Brihanmumbai Municipal Corporation

Design and Build Contract

Construction of 45m wide Elevated Road from Link Road at Dahisar (West) in BMC limit to Bhayander (West) in MBMC limit (Coastal Road Last Leg)

Volume 7
Reference Documents

Section-1

OHS&E Document

Health & Safety Management

PART I

STANDARD FORMS

INDEX	REFERENCE	REVISION	DATE
Pre Task Check Form	FSAF 001	A	
General Permit	FSAF 002	A	
Hazard Log & Risk Register	FSAF 003	A	
Scaffold inspection register	FSAF 004	A	
scaffolding Handover certificate	FSAF 005	A	
Crane Operator Weekly Inspection Check list	FSAF 006	A	
Excavation Permit	FSAF 007	A	
Hot Work Permit	FSAF 008	A	
Near miss report	FSAF 009	A	
Confined Space	FSAF 010	A	
Audit template	FSAF 011	A	
First aid slip	FSAF 012	A	
GC Template Site Inspection Form		A	
Record of Induction Training	FSAF014	A	
Induction Checklist Form	FSAF015	A	
Operations Induction	FSAF016	A	
Visitors Induction	FSAF017	A	
MEWP Checklist	FSAF018	A	
Permit to work on electrical	FSAF019	A	
Permit to excavate	FSAF020	A	
Excavator Checklist	FSAF021	A	
Oil storage	FSAF022	A	
Harness Checklist	FSAF023	A	
Monthly Accident Statistic Report	FSAF024	A	

PART II

GUIDANCE DOCUMENTS

INDEX	REFERENCE	REVISION	DATE
Lifting Operations Guidance	GSAF 001	A	
Method Statements Contents	GSAF 002	A	
Working At Height	GSAF 003	A	
Audit Criteria	GSAF 004	A	
Monthly Report Contents	GSAF 005	A	
Emergency Fire Bomb Guide	GSAF 006	A	
SHE Training Matrix	GSAF 007	A	
Safety Plan	GSAF 008	A	

ENGINEERING PRE-TASK CHECK

Site:	Date:
TASK & LOCATION:	
Supervisor Name (PRINT):	Signature:

Item	Control Measures	YES or NO
1	Is all equipment and correct tools available to undertake the task and in correct working order? E.g. crane, Rig, Hydra, JCB certification, launch equipment ,scaffold etc.	
2	Are men trained and competent to undertake the task including tools and equipment? E.g. crane / Rig operators, welders and certification available	
3	Is all safety equipment available to do the task e.g. head, hand, eye, hearing protection, harness, concrete burn protection? Are men trained how to use it? E.g., harness fitting and use.	
4	Have all men been briefed and instructed on the specific task to be undertaken by the task supervisor prior to commencing operations?	
5	Are all safety precautions in place as identified in the risk assessment & method statement e.g. edge protection, access platforms, cordon & barriers etc?	
6	Have all men been briefed on the safety precautions, procedures and controls that must be followed as per the method and risk assessment?	
7	Is competent supervision in place? E.g. suitable knowledge, training & experience in specific task to be supervised	

IF THE ANSWER IS '<u>NO</u>' WORK <u>CANNOT</u> START !!!!!!!

GENERAL PERMIT

Number………

General Permit can be used where control of an operation is required to ensure safety to public and

or operatives. The type of operation that this permit could be used for includes:

Any high risk areas identified in the risk

assessments e.g. Work in or near

public spaces, demolition

PART A – ISSUE

Permit is issued to: ....….

of:……………………………………………….

materials removed for (specific work to be done)...…..

at (exact location of work) ....
………………………………………………………………..

………………………………………………………………………..
…………………………………………………………........

☐

Valid from:…… .... am/pm

to:.....…….. am/pm Date: …....................20.…...

I issue this permit subject to the minimum precautions I have listed in Part B below.

Signed: ....……
(Issuer)

PART D - COMPLETION OF WORK

The work has been completed and the work area and adjacent areas have been thoroughly checked to ensure no hazards remain

All equipment and

Safety equipment returned
....

Area restored

Other
…………………………………………………
…………………………………………

…………………………………………………
………………………………....

The work has been completed, and I have undertaken the checks and safety measures I have ticked in Part D of this permit above.

Time:……………………….………..am/pm

Date ……………………….20……….

PART B - PRECAUTIONS
Signed:……
(subcontractor once completed work)

Liaise with occupiers
Post warning notices
Provide suitable barriers
staff has been notified. No more work under this
Provide suitable traffic control
Location protected and sign marked
Other ……..
……
……...
……

PART E - CANCELLATION OF PERMIT

This permit to work is cancelled and the relevant Adequate competent supervision
Other permits e.g. Confined Space **permit.**

Time:.....….....am/pm

Date: .....20.....….....

Signed: .....
(Issuer)

PART C - ACCEPTANCE

I accept this permit and will ensure the precautions ticked above in part B have been undertaken before starting work. I also understand the checks and safety measures I am required to undertake after completion of work.

