
<b>Company Name:</b>	CHEC	
<b>Address:</b>	SEDRA-3 RIYADH	
<b>Contact Name:</b>	CHEC	<b>Telephone:</b>
<b>DETAILS OF CRANE</b>		
<b>Capacity and Type:</b>	<b>No. of Falls (Part-Line)</b>	<b>Counterweight Details:</b>
QY50D521 55t @ 3m – 24.2t @ 6.5m	4	5t
<b>MAX WORKING RADIUS:</b>	<b>BOOM LENGTH:</b>	<b>FLY JIB:</b>
6.5 m	18.8m	N/A
<b>OUTRIGGER/TRACK DIMENSIONS</b>	<b>POINT LOAD:</b>	<b>GBP/m2</b>
5.92m×6.90m (fully extended)	47.8t	40t
<b>SIZE OF CRANE MATTS REQUIRED:</b>	1.m x 1 m timber pads	

<b>CRANE ACCESSORIES REQUIRED</b>									
Chains	x	Wire Ropes	x	Shackles	x	Tag Lines	x	Webbing Slings	x
Lifting Beams		Other (specify)							

<b>LOAD DETAILS</b>				
<b>MAXIMUM WEIGHT OF LOAD (S)</b>	<b>MAXIMUM SIZE OF LOAD:</b>	<b>DESIGNED LIFTING POINT'S</b>	<b>YES</b>	<b>NO</b>
17.5 t	Varies, see schedule of lifts	Varies, See schedule of lifts		x
<b>MAXIMUM LIFT HEIGHT:</b>	<b>OTHERS e.g. CENTRE OF GRAVITY:</b>	<b>MAX PERMISSIBLE WIND SPEED:</b>		
6m	Centre of Load	10m/s		

# WORKING ENVIRONMENT, SITE CONDITIONS AND PROXIMITY HAZARDS

<b>IDENTIFY LOCATION FOR SETTING UP AND OPERATING CRANE / LIFTING APPLIANCE.</b>	<b>IDENTIFY ACCESS AND SPACE FOR CRANE / LIFTING APPLIANCE / TRANSPORT ETC.</b>
Varies, AP to identify and to be verified via PTW	Varies, AP to identify and to be verified via PTW
<b>IDENTIFY SUITABLE LAY DOWN AREA FOR MATERIALS.</b>	<b>OVERHEAD / UNDERGROUND SERVICES</b>
Lift Supervisor and Foreman to identify before lift commences. Trailers to be positioned as close to the crane as reasonably practicable and at the closest pick-up radius achievable keeping slewing/load path to a minimum	Unloading and installation area clear of overhead/underground services
<b>GROUND CONDITIONS</b>	<b>CRANE / MAT REQUIRED</b>
Levelled & Compacted Soil & FDT tested to above than 96.9%. (Attached Soil Reading)	Crane weight= 40.4t + 17.5= 57.9t Point load = 40.4 x 0.75 +17.5 = 47.8 ton GBP = 40ton/sqm POINT LOAD/GBP = 47.8/40 = 1.17m ROOT = 1.M2 Pad Size = 1.m x 1.m
<b>ROADS / TRAFFIC</b>	<b>OBSTRUCTIONS (E.G., STRUCTURES, EXCAVATIONS, TREES ETC.)</b>
As per CHEC traffic management plan	Excavations and trenches; outriggers to be positioned from excavation edge 2 x excavation depth and setup verified in Permit to Lift
<b>ADJACENT ACTIVITIES</b>	<b>REQUIREMENTS FOR ROAD CLOSURES, POSSESSIONS, SITE CLEARANCE ETC.</b>
No other activities ongoing at Laydown area. General site to be deconflicted accordingly at daily SIMOPS meeting	As per CHEC traffic management plan
<b>REQUIREMENTS FOR SIGNAGE, BARRIERS, FENCING, LIGHTING ETC.</b>	<b>OTHER / ADDITIONAL CONTROL MEASURES (PLEASE LIST):</b>
Exclusion zone around all lifting activities, barricaded, lifting hazard signage posted and manned by all times by rigger/signalers & safety team. Works in daylight hours only.	Crane and lifting accessory 3 <sup>rd</sup> . party thorough examination inspection records to be provided by company and records kept onsite.
<b>THIRD PARTY CONSIDERATIONS:</b>	
<i>Always work to the WMS. Any variation to this LP shall result in work being stopped and reassessed to ensure continued safe operation. Crane Supervisor to ensure everyone is adequately briefed before work commences.</i>	
<b>HAZARD</b>	<b>CONTROL</b>
See Documents:  <b>00103_CHE_PLN_HSE_000012_240924_R01</b> Lifting Operation and Management (Phase 3).	See same documents.  <b>ADDITIONALLY:</b>  Ensure clear and efficient system of communication is established between crane operators and signalers.  Crane supervisor will be supervising crane setup and movements at all times.  Operator to announce proposed movements and obtain acknowledgement from others.  Crane team briefing explaining the load paths to all involved personnel.  Suitably qualified and experienced lead rigger/ lift supervisor to perform all crane safety checks with crane operator prior to lift

# SITE AND CRANE LAYOUT PLAN

Include crane position, lay-down / rigging area, position of delivery vehicles, landing points, banksman positions, ground and overhead hazards and exclusion zones. If required use elevation drawings.

