Your Company Ltd

RISK ASSESSMENT & METHOD STATEMENT

Tower Crane Erection - City Centre Development

Reference	EX0006
Issue	1
Assessment Date	14/11/2026
Review Date	14/11/2027
Client	Your Client Ltd
Site Location	Residential development, Leeds city centre
Assessor	Your Name, Health & Safety Manager

Executive Summary

This Risk Assessment and Method Statement (RAMS) details the safe systems of work for the erection of a 60m tower crane on a new-build residential development in Leeds city centre. The project involves complex lifting operations using a mobile crane, working at height during tower assembly, and strict traffic management for road closures. Strict adherence to BS 7121 (Safe Use of Cranes) and LOLER 1998 is mandatory, overseen by a qualified Appointed Person.

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1. Project Details

Client:	Your Client Ltd	**Site Location:**	Residential development, Leeds city centre
Assessment Date:	14/11/2026	**Review Date:**	14/11/2027
Assessor:	Your Name, Health & Safety Manager	**Staff Count:**	6

2. Method Statement

Step 1: Site Setup & Permitting — Arrive at site, sign in, and attend site-specific induction. Supervisor to confirm Leeds City Council road closure permit is live and Chapter 8 traffic management is actively deployed.

Step 2: Documentation Review — The Appointed Person (AP) reviews the BS 7121 Lift Plan with all 6 team members. Complete the toolbox talk and sign onto the RAMS. Temporary Works Co-ordinator to provide sign-off for crane foundation concrete strength and mobile crane standing area.

Step 3: Base Preparation — Erectors inspect the cast-in foundation anchors, confirming thread condition, alignment, and level. Establish the hard-barriered exclusion zone encompassing the entire lift radius and road closure area.

Step 4: Mobile Crane Rigging — The mobile crane arrives, sets up on the approved ground using correctly sized outrigger mats, and deploys its jib as per the lift plan. Slinger/Signaller inspects all lifting accessories.

Step 5: Mast Assembly — Erectors guide the initial mast sections onto the base anchors. Bolt and torque to manufacturer specification. Successive mast sections are lifted, pinned, and secured. Erectors use 100% tie-off via twin-lanyards during all access.

Step 6: Slewing Ring and Cab Installation — The mobile crane lifts the slewing ring, followed by the operator cab and tower head. Erectors pin and bolt components, using tag lines from the ground to control rotation.

Step 7: Counter-Jib and Ballast — Lift and attach the counter-jib. Install the specified initial counter-ballast weights required to balance the crane before the main jib is attached, strictly following the manufacturer's manual.

Step 8: Main Jib Assembly and Lift — Assemble the main jib sections on the ground within the road closure area. Once complete, lift the entire jib horizontally, pin to the slewing section, and connect tie-bars.

Step 9: Final Ballast and Mechanics — Install the remaining counter-ballast weights. Reeve the hoist ropes, trolley ropes, and set limits.

Step 10: Electrical Connection — Competent electrician isolates site power supply (LOTO), connects the 400V crane supply cable, performs dead tests, and safely energises the crane.

Step 11: Commissioning and Testing — Crane technician sets load moment indicators, performs overload testing with calibrated test weights. Thorough Examination completed and signed off prior to operational handover.

Resources Required

- 1x Appointed Person / Crane Supervisor (CPCS Blue Card)
- 1x Mobile Crane Operator (CPCS Blue Card)
- 1x Slinger/Signaller (CPCS Blue Card)
- 3x Tower Crane Erectors (CSCS / CPCS Blue Card)
- 1x Qualified Electrician (ECS/JIB Card)

- Mobile Crane (capacity as specified in Lift Plan, e.g., 250t+)
- Chapter 8 Traffic Management equipment (Cones, barriers, signage)
- Calibrated torque wrenches, multipliers, and hand tools (tethered)
- Fall arrest equipment: EN 361 Harnesses, EN 355 Twin Lanyards, Rescue Kit (Gotcha)
- Anemometer for live wind speed monitoring

Site Setup

Implement full Chapter 8 road closure on the adjacent A-road as per local authority permit. Establish a Heras-fenced exclusion zone around the tower crane base and mobile crane setup area. Ensure pedestrian segregation is in place with clear diversion signage. Welfare facilities to be provided within the site boundary.