Signed: .....…….(Subcontractor undertaking work)

Identified Hazard	***Applicable***	**Risk Rating**			**Location** (List Where Necessary)	**Method Statements Risk Assessment Required**	**Minimum Mitigation (Details to be Completed if Box ticked) (E.G. Procedures to be followed)**	**Procedure Reference Number**
		H	**M**	**L**				
Site (External)								
Access and Egress								
Existing roads								
Contaminated ground								
Unstable ground								
Ground water/conditions								

Underground services								
Overhead services								
Existing traffic								
Traffic restrictions								
Existing plant or works								
Residential buildings								
Hotels								
Industrial buildings								
Schools/hospital								
Existing noise								
Existing dust								
Existing fumes								
OTHERS List:-								

Construction Operations:								
Identified Hazard	**Applicable**	**H**	**M**	**L**	**Location (List)**	**MS/RA**	**Minimum Mitigation**	**Procedure Reference Number**
Scaffolding								
Working at height								
Steel erection								
Confined spaces								
Temporary								

works								
Site clearance								
Bulk muck shift								
Piling								
Girder Launch								
Concrete operations								
Piers / columns								
Excavations								
Brickwork Block work								
Aluminium installation								
M & E								
Electrical works								
Electrical works to site distribution								
Plumbing inc, drainage, pipework installation								
Fan coil installation								
Air handling units								
Site Hoarding								
Elevator installation								

Surfacing								
Safety impact barrier erection								
Kerb Laying								
Plant and equipment								
Lifting Operations								
Lifting Appliances and equipment								
Demolition								
Plant movement								
Vehicle movements								
Piling								
Explosives								
Waste Disposal Housekeeping								
Welding								
Cutting/burning								
Cartridge Tools								
Trial Holes								
Others List:-								

Risks to public								
Identified Hazard	**Applicable**	**H**	**M**	**L**	**Location (List)**	**MS/RA**	**Minimum Mitigation**	**Procedure Reference Number**
Access to site								
Movements of plant								
Live traffic								
Noise/dust								
Parking								
Storage of materials								
Falling materials								
OTHERS List:-								

Health Risks								
Identified Hazard	**Applicable**	**H**	**M**	**L**	**Location (List)**	**MS/RA**	**Minimum Mitigation**	**Procedure Reference Number**
Weil's disease								
Gas oil								
Dusts								
Vapours								

Cement								
Bitumen								
Epoxy								
Night Working								
Chlorine Storage								
OTHERS List:-								
TEMPORARY ACCOMMODATION								
Identified Hazard	**Applicable**	**H**	**M**	**L**	**Location (List)**	**MS/RA**	**Minimum Mitigation**	**Procedure Reference Number**
Office installation								
Electrical installation								
Drainage								
Other services								
Fire								
Signing								

Cleaning								
Fencing								
Security								
Material storage								

Sleeping accommodation and labour camps								
OTHERS List:-								

Site Specific Risks (including Designer's Risks)								
Identified Hazard	**Applicable**	**H**	**M**	**L**	**Location (List)**	**MS/RA**	**Minimum Mitigation**	**Procedure Reference Number**

Risk Rating	**Tolerance**
HIGH	High severity and High probability of major injury, disablement or possible fatality. Work must cease immediately and additional control measures implemented prior to work commencement.
MEDIUM	Probability that an incident will occur over time (Over 3 day injury) but not as serious as a major injury or fatality. Additional control measures to be implemented within 24 Hrs.

LOW Negligible risk of injury, but task requires additional control measures to reduce likelihood of injury (Minor Injury not above 3 days off from employed role) Additional control measures to be specified and implemented within 48 Hrs

Severity Likelihood	**Minor Injury First Aid Case**	**Over 3 day injury**	**Critical Fatality or Major Injury**
Probable	**High**	**High**	**High**
Possible in time	**Medium**	**Medium**	**High**
Negligible Unlikely to occur	**Low**	**Medium**	**Medium**

NOTES
SCAFFOLD INSPECTION REPORT

General

1. The inspection report should be completed before the end of the relevant working period (every 7 Days)
2. The person who prepares the report should, within 24 hours, provide either the report or a copy to the person on whose behalf the inspection was carried out. Eg Safety Manager, Engineer etc
3. The report should be kept on site until work is complete.

Working Platforms Only

1. Any employer or any other person who controls the activities of persons using a scaffold shall ensure that it is stable and of sound construction and that the relevant safeguards are in place before his employees or persons under his control first use the scaffold.
2. No report is required following the inspection of any mobile tower scaffold which remains in the same place for less than 7 days.
3. Where an inspection of a working platform or part thereof or any personal suspension equipment is carried out:
   i. before it is taken into use for the first time; or
   ii. after any substantial addition, dismantling or other alteration;

Checklist of typical scaffolding faults:

Footings	Standards	Ledgers	Bracing	Putlogs & transoms	Couplings	Bridles	Ties	Boarding	Guard-rails & toe-boards	Ladders
Soft and uneven	Not plumb	Not level	Some missing	Wrongly spaced	Wrong fitting	Wrong spacing	Some missing	Bad boards	Wrong height	Damaged
No base plates	Jointed at same height	Joints in same bay	Loose	Loose	Loose	Wrong couplings	Loose	Trap boards	Loose	Insufficient length
No sole plates	Wrong spacing	Loose	Wrong fittings	Wrongly supported	Damaged	No check couplers	Not enough	Incomplete	Some missing	Not tied
Undermined	Damaged	Damaged	-	-	No check couplers	-	-	Insufficient supports	Brick guards	No Ladder

HANDING-OVER CERTIFICATE – SCAFOLDING

Date: _____
Site:

Time:

Description & location of section handed over:

Drawing No: (Where applicable) _____

Scaffolding as described above has now been completed and complies with Construction Codes of Practice. It is structurally sound and should be used and loaded in accordance with the stated specifications within this certificate.

(a) **Use only for** (General, Light, Heavy, Access etc)_____

(b) **Working lifts, with distributed Load of**: _____**(kn/m2)** per lift.

The detailed requirements of the Codes of Practice with regard to handrails – working platform – toe board – bracing – and ties have been complied with. This scaffold must be inspected once a week (or following exposure to wither conditions likely to have affected its strength or stability) by the user and the inspection recorded in a scaffold register. This inspection is undertaken to ensure that the scaffold continues to comply with the Codes of Practice.

N.B.Tarpauline sheets (or other windsails) must not be fixed to a scaffold unless has been specifically designed to take them.