## **Crane Position:**

- The crane should be positioned on stable, level ground, ensuring it is within the designated lifting area. The exact location should be marked on the site plan.

## **Lay-Down / Rigging Area:**

- Designate a clear area for lay-down and rigging, ensuring it is free from obstructions and easily accessible for the crane and rigging crew.

## **Position of Delivery Vehicles:**

- Delivery vehicles should be positioned in a way that allows for easy unloading and movement of materials to the lay-down area. Ensure there is a clear path for vehicles to enter and exit the site without interfering with other operations.

## **Landing Points:**

- Identify and mark the landing points for all lifted items. These should be within the crane's safe working radius and easily accessible for the rigging crew.

## **Banksman Positions:**

- Banksmen should be positioned at strategic points to guide the crane operator and ensure the safety of all personnel. They should have a clear line of sight to both the crane and the load at all times.

## **Ground and Overhead Hazards:**

- Conduct a thorough site inspection to identify any ground and overhead hazards, such as uneven terrain, power lines, or other structures. Mark these hazards clearly on the site plan and communicate them to all personnel.

## **Exclusion Zones:**

- Establish exclusion zones around the crane and lifting area to prevent unauthorized personnel from entering. These zones should be clearly marked with barriers and signage.

## **Elevation Drawings:**

- If required, use elevation drawings to provide a detailed view of the lifting operation, including the crane's boom angle, load path, and any potential obstacles.

# CAPACITY CHART/SELECTED DUTY FOR 50T CRANE:

**Load rating chart**

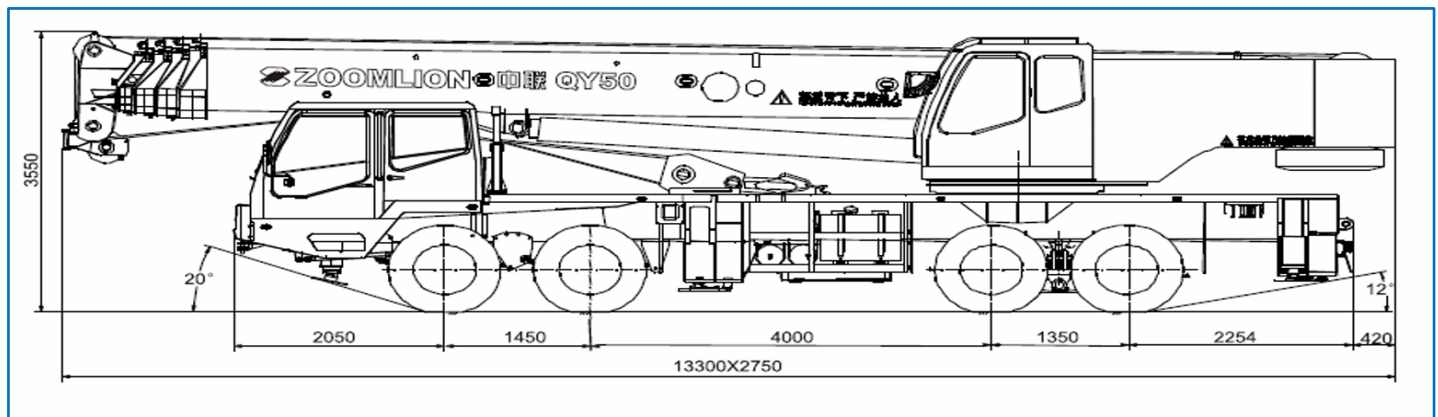
Note: the load ratings of QY50V522, QY50H521 and QY50D521 are the same.

Unit, kg

working radius (m)	Boom(M)							Boom angle (°)	Boom+jib				
	Operate in side and rear working area with cylinder I and outriggers full extended								42.0+9.5		42.0+16.0		
	11.1	15.0	18.8	24.6	30.4	36.2	42.0		0°	30°	0°	30°	
3.0	55000	40000	32000					80	4500	2150	2800	1000	
3.5	50500	40000	32000					78	4500	2050	2600	1000	
4.0	44500	40000	32000	24000				76	4200	1950	2300	1000	
4.5	40000	36000	31000	23000				74	3800	1900	2000	1000	
5.0	36000	33000	29000	21800	16000			72	3500	1850	1800	1000	
5.5	32000	30000	27300	20600	16000	12400		70	3200	1800	1650	1000	
6.0	29000	27500	25700	19500	16000	12400		68	3000	1750	1550	900	
6.5	26000	25500	24200	18500	15500	12400		66	2700	1700	1450	850	
7.0	24000	23500	23000	17500	14600	12400	9000	64	2300	1650	1350	800	
7.5	22300	21900	21500	16800	14000	12400	9000	62	2000	1600	1250	750	
8.0	20300	19700	19400	15800	13300	11800	9000	60	1700	1350	1150	700	
9.0	15800	15300	15000	14300	12200	10900	9000	58	1400	1100	1000	650	
10.0		12200	12000	13000	11200	10000	9000	56	1150	850	850	500	
11.0		9900	9700	10700	10300	9200	8300	54	950	650	650		
12.0		8200	8000	9000	9700	8500	7800	52	750	450			
14.0			5500	6500	7150	7500	6800						
16.0			3800	4800	5400	5750	6000						
18.0				3550	4150	4500	4750						
20.0				2600	3200	3500	3750						
22.0				1850	2400	2750	3000						
24.0					1800	2100	2350						
26.0					1300	1600	1850						
28.0					850	1200	1450						
30.0						850	1050						
32.0							750						
I	0	3.9	7.7	7.7	7.7	7.7	7.7						
II	0	0	0	5.8	11.6	17.4	23.2						
Wire rope falls	12	8	8	6	4	4	3					1	
Hook				55t main hook							4.5t auxiliary hook		