3. ALARP Justification

As Low As Reasonably Practicable (ALARP) Declaration

The erection of a 60m tower crane in a city centre presents inherently high risks that cannot be entirely eliminated. However, the residual risks have been reduced to As Low As Reasonably Practicable (ALARP). We have substituted uncoordinated lifting with a meticulously engineered BS 7121 lift plan, isolated the hazard from the public via a permitted road closure and exclusion zones, and controlled the risk of falls through strict safe systems of work and 100% tie-off PPE protocols. Further risk reduction would require prohibiting the work entirely, which is disproportionate to the required development activities, given the rigorous controls in place.

4. Risk Matrix Reference

	Negligible (1)	Minor (2)	Moderate (3)	Major (4)	Catastrophic (5)
Almost Certain (5)	5	10	15	20	25
Likely (4)	4	8	12	16	20
Possible (3)	3	6	9	12	15
Unlikely (2)	2	4	6	8	10
Rare (1)	1	2	3	4	5

1-5 Low 6-12 Medium 15-25 High

5. Risk Assessment

1. Lifting Operations - Overturning of Mobile Crane

15 HIGH → 5 LOW

Description	Failure of the ground bearing capacity or overloading of the mobile crane during lifting operations could lead to catastrophic overturning, impacting workers, public roads, and adjacent structures.		
Persons at Risk	Staff, Public, Contractors		
Control Measures	• A detailed lifting plan must be created by a competent Appointed Person in accordance with BS 7121-1:2016 and LOLER 1998. • Ensure ground bearing pressure tests are completed and documented before mobile crane setup, verified by a Temporary Works Co-ordinator. • Deploy appropriate engineered outrigger spreader mats sized correctly for the mobile crane's maximum outrigger loads. • Mobile crane computer (RCI/LMI) must be fully functional, calibrated, and operators must adhere strictly to safe working load (SWL) limits.		
Initial Risk (Pre-Control)	Likelihood **3**	Severity **5**	Score **15** (High)
Residual Risk (Post-Control)	Likelihood **1**	Severity **5**	Score **5** (Low)

2. Lifting Operations - Struck by Suspended Loads

20 HIGH → 5 LOW

Description	Crane components (mast sections, jib, cab) swinging or dropping during the lift, striking riggers or operatives guiding the load.		
Persons at Risk	Staff		
Control Measures	• Establish and rigidly enforce a solid exclusion zone around the lift area; no unauthorised personnel allowed within the crane's radius. • Use correctly rated and inspected lifting accessories (slings, shackles) compliant with LOLER 1998, with evidence of 6-monthly Thorough Examination. • Use tag lines to control swinging loads; operatives must never position themselves directly beneath a suspended load or in crush zones. • Maintain clear two-way radio communication between the Slinger/Signaller, Erectors, and Mobile Crane Operator at all times.		
Initial Risk (Pre-Control)	Likelihood **4**	Severity **5**	Score **20** (High)
Residual Risk (Post-Control)	Likelihood **1**	Severity **5**	Score **5** (Low)

3. Working at Height - Fall from Tower Crane Structure

20 HIGH → 5 LOW

Description	Erectors falling from the mast sections, slewing ring, or jib during assembly at heights up to 60m.		
Persons at Risk	Staff		
Control Measures	• Operatives must wear full-body safety harnesses (EN 361) with twin-leg shock-absorbing lanyards (EN 355). • Implement 100% tie-off rules at all times when outside the safety of an enclosed access ladder/platform, in compliance with Work at Height Regulations 2005. • Ensure adequate anchor points are identified and verified by the crane manufacturer's erection manual. • A comprehensive rescue plan (e.g., using a controlled descent device like a Gotcha kit) must be in place and operatives trained in its use.		
Initial Risk (Pre-Control)	Likelihood **4**	Severity **5**	Score **20** (High)
Residual Risk (Post-Control)	Likelihood **1**	Severity **5**	Score **5** (Low)