Scaffold Foreman: _____**Signature:**_____

(date: _____

DO NOT REMOVE TIES

CRANE OPERATOR WEEKLY INSPECTION CHECKLIST							
Crane name/number	Crane type:			Crane capacity		Date of inspection:	
Location:	**Hour Meter:** **Start:** **Stop:**			**Total hours operated:**			
Operator's name:				Oiler's name:			
INSTRUCTIONS: *Check all items indicated. Inspect and indicate as satisfactory = S, Unsatisfactory = U, or not applicable = N/A*							
Walk around inspection	**U**	**S**	**N/A**	**Operator Cab Inspection**	**U**	**S**	**N/A**
Safety guards and plates				Gauges			
Carrier frame, rotate base				Warning & indicator lights			
General hardware				Control/brakes			
Wire rope				Visibility			
Reeving				Load rating charts			
Block				Safety devices			
Hook				Emergency stops			
Sheeves				List/trim indicators			
Boom/Jib				Boom Angle/Radius Indicator			
Gantry, pendants, boom stops				**Machinery House Inspection**	**U**	**S**	**N/A**
Walks, ladders, handrails				Housekeeping			
Wind locks, chocks, stops				Engine/Compressor			
Tires, wheels, tracks				Leaks -Fuel, lube, Oil, Water			
Leaks-Fuel, oil, lube, water				Lubrication			
Radius indicator				Battery			
Outrigger/locking device				Lights			
Operation Inspection	**U**	**S**	**N/A**	Glass			
Area safety				Clutch/Brake linings			
Unusual noises				Electric motors			
Control Action				Warning tags			
Brakes/boom/load/ rotate				Fire extinguisher			
Crane stability				Comments:			
No load test							
Fleeting sheeve							
Limit switches							
Operator's signature:				Supervisor's signature:			

EXCAVATION PERMIT

Number……

Excavation permits can be used where there are likely to be underground services or where the type / depth of the excavation will involve high risks that need to be controlled.

The type of operation for which this Permit could be used

includes: Excavation Work around live services
Deep excavations where men have to work
Contaminated ground
Excavation in made up ground or in poor soil

PART A – ISSUE

Permit is issued to: .....

of:……

for (specific work to be done).....

.....

at (exact location of work) .....

…….

……. Valid from:…… ..... am/pm
…….

to:..... am/pm Date:…..20…..

I issue this permit subject to the minimum precautions I have listed in Part B below.

Signed: .....
(Issuer)

PART D - COMPLETION OF WORK

The work has been completed and:
the work and adjacent areas have been thoroughly inspected to ensure no hazards remain •

Services re-instated •

Route of excavation recorded •

Records of disposal of contaminated material handed over •

All equipment and material removed •

Area restored •

Other ……..
……

The work has been completed, and I have undertaken the checks and safety measures I have ticked in Part D of this permit

Time:……..am/pm

Date:……20……

PART B - PRECAUTIONS

Signed: .....

Existing services identified (subcontractor once completed work) Electrical supply isolated •

Temporary trench supports available •

- Inspection regime in place
- Traffic control in place
- Protective clothing provided
- Suitable safe access provided
- Location protected and sign marked

Other

PART E - CANCELLATION OF PERMIT

This permit to work is cancelled and the relevant staff have been notified. No more work under this permit.

PART C – ACCEPTANCE

I accept this permit and will ensure the precautions ticked above in part B have been undertaken before starting work. I also understand the checks and safety measures I am required to undertake after completion of work.

Time:.....am/pm

Date: .....20.....

Signed: .....
(Issuer)

Signed: .....(Subcontractor undertaking work)

HOT WORK PERMIT

Hot work permits are to be used where a significant risk of fire or erroneous triggering of a fire detection system has been identified.

The type of heat, flame or spark producing operation for which this Permit may be used includes:

Welding – Cutting - Grinding - Soldering – Use of Bitumen boilers - Work using LPG – Burning off paint

Number……

PART A – ISSUE

Permit is issued to: ……
area and

for (specific work to be done)……

immediately following completion
……

1 hour after completion

Electrical equipment/supply switched back on

Smoke detector/s have been re-activated

……

Valid from:…… ..... am/pm
to:..... am/pm Date: ……..20…….

I issue this permit subject to the minimum precautions measures
I have listed in Part B below.

Signed: ……
(Issuer)

PART B - PRECAUTIONS

Before starting:

……. Combustible materials: removed

(Subcontractor once completed work)

protected

Electrical equipment/supply isolated

Smoke detector/s: isolated

Extinguisher/s: readily available

Personnel: instructed in fire precautions

know nearest fire alarm

Location: protected and sign marked

Work area screened to contain sparks

Other
……20……

Following completion:

(Issuer) Work and adjacent areas to be checked immediately

30 minutes later

1 hour after completion

Smoke detector/s to be re-activated

Other

PART C - ACCEPTANCE

I accept this permit and will ensure the precautions ticked above in part B have been undertaken before starting work. I also understand the checks and safety measures I am required to undertake after Completion of work.

Signed: …… (Subcontractor undertaking work)

PART D - COMPLETION OF WORK

The work has been completed and the work

adjacent areas to which sparks and heat might have spread such as opposite sides of floors and walls) have been thoroughly inspected and found fire

30 minutes later

at (exact location of work) ……

All equipment and material has been removed

Area restored

Other

The work has been completed, and I have undertaken the checks and safety

I have ticked in Part D of this permit above.

Time:……..am/pm
Date: ……20……

Signed:

PART E - CANCELLATION OF PERMIT

This permit to work is cancelled and the relevant staff have been notified. No more work under this permit.

Time:……..am/pm

Date:

Signed: ……

NEAR MISS REPORT

Near miss incidents should be regarded with the same seriousness as personal accidents as they are basically the same. The information recorded below is not to proportion blame (unless a clear disregard of safe working caused the incident) but to enable the company to learn and prevent similar occurrences.