**ALWAYS WORK WITHIN THE CONFINES OF THE DUTY CHART PROVIDED.**

## CRANE SKETCH 50T:



## LIFTING ACCESSORIES TO BE USED:

Hook block = 400kg  
 Part lines (4) = 200kg  
 2 x 2-leg 11.2t, 8m chain slings = 300kg

Weight of rigging: 900kg  
 Heaviest load is 16 ton

Gross weight of load inclusive of rigging: 17ton

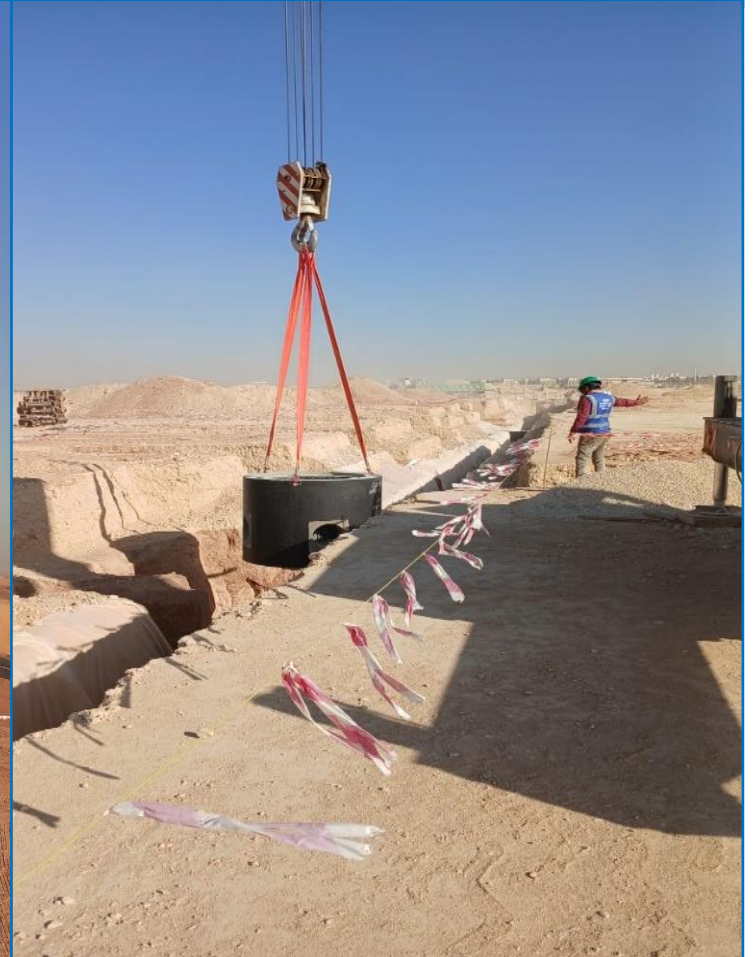
Crane Capacity @ 6.5m radius: 24.2ton

Max crane utilization @ 6.5 m radius = 70%

This lift plan will run alongside CHEC approved Schedule of Common Lifts **00103\_CHE\_PLN\_HSE\_000012\_240924\_R01** Lifting Operation and Management (Phase 3), lifting all items under 10t inclusive of rigging or 75% of utilization at furthest radii (7 to 22m).

Hook Block to be CENTRAL to the load at all times

# SCHEDULE OF LIFTS



**Plan Briefing Sheet****Lift Plan:****LOADING/UNLOADING/INSTALLING MANHOLE, SEWAGE AND IRRIGATION PIPES**

All operatives involved within the lifting activity addressed within this lift plan are briefed and listed below.

**Lift Plan Briefed by AP / Crane Supervisor:****Signed:****Location:****Date / Time of Briefing:**

No	Name	Qualification	Job Title	Signature	Employer	Contract / Site	Line Manager
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							

Skill	Site Appointed Lifting Personnel
Appointed Person	
Crane Supervisor	
Slinger Signaler/Riggers 1,2,4	