4. Working at Height - Dropped Objects

20 HIGH → 10 MEDIUM

Description	Pins, hammers, bolts, or tools falling from height during assembly, potentially fatally striking workers or the public below.		
Persons at Risk	Staff, Public		
Control Measures	• All hand tools must be secured to the operative using certified tool tethers/lanyards. • Loose components (bolts, pins) must be securely stored in sealable tool bags or buckets hauled up safely. • Maintain a strict, hard-barriered exclusion zone at ground level directly beneath the erection works. • Safety helmets (EN 397) with chin straps must be worn by all personnel on site.		
Initial Risk (Pre-Control)	Likelihood **4**	Severity **5**	Score **20** (High)
Residual Risk (Post-Control)	Likelihood **2**	Severity **5**	Score **10** (Medium)

5. Traffic Management - Struck by Moving Vehicles

16 HIGH → 4 LOW

Description	Vehicles breaching the road closure or striking workers deploying traffic management equipment on the adjacent A-road.		
Persons at Risk	Staff, Public		
Control Measures	• Implement a fully approved road closure via the Local Highway Authority (Leeds City Council) in accordance with NRSWA 1991. • Traffic management must be deployed in strict compliance with the Chapter 8 Traffic Signs Manual by qualified operatives. • Use highly visible physical barriers, advanced warning signs, and illumination during low-light conditions. • Operatives working near the highway must wear Class 3 high-visibility clothing (EN ISO 20471).		
Initial Risk (Pre-Control)	Likelihood **4**	Severity **4**	Score **16** (High)
Residual Risk (Post-Control)	Likelihood **1**	Severity **4**	Score **4** (Low)

6. Plant & Machinery - Hand and Finger Entrapment

12 MEDIUM → 6 MEDIUM

Description	Operatives catching fingers or hands between heavy steel sections during pinning and bolting of the mast, slewing ring, or jib.		
Persons at Risk	Staff		
Control Measures	• Provide and ensure use of heavy-duty impact-resistant safety gloves (EN 388) during all pinning and bolting tasks. • Use podger spanners or alignment tools to align holes; operatives must never insert fingers into bolt/pin holes. • Clear communication and confirmation required before the crane lowers or adjusts components into their final seating positions.		
Initial Risk (Pre-Control)	Likelihood **4**	Severity **3**	Score **12** (Medium)
Residual Risk (Post-Control)	Likelihood **2**	Severity **3**	Score **6** (Medium)

7. Electrical - Contact with Live Services

15 HIGH | 5 LOW

Description	Electricians or erectors suffering electric shock or burns during the final connection and commissioning of the 400V 3-phase tower crane power supply.		
Persons at Risk	Staff		
Control Measures	• All electrical connections must be carried out by a competent, qualified electrician in accordance with BS 7671 (IET Wiring Regulations) and the Electricity at Work Regulations 1989. • Implement strict Lockout/Tagout (LOTO) procedures on the main site supply before terminating crane cables. • Use proper insulated tools (EN 60900) and perform safe isolation proving using a certified voltage indicator and proving unit. • Cables must be correctly routed, armored, and protected from mechanical damage at the crane base.		
Initial Risk (Pre-Control)	Likelihood **3**	Severity **5**	Score **15** (High)
Residual Risk (Post-Control)	Likelihood **1**	Severity **5**	Score **5** (Low)

8. Environmental - High Winds and Weather

16 HIGH | 4 LOW

Description	Unexpected high wind gusts causing loss of control of suspended loads or destabilising workers at height on the crane structure.		
Persons at Risk	Staff, Public		
Control Measures	• Monitor local weather forecasts constantly. Anemometers must be used to record live wind speeds at height. • Strictly observe the manufacturer's maximum wind speed limits for crane erection (typically not exceeding 9.8 m/s or 22 mph, refer to specific manual). • The Appointed Person / Crane Supervisor has absolute authority to halt lifts if weather conditions deteriorate or become unpredictable.		
Initial Risk (Pre-Control)	Likelihood **4**	Severity **4**	Score **16** (High)
Residual Risk (Post-Control)	Likelihood **1**	Severity **4**	Score **4** (Low)