Site/Location: **Contract No.**

Near Miss – Please describe what happened:	
Was there an obvious cause of the incident:	
Contributing Factors:	
Time:	**Date:**
Weather Conditions:	
Company Involved:	
Personnel Involved:	
Plant Equipment Involved:	
What has been done to prevent a re-occurrence:	

Name of Person Making Report…… Job Title……..

Signature:……Date……

….

Distribution: Area Director, Company Safety Advisor, Sub-Contractor's Office, Notice Boards

Attached: Photos Y / N / NA Sketches Y / N / NA Risk Assessments Y / N / NA Statements Y / N / NA

CONFINED SPACE PERMIT

Number……

Confined space permits are to be used where entry is required into an enclosed or partly enclosed space where because of its nature there is foreseeable risk including dangerous levels of fumes, gases and/or oxygen deficiency.

The type of operation for which this permit may be used includes work in:

Deep Manholes – Tanks – Wells – Live Sewers – Basements – Roof Spaces -Trenches – Pits – Other Similar Spaces

ALWAYS: ASK – IS THERE A NEED TO ENTER?
IF ATMOSPHERE IS POTENTIALLY UNSAFE - TEST ATMOSHPERE **PRIOR** TO ENTRY

PART A – ISSUE

Permit is issued to: ……

of:……

- for (specific work to be done)……..

……

- at (exact location of work) ……..

……..

Valid from:…… ..... am/pm

to:…….. am/pm Date: ….....20.…..

I issue this permit subject to the minimum precautions I have listed in Part B below.

Signed: ……

Signed…… (Issuer)

(Subcontractor once completed work)

PART D - COMPLETION OF WORK

The work has been completed and the works area and adjacent areas have been thoroughly checked to ensure no hazards remain

- Personnel accounted for
- All equipment and materials removed
- Safety equipment returned
- Area restored
- Other

The work has been completed, and I have undertaken the checks and safety measures I have ticked in Part D of this permit above.

Time……..…..am/pm

Date:……..20.……

PART B – PRECAUTION
Risk assessment undertaken and explained

PART E – CANCELLATION OF PERMIT

Test atmosphere prior to entry · **This permit to work is cancelled and the relevant staff** Test atmosphere during works - gas detector · **have been notified. No more work under this permit**. · Tripod, winch and harness ·

Topman/watcher posted · Time……..…..am/pm

Supervision ·

Emergency procedures ·

Date:……..20…… Communications ·

Competence and training □

Medical condition of operatives ·

Signed…… Isolation · (Issuer)

Forced Ventilation

· Pre-cleaning

· Size of access (entry and escape)

· Breathing apparatus

· Protective clothing

· Intrinsically safe tools and equipment

· Suitable access and light

· Location protected and sign marked

· Other ·

PART C - ACCEPTANCE

I accept this permit and will ensure the precautions ticked above in part B have been undertaken before starting work. I also understand the checks and safety measures I am required to undertake after completion of work.

Signed: ……(Subcontractor undertaking work)

FSAF 011 Monthly OHSE Audit

EHS TOTAL SAFE %

Contrator:	**Project Name:**
Project Manager:	**Chief Safety Manager**
Site Conditions:	

Points will be objectively awarded by the Group 6 personnel based upon site safety and environmental conditions. Scoring will be as follows: Excellent (E) = 10, Good (G) = 8, Average (A) = 6, Fail (F) = 0, Non-Compliance (NC) = -10 with the exception of those sections marked with an asterisk which will have a factor of 2 thus doubling the score for that section.

All non-compliance within the heavy bordered areas will receive an Action Notice at the required level.

All Suspended Operations Notices will be referred to the Project Manager, who will visit site within 24 hours to carry out further safety inspections.

Any non applicable topic and the corresponding "possible score" will not be marked and the score will be calculated by recognising the relevant possible score as being 100% and the actual score as a percentage of this.

1	NOTICES DISPLAYED	E	G	A	F	NC	Actions
1.1	Health and Safety Poster						
1.2	OHSE Policy Statements						
1.3	Employer's Liability						
1.4	Protective Equipment						
1.5	Reversing Vehicles						
1.6	Emergency Evacuation Procedure						
1.7	First Aider(s)						
1.8	Project Notices						
1.9	Site Rules						
		SUB TOTAL		0	POSSIBLE	0	

2	REGISTERS	E	G	A	F	NC	Actions
2.1	Scaffolding						
2.2	Excavations						
2.3	Lifting Appliances						
2.4	Electrics						
2.5	Safety Reports						
2.6	Equipment Registers						
	SUB TOTAL			0	POSSIBLE	0	

3	EHS DOCUMENTATION	E	G	A	F	NC	Actions
3.1	Formal Reviews						
3.2	Hazard Log & Risk Register						
3.3	RA & MS Completed						
3.4	R.A/ M.S Briefings						
3.5	RA/M.S Implementation						
3.6	EHS Organisation Chart						
3.7	Manual Handling Assessment						
3.8	Manual Handling Training						
		SUB TOTAL		0	POSSIBLE	0	

4	WELFARE	E	G	A	F	NC	Actions
4.1	Canteen						
4.2	Drying Room						
4.3	Toilets & washing facilities						
		SUB TOTAL		0	POSSIBLE	0	

5	SITE ENTRY	E	G	A	F	NC	Actions
5.1	Safety of Traffic						
5.2	Safety of Public						
5.3	Relevant Site Signage						
		SUB TOTAL		0	POSSIBLE	0	

Contrator:					Project Name:		
6	SITE TIDINESS (*X 2)	E	G	A	F	NC	Actions
6.1	Work area hoarding						
6.2	External barriers						
6.3	General						
6.4	Work Areas						
6.5	Denailing						
6.6	Storage						
		SUB TOTAL		0	POSSIBLE	0	