9. Structural - Foundation and Base Anchor Failure

10 MEDIUM → 5 LOW

Description	Crane collapse upon erection or testing due to inadequate curing of the concrete base or incorrect alignment of the cast-in foundation anchors.		
Persons at Risk	Staff, Public		
Control Measures	• Prior to erection, obtain written confirmation and signed structural sign-off from the Temporary Works Engineer that the base has achieved the required design strength. • Perform a thorough visual and dimensional inspection of the cast-in anchors to ensure they match the mast base template tolerances exactly. • Torque all base anchor nuts to the exact manufacturer's specifications using calibrated torque multipliers/wrenches.		
Initial Risk (Pre-Control)	Likelihood **2**	Severity **5**	Score **10** (Medium)
Residual Risk (Post-Control)	Likelihood **1**	Severity **5**	Score **5** (Low)

10. Manual Handling - Movement of Heavy Rigging Gear

12 MEDIUM → 6 MEDIUM

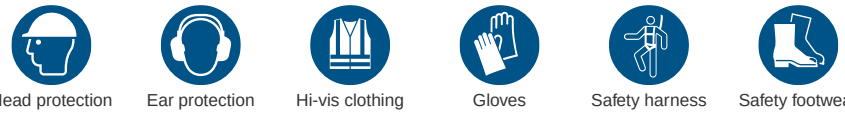
Description	Musculoskeletal disorders or strains from lifting heavy lifting accessories, chains, steel pins, or power cables.		
Persons at Risk	Staff		
Control Measures	• Apply the Manual Handling Operations Regulations 1992: avoid manual lifting where mechanical aids (telehandlers/trolleys) can be used. • Use two-person lifting techniques for items exceeding 20kg (e.g., heavy shackles, large mast pins). • Ensure operatives are trained in correct kinetic lifting techniques. • Ensure clear access routes around the crane base to avoid awkward twisting or tripping while carrying items.		
Initial Risk (Pre-Control)	Likelihood **4**	Severity **3**	Score **12** (Medium)
Residual Risk (Post-Control)	Likelihood **2**	Severity **3**	Score **6** (Medium)

11. Noise - Operation of Heavy Plant and Impact Tools

12 MEDIUM → 6 MEDIUM

Description	Prolonged exposure to the mobile crane engine noise and use of heavy sledgehammers/impact wrenches causing noise-induced hearing loss.		
Persons at Risk	Staff		
Control Measures	• Comply with the Control of Noise at Work Regulations 2005 by zoning the erection area as a mandatory hearing protection zone. • Provide ear defenders or plugs (EN 352) with suitable attenuation (SNR rating) for the plant being used. • Limit duration of continuous exposure to impact noise by rotating tasks among the erection team where practicable.		
Initial Risk (Pre-Control)	Likelihood **4**	Severity **3**	Score **12** (Medium)
Residual Risk (Post-Control)	Likelihood **2**	Severity **3**	Score **6** (Medium)

6. Required PPE



- Safety Helmets with chin straps (EN 397)
- Safety Boots with mid-sole protection (EN ISO 20345)
- High-Visibility Clothing Class 3 (EN ISO 20471)
- Impact Resistant Safety Gloves (EN 388)
- Full Body Harness (EN 361) and Twin Lanyards (EN 355)
- Hearing Protection (EN 352)

7. Site Rules

1. All personnel must sign in at the site office and attend the site-specific induction prior to starting work.
2. No entry into the lifting exclusion zone unless explicitly authorised by the Crane Supervisor.
3. 100% tie-off rule applies for all working at height outside of protected platforms.
4. Mandatory PPE must be worn at all times outside of welfare areas.
5. No hot works or electrical connection without a valid Permit to Work.
6. All tools used at height must be tethered.
7. Report all near misses, accidents, and unsafe conditions immediately to the site manager.

8. Competency Requirements

Qualification	Description	Required For	Verification
CPCS Appointed Person (Lifting Operations) - Blue Card	Competence to plan and manage complex lifting operations.	The individual producing and overseeing the lift plan (AP).	Physical card check and CPCS online register verification prior to works.
CPCS Crane Supervisor - Blue Card	Competence to supervise lifting operations on site directly.	The supervisor directing the lifts on the ground.	Physical card check and CPCS online register verification.

Qualification	Description	Required For	Verification
CPCS Slinger / Signaller - Blue Card	Competence to safely sling loads and direct the crane operator.	Operatives attaching loads and providing signals.	Physical card check and CPCS online register verification.
CSCS Skilled Worker / CPCS Tower Crane Erector	Competence in structural steel erection and tower crane assembly at height.	All erectors working on the crane structure.	Physical card check and verification of specific OEM training where applicable.
NRSWA Unit 2 / Chapter 8 Traffic Management	Competence to safely sign, light, and guard roadworks.	Operatives setting up the road closure and barriers.	Street Works card / certificate check.

9. Regulatory Compliance

Regulation / Standard	Section	Relevance to This Assessment
Lifting Operations and Lifting Equipment Regulations 1998 (LOLER)	Regulation 8 - Organisation of lifting operations	Dictates that every lifting operation must be properly planned by a competent person, appropriately supervised, and carried out in a safe manner.
Work at Height Regulations 2005	Regulation 6 - Avoidance of risks from work at height	Requires the provision of fall arrest equipment and strict safe systems of work because working at 60m height cannot be avoided during erection.
Construction (Design and Management) Regulations 2015	Regulation 27 - Traffic routes	Mandates the segregation of pedestrians and vehicles, justifying the road closure and rigid exclusion zones.
Electricity at Work Regulations 1989	Regulation 14 - Work on or near live conductors	Requires absolute isolation (LOTO) and dead testing before final electrical connection of the tower crane.

10. Emergency Procedures

First Aid
First aid kit located in the site office and supervisor's vehicle. First aider on site: Appointed Crane Supervisor. Minor injuries to be treated on-site and recorded in the accident book.

Spillage Response
In the event of hydraulic oil or fuel leak from the mobile crane, use the site spill kit immediately to contain it. Prevent runoff into road drains. Notify the site manager.

Evacuation Point
Site Assembly Point: Main entrance hoarding gate on adjacent street (as per site induction).

Fire Emergency
In the event of a fire on the crane or mobile plant, evacuate immediately if safe to do so. Raise the alarm. Assemble at the site muster point at the main gate. Do not attempt to fight the fire unless trained and it is safe.

Serious Injury
For serious injury (e.g., fall from height or crush): DO NOT MOVE the casualty unless in immediate danger. Call 999 immediately. If suspended in a harness, implement the site rescue plan (Gotcha kit) immediately to prevent suspension syncope. Preserve the scene for HSE/police investigation.

Emergency Contacts
Appointed Person / Site Supervisor: [Number], Site Manager: [Number], Emergency Services: 999, HSE Incident Contact Centre: 0345 300 9923

11. Inspection & Monitoring

Supervision Arrangements
Continuous supervision is mandatory. The Appointed Person or designated Crane Supervisor must be present on-site at all times during lifting operations. A dedicated Temporary Works Co-ordinator must oversee the foundation integrity.

Inspection Schedule
Pre-use checks on the mobile crane, lifting accessories, and all height safety PPE before the shift begins. Wind speed monitored continuously. A formal Thorough Examination of the tower crane is required immediately upon completion of erection prior to use.

Responsible Person
Crane Supervisor / Appointed Person

Review Triggers
- Wind speeds exceeding manufacturer limits or 9.8 m/s.
- Unauthorised incursions into the road closure or exclusion zone.
- Any issue with base anchor alignment or concrete integrity.
- Failure of any communication equipment (radios).
- Following any near miss or dropped object.