7	FIRE PRECAUTIONS	E	G	A	F	NC	Actions
7.1	Site Offices						
7.2	Work Place – Extinguishers						
7.3	Hot Works Permits						
7.4	Conditions on Site						
7.5	Storage of Flammables						
7.6	Fire Plan						
7.7	Fire Risk Assessment						
7.8	Means of Escape						
7.9	Relevant/Statutory Signs						
		SUB TOTAL	0		POSSIBLE	0	

8	PPE	E	G	A	F	NC	Actions
8.1	Helmets						
8.2	Footwear						
8.3	Hi Viz						
8.4	As per Risk Assessment						
		SUB TOTAL	0		POSSIBLE	0	

9	COSHH	E	G	A	F	NC	Actions
9.1	File Maintenance						
9.2	Assessment Briefings						
9.3	Assessment Application						
		SUB TOTAL	0		POSSIBLE	0	

10	PLANT (*X 2)	E	G	A	F	NC	Actions
10.1	Planning						
10.2	Competent Personnel (Cert.)						
10.3	On-SiteTraffic Management						
10.4	Guarding Arrangements						
10.5	Vehicle Checks						
10.6	Examination Certification						
10.7	Safe Use						
10.8	Ancillary Lifting Equipment						
10.9	Suitability & Specific PPE						
		SUB TOTAL	0		POSSIBLE	0	

11	EXCAVATIONS (*X 2)	E	G	A	F	NC	Actions
11.1	Planning						
11.2	Provision of Services Locators						
11.3	Underground Services						
11.4	Edge Protection						
11.5	Shoring						
11.6	Competent Workforce						
11.7	Temporary Works						
11.8	Safe Working Procedure						
		SUB TOTAL	0		POSSIBLE	0	

12	ELECTRICS	E	G	A	F	NC	Actions
12.1	Condition of Site Distribution						
12.2	Overhead Lines Identified						
12.3	Storage and Issue of Tools						
12.4	Condition of Equipment						
12.5	Competent Persons						
12.6	Work Permit Procedure						
		SUB TOTAL	0		POSSIBLE	0	

Contrator:					Project Name:		
13	**WORK AT HEIGHT (*X 2)**	**E**	**G**	**A**	**F**	**NC**	**Actions**
13.1	Planning						
13.2	Ladder Access						
13.3	Scaffolding General						
13.4	Towers & Platforms						
13.5	Edge Protection and Toeboards						
13.6	Competent Persons						
13.7	Other Precautions						
13.8	Temporary Works Assessment						
13.9	Recorded Inspections						
		SUB TOTAL		**0**	**POSSIBLE**		**0**
14	**FLOOR OPENINGS**	**E**	**G**	**A**	**F**	**NC**	**Actions**
14.1	Planning						
14.2	Provision of Protection						
14.3	Relevant Signage						
		SUB TOTAL		**0**	**POSSIBLE**		**0**
15	**CONFINED SPACES (*X2)**	**E**	**G**	**A**	**F**	**NC**	**Actions**
15.1	Planning						
15.2	Gas Detection Equipment						
15.3	Rescue Equipment						
15.4	Competent Persons						
		SUB TOTAL		**0**	**POSSIBLE**		**0**
16	**H & S COMPLIANCE**	**E**	**G**	**A**	**F**	**NC**	**Actions**
16.1	Action on Safety Reports						
16.2	Promotion of Health and Safety						
		SUB TOTAL		**0**	**POSSIBLE**		**0**
17	**PUBLIC INTERFACE (*X**	**E**	**G**	**A**	**F**	**NC**	**Actions**
17.1	Safety of the Public						
17.2	Safety of the Staff						
17.3	Public Information						
17.4	Public Interface						
17.5	Traffic Management						
17.6	Highway Cleanliness						
17.7	Staff Information						
17.8	Visitor Information						
		SUB TOTAL		**0**	**POSSIBLE**		**0**
18	**WASTE**	**E**	**G**	**A**	**F**	**NC**	**Actions**
18.1	Provision of Skips						
18.2	Instructions on Disposal						
18.3	Registered Waste Carrier						
18.4	Retention of Waste Transfer Notes						
18.5	Recycling Materials						
18.6	Waste Management Policy						
18.7	Waste Minimisation						
18.8	Identification of Special Wastes						
		SUB TOTAL		**0**	**POSSIBLE**		**0**
19	**NOISE**	**E**	**G**	**A**	**F**	**NC**	**Actions**
19.1	Identification of Sources						
19.2	Provision of Silenced Equipment						
19.3	Monitoring						
		SUB TOTAL		**0**	**POSSIBLE**		**0**

Contrator:					Project Name:		
20	**HEALTH RISKS**	**E**	**G**	**A**	**F**	**NC**	**Actions**
20.1	HAV's Register						
20.2	Silicosis Information						
20.3	Skin Cancer Information						
20.4	HIV/AIDS Information						
20.5	Leptospirosis Information						
20.6	Tetanus						
20.7	Hepatitas						
		SUB TOTAL		**0**	**POSSIBLE**		**0**
21	**TRAINING/INDUCTION**	**E**	**G**	**A**	**F**	**NC**	**Actions**
21.1	Management Competency						
21.2	Staff						
21.3	Operatives						
21.4	Training Programme						
21.5	Competency Certification						
		SUB TOTAL		**0**	**POSSIBLE**		**0**

POINTS AWARDED

SITE EHS TOTAL **0** **POSSIBLE** **0**

EHS TOTAL % SAFE **0%**

Comments:

Date of Inspection: Contractor:
Project Name: Project Manager:
Safety Manager:

Site EHS Compliance Audit Toolkit
Totals Sheet

		SCORE
1	NOTICES DISPLAYED	0
2	REGISTERS	0
3	EHS DOCUMENTATION	0
4	WELFARE	0
5	SITE ENTRY	0
6	SITE TIDINESS	0
7	FIRE PRECAUTIONS	0
8	PPE	0
9	COSHH	0
10	PLANT	0
11	EXCAVATIONS	0
12	ELECTRICS	0
13	WORK AT HEIGHT	0
14	FLOOR OPENINGS	0
15	CONFINED SPACES	0
16	H & S COMPLIANCE	0
17	PUBLIC INTERFACE	0
18	WASTE	0
19	NOISE	0
20	OCCUPATIONAL HEALTH	0
21	TRAINING/INDUCTION	0
	TOTAL %	0%

FIRST – AID TREATMENT SLIP

LOGO	NAME OF THE SITE	SLIP NO

FIRST-AID TREATMENT SLIP

NAME:_____

LOCATION:_____

DATE: _____

STAFF/CONTRACTOR (TICK)

IF SUB CONTRACTOR, NAME OF THE SUB CONTRACTOR :

MENTION BREIF CAUSE OF ACCIDENT:

TIME : am/pm **NAME & SIGNATURE OF SITE ENGINEER/SUPERVISOR**

(TO BE FILLED BY ATTENDING DOCTOR/FIRST AIDER)

LOCATION OF BODY PART :

NATURE OF INGURY :

FIT **UNFIT** **HOSPITALISED : YES/NO**

ROOM NO : BED NO

SIGNATURE OF ATTENDING DOCTOR :

NAME &REGISTRATION NO. **NAME & SIGNATURE OF FIRST-AIDER**

SLIP RECIVED BY SAFETY MANAGER/SAFETY ENGINEER

DATE :

TIME : am/ pm **SIGNATURE BY DUTY SAFETY ENGINEER**

Safety Inspection Report

(SITE)

DOCUMENT / DRAWING TECHNICAL VERIFICATION AND REVISION RECORD

PROJECT NAME					
***DOC/ NO.**			**DATE OF ISSUE**		
***DOC/ TITLE**		**Safety Inspection Report**			
REV No.	**DATE OF ISSUE/REV.**	**DESCRIPTION**	**PREPARED/ DESIGNED**	**CHECKED**	**APPROVED**
1		**Safety Inspection Report (SITE)**			

GC EMBYE Safety Inspection Report SAF1

Site:	Completed by (PRINT NAME):
Date:	Title: GC Safety
Summary	

No	Category	Comments & Action	Risk Rating			Behaviour S/U	Action √ / X
			H	M	L		
1	**Leading Edge Protection** (Double Rails & Toeboards)	**N.A**	**H M L**			**S U**	
2	**Void Protection** (Guard rails or securely covered)	**N.A**	**H M L**			**S U**	
3	**Scaffolding** (Designed, Inspected &Tagged)	**N.A**	**H M L**			**S U**	
4	**Temporary Works** (Compliant with design/drawing)	**N.A**	**H M L**			**S U**	
5	**Ladder Use** (Short duration work only) (stable and footed)		**H M L**			**S U**	
6	**Mobile Towers** Guardrails, Toeboards Correctly braced	**N.A**	**H M L**			**S U**	
7	**Electricity** (Condition, Protected) (Life risk /Fire Risk) BOCWR – R 47 Clause 26 SHE Conditions of Contract		**H M L**			**S U**	
8	**Traffic Management** (People & Plant separated)(demarked) BOCWR – R 48		**H M L**			**S U**	

9	**Plant & Equipment** (In good working order) (Operated correctly) BOCWR – R 130		**H M L**	**S U**	
10	**Excavations** (Inspected / shoring in place) (Gas Levels)				
11	**Permit systems** (Permit in Place and being followed)		**H M L**	**S U**	
12	**Fire Safety** (Fire points, with extinguishers & alarm available)		**H M L**	**S U**	
	BOCWR – R 35				
13	**Safe Access/Egress** (Safe pedestrian route too all areas)		**H M L**	**S U**	
14	**Housekeeping** (No waste build up) (slip trip hazards)		**H M L**	**S U**	
15	**Pile Rig** (Lifting Equipment) BOCWR – R 214,216 -221		**H M L**	**S U**	
16	**Confined spaces**		**H M L**	**S U**	
17	**Storage of materials**		**H M L**	**S U**	
18	**Signage** (Erected and appropriate) BOCWA S - 44 BOCWR R – 5		**H M L**	**S U**	
19	**Personal protective Equipment** (Correct for task & in use by staff) BOCWA and BOCWR R – 45, R – 46; R – 54, C – XI; R – 96 to 107		**H M L**	**S U**	
20	**Harmful Substances** (Stored, Used correctly)		**H M L**	**S U**	
21	**Dust Debris Suppression** (Vehicles covered, Damp down)		**H M L**	**S U**	

22	**Noise Suppression (Enclosures Barriers in place above 90 db)**		**H M L**	**S U**	
23	**Employee Trained and aware of tasks** briefed on task & safety etc		**H M L**	**S U**	
24	**Welfare facilities** (Clean, Tidy & Hygienic)		**H M L**	**S U**	
25	**Public Protection from site operations**				
26	**Site Security**		**H M L**	**S U**	

Risk Rating	Tolerance
HIGH	High severity and High probability of major injury, disablement or possible fatality. Work must cease immediately and additional control measures implemented prior to work commencement.
MEDIUM	Probability that an incident will occur over time (Over 3 day injury) but not as serious as a major injury or fatality. Additional control measures to be implemented within 24 Hrs.
LOW	Negligible risk of injury, but task requires additional control measures to reduce likelihood of injury (Minor Injury not above 3 days off from employed role) Additional control measures to be specified and implemented within 48 Hrs

Severity Likelihood	Minor Injury First Aid Case	Over 3 day injury	Critical Fatality or Major Injury
Probable	**High**	**High**	**High**
Possible in time	**Medium**	**Medium**	**High**
Negligible **Unlikely to occur**	**Low**	**Medium**	**Medium**

RECORD OF INDUCTION TRAINING

Site Name:

Your Employer's Name:

Site Safety Management Matters - Identify points covered by induction by ü in box

1. SUPERVISION *site management structure.*		**11. CLIENTS RULES** *detail any client specific rules*	
2. EMERGENCY *alarm procedure/muster point.*		**12. ACCIDENT and INCIDENT** *reporting procedures Including near miss incidents*	
3. SMOKING *identify any smoking restrictions.*		**13. DISCIPLINARY ACTION** *for safety related failings*	
4. FIRST AID *arrangements on site.*		**14. PPE** *requirements for boots, eye & hearing protection, respirators & overalls etc.*	
5. ENTRY ROUTES TO SITE *give details for both Pedestrian & Vehicle routes*		**15. SAFETY HELMET** *as directed by site management in accordance with site rules*	
6. ACCESS RESTRICTIONS *detail any areas which are out of bounds*		**16. NOISE** *nuisance noise & restrictions on working hours (Section 60 notices) & noise assessment procedure*	
7. ALCOHOL *consumption of alcohol, taking of non prescribed drugs is not permitted**. Note section 37***		**17. NO RADIOS** *operating from leads. **NO WALKMANS*** or other in ear audio device	
8. HAZARD REPORTING *detail procedures.*		**18. SECURITY** *arrangements & right of search etc.*	
9. WELFARE *no eating on site. Site canteen/toilet Arrangements. Identify smoking restrictions Arrangements*		**19. STATUTORY CERTIFICATES** *required for , lifting appliances, electrical power tools etc.*	
10. SITE RULES *give details*			

WORKING ARRANGEMENTS - Identify points covered by induction by ü in box

20. SAFE WORKING *risk assessments & method statement explained*		**28. COSHH** *before using chemicals, cutting, grinding, or mixing materials obtain assessment. If in doubt ASK!*	
21. SITE VEHICLES, PLANT & MACHINES *only to be operated by authorised person, with proof of training & competence* certificate *(CITB etc*		***29.*** **SCAFFOLD** *not to be erected, dismantled or altered except by authorised persons. Proof of training & competency is required. (Includes towers.)*	
22. TRAFFIC MANANGEMENT *Vehicle/pedestrian routes. Speed limits*		**30. MATERIAL STORAGE & WASTE DISPOSAL** *arrangements & procedures*	
23. FIRE PREVENTION *location and type of fire fighting equipment.*		***31.*** **MANUAL HANDLING** *maximum weights & assessments.*	
24. PERMIT TO WORK *describe procedure.*		**32. MATERIAL HANDLING** *to be lowered not thrown*	
25. TOOLS. *Personal hand tools should be inspected regularly and any defects corrected.*		***33.*** **SAFETY MONITORING ARRANGEMENTS** *safety inspections & site instructions etc.*	
26. ENVIRONMENT *conditions and special arrangements relating to this site.*		**34. CONSULTATION ARRANGEMENTS.** *You are encouraged to discuss any constructive aspects of safety.*	

To be completed by the person receiving induction training ü

ü Appropriate box	**YES**	**No**	
35. Has your employer explained the safe system of work contained within your method statement and risk assessment?		Þ	**STOP**
36. Do you understand the Risk Assessment and Method Statement & agree to comply with its content?		Þ	**STOP**
37. Do you suffer from epilepsy, asthma, hearing or visual disability, (colour blindness etc.)? Do you have any disability or condition, which requires special medical attention or treatment? Are you taking any medication? (Give details overleaf in order to assist any first aid treatment)			
38. Have you read and understood the site rules? and agree to comply with them?		Þ	**STOP**
39. I am 18 years of age or older		Þ	**STOP**

No means **STOP** - do not commence work. - see Rok site management before working

40. Which training certificate* do you Hold?		None	

***Certificates** will be required for examination & photocopying

I have been instructed on the above items

Sept 04

INDUCTION CHECKLIST

Explain to all in conjunction with the Company Standard Operatives Induction.

1. Site Management Team and responsibilities
2. The scope of the project and site details
3. Site layout, boundaries, security, any notice boards
4. Welfare facilities
5. Transport plan
6. Fire plan and actions in event of an emergency
7. Name and details of first aider and first aid facilities
8. Actions in the event of an accident/near miss and reporting procedure
9. Specific site wide hazards eg. live building services
   HV cables…overheads…..underground contaminated land
   confined spaces
   working adjacent to public
10. Site Procedures
    eg. reporting of unsafe acts, near misses and safety issues that require attention permits required
    restricted areas
    PPE zoning
    signing in and out as per site rules
11. Safe use of scaffolding
12. Housekeeping arrangements and material storage

13. Methods of consultation on H&S matters

14. Personal responsibilities, conduct and disciplinary measures

15. Questions and open discussion

In addition check operatives have had their risk assessments and any associated method statement and COSHH assessments explained to them by their company, and that they understand what they have to do. Also check they understand who is responsible for their immediate supervision.

All attendees should sign Operatives Safety Induction Form. Some sites may also use the Operatives General Induction Register.

Health & Safety Policy requires you to act in a safe way & not put others at risk. A copy of our policy is on site for you to inspect. The legal requirements listed below will help us work together towards eliminating accidents and ill health on site.