12. Incident & Near-Miss Reporting

Minor Injury
Administer first aid via the site first aider. Record in the site Accident Book. Notify the Principal Contractor's site manager immediately. Complete internal incident report within 24 hours.

Serious Incident
STOP ALL LIFTS IMMEDIATELY. Call 999. Do not move the casualty unless in immediate danger (implement Gotcha rescue if suspended). Secure the scene. Do not tamper with the crane or rigging. Notify the Principal Contractor and Company Directors immediately.

Near-Miss Reporting
Report all near-misses (e.g., dropped pins, lifting tackle snags) to the Crane Supervisor immediately. Halt work if necessary. Record on the site near-miss report form. Investigate root cause before resuming the specific task.

RIDDOR Reporting
The Principal Contractor is responsible for RIDDOR reporting. Fatalities, specified injuries, or dangerous occurrences (such as failure of lifting equipment or collapse of the crane) must be reported to the HSE immediately by phone (0345 300 9923) and online within the statutory timeframes.

Emergency Contacts
Site Crane Supervisor: [Number], Principal Contractor Site Manager: [Number], Emergency Services: 999, HSE Incident Contact Centre: 0345 300 9923

13. Applicable Legislation

- Health and Safety at Work etc. Act 1974
- Management of Health and Safety at Work Regulations 1999
- Construction (Design and Management) Regulations 2015 (CDM)
- Lifting Operations and Lifting Equipment Regulations 1998 (LOLER)
- Provision and Use of Work Equipment Regulations 1998 (PUWER)
- Work at Height Regulations 2005
- Electricity at Work Regulations 1989
- Manual Handling Operations Regulations 1992
- Personal Protective Equipment at Work Regulations 1992 (as amended 2022)
- Control of Noise at Work Regulations 2005
- New Roads and Street Works Act 1991 (NRSWA)
- BS 7121-1:2016 Code of practice for safe use of cranes
- BS 7671:2018 Requirements for Electrical Installations (IET Wiring Regulations)
- EN 361 - Personal fall protection equipment (Full body harnesses)
- EN 355 - Personal fall protection equipment (Energy absorbers)
- EN 397 - Industrial safety helmets
- EN ISO 20471 - High visibility clothing
- EN 388 - Protective gloves against mechanical risks
- EN 60900 - Live working. Hand tools for use up to 1000 V AC

14. Toolbox Talk

Tower Crane Erection - High Risk Lifting and Working at Height

10-15 minutes

Key Hazards	• Overturning of the mobile crane due to ground failure or overloading. • Falls from height during mast and jib assembly. • Tools or components dropped from height striking persons below. • Unauthorised vehicles entering the road closure area.
Key Controls	• Strict adherence to the Lift Plan – nobody alters the sequence without the Appointed Person's approval. • 100% tie-off at height using twin lanyards – no exceptions. • All tools must be tethered. Keep the ground exclusion zone clear of all personnel during overhead lifts. • Maintain clear radio communication. If you lose radio contact, the lift STOPS immediately.
PPE Required	• Safety Helmet with chin strap • Full Body Harness & Twin Lanyards • Class 3 Hi-Vis Clothing • Safety Gloves
Key Message	Never stand under a suspended load, and ensure you are 100% clipped on when at height. A dropped tool or a fall from this height is fatal.
Discussion Points	• Has everyone inspected their harnesses and lanyards this morning? • Who is responsible for the rescue kit and do we all know how to deploy it? • What is the maximum wind speed for today's lifts, and who is monitoring it?

15. Site Staff Acknowledgment

I confirm that I have been inducted, understand the hazards identified, and agree to follow the control measures outlined in this assessment.

Name	Position	Date Signed	Verification
No staff acknowledgments recorded yet.			

Assessor Declaration & Client Acceptance

I confirm that this assessment has been prepared by a competent person and represents a suitable and sufficient assessment of the risks associated with the described work activity, in accordance with the Management of Health and Safety at Work Regulations 1999.

Prepared By (Assessor)	Accepted By (Client / Principal Contractor)
Your Name, Health & Safety Manager	
Name & Position	Name & Position
Signature	Signature
Date	Date