1. Personal Protective equipment a) Safety helmets, safety boots & hi-viz will be worn in accordance with site rules. b) Other items established by risk assessment must be worn. c) Your immediate supervisor must tell you what is required for your work.	**Starting On Site** **Protective Equipment** Has your manger supplied you with what you need? i.e. helmet, hi-viz, safety footwear, RPE, gloves, goggles ear protection etc. Y N
2. Mobile Plant a) Only authorised &/or certificate holding operatives may drive plant. b) Use any designated vehicle routes and be aware of any pedestrian routes etc. c) All reversing & manoeuvring near excavations must be overseen by a banksman.	**Site Hazards** Has your manager/ site manager explained to you where the hazardous areas are on site? Y N
3. Excavations a) All excavations & manholes must be guarded or covered. b) When working below ground level ensure adequate steps have been taken to prevent collapse. c) Ensure location of any underground services are known.	**Emergency Procedures** Do you know who the first aid person is? Do you know where the fire exit routes are located and where the assembly point is? Y N **Risk Assessment** A risk assessment is needed for every job on site. Do you know what Precautions and protective equipment apply? Y N
4. Access / Scaffolds / Ladders a) Use & keep to proper pedestrian access routes when entering and moving around site. b) Use only completed platforms – guard rails / toe boards c) Do not interfere/alter or move any scaffold/ladders/access equipment. d) All ladders must be tied or footed regardless of the duration of the work. e) Only recognised scaffolder may erect or alter scaffolds.	**Your Work** Has your work been properly explained to you? If working to a method statement do you understand it? Y N **Accidents** Do you agree to report all accidents and near misses to your manager and site management immediately? Y N

5. Lifting Operations / Manual Handling a) Lifting equipment/accessories must have current certificates of thorough examination. b) Lifting operations must be planned and supervised. c) Only authorised operators/banks men to be engaged in a lift. d) Avoid manual handling heavy materials/plant if possible e) Use proper manual handling techniques at all times.	**Site Rules** Are you aware of and do you agree to abide with the site rules? Y N **Medical conditions** Do you suffer from any medical condition that may affect your safety on site? If so, please provide details. Y / N
6. Generally a) Make sure you are aware of the risks relating to your work. b) Find out the position and status of any building services and precautions required. c) Be aware of how to deal with any hazardous materials/substances connected to your work (COSHH and flammable/volatile substance issues. d) Think seriously about progressive injury. Noise above 85dB, dusty areas, using tools with high vibration levels. e) Work in a tidy manner, clear waste regularly. f) We actively promote consultation on Health & Safety matters. g) IF YOU SEE SOMETHING THAT IS A HAZARD – REPORT IT	**Declaration** I have read (or have had read to me) these instructions & understand my responsibilities for working safely. I am over 18 years of age. * (delete if not applicable) **Name ……..(print)** **Date:……** **Company/S-C:……** **Signed:……**

Failing to follow these simple rules will result in your removal from site! Remember – Your actions could affect our future use of your company!

VISITORS INDUCTION

The Health & Safety Policy requires you to act in a safe way and not put others at risk. A copy of the policy is displayed on site for you to inspect. The requirements listed below will help us to work together towards eliminating accidents and ill health on site.

AUTHORISATION

Please sign in and out of the visitor's book.

ENTERING SITE

Please use and keep to proper access when entering and moving around site. Ask the Site Manager to advise you of pedestrian routes/pedestrian free zones. Helmets and footwear must be worn on site. Additional PPE may be required at certain times and/or in particular areas of the site. The Site manager will advise you of any such requirement.

SITE HAZARDS

Ask the Site Manager to advise you of type and location of site hazards.

EMERGENCY PROCEDURES

Find out who is the First Aid Person, the location of alarms, exit routes and assembly points. An emergency procedure sign is displayed – READ IT.

ACCIDENTS AND UNSAFE CONDITIONS

All accidents and near misses must be reported to the Site Manager, you have a duty to advise the site staff of any potentially dangerous situation or unsafe condition you may observe.

DECLARATION

I have read these instructions and understand my responsibilities.

Name:……(print) Date: ……..

Signed: ……..

Company Name: ……..

Mobile Elevating Work Platforms (MEWPS)

Site		**Contract No.**	
Machine/Equipment			
Type (Scissor lift, Telescopic, Articulated Telescopic, Vehicle Mounted			
Make:	Model:		
Plant/Serial No.	Supplier:		

Documentation	**Date of Examination/Inspection**	**Comments**
6 monthly thorough examination		
Weekly inspection register		
Log of daily checks		

Operator Training				
All operators of MEWPS must have received training from appropriate training organisations and be issued with a certificate indicating competence such as the CITB CTA card (not familiarisation training). Enter details below				
Certificate of competence	Yes	No	Certificate issued by	
Certificate registration No.			Certificate expiry date	
Is the operator familiar with the equipment to be used?			Yes / No	Comment if necessary

General Checks (Tick boxes as appropriate)	Yes	No
Is SWL or Max No. of persons clearly marked on the lifting platform?		
Are all dangerous parts adequately guarded?		
Is the machine suitable for the ground conditions to be worked on?		
Is the machine to be driven on a public highway?		
If yes to above question; Does driver have a suitable licence?		
Is machine taxed for use on public highway?		
Are safety harnesses with restraint lanyards available for use during work operations?		

Form completed by:		Date:	

PERMIT TO WORK
ON OR NEAR ELECTRICAL EQUIPMENT

It is intended that this form is for use by electrically competent persons only

Contract Title:					**Contract No:**		
Location of Works:					**Date of Work:**		
Risk Assessment:	**Yes**	**No Þ Stop**	**Method Statement:**		**Yes**	**No Þ STOP**	
Person in Charge:			**Name of Contractor:**				

Part 1 Description of Work *(Describe the work to be carried out)*	
Description of equipment:	
Location of equipment:	
Describe the work to be carried out:	

Part 2 Precautions to be Taken Before Work *(Provide further details to these questions in part 3)*					
"CAUTION " notice to be displayed	Yes	No	"DANGER" notice to be displayed	Yes	No
Equipment isolated			Electrical circuits isolated		
Any other precautions required					

Part 3 Precautions During Work			
Measures required for "Live" working			
The equipment will be deemed safe and can return to normal use when work is complete and all persons, tools & equipment are removed			
Permit valid from:		**Time of Expiry:**	

Part 4 Authorisations:				
All Signatories to this Permit confirm that they understand the precautions to be taken prior to and during the work. The Recipient of this Permit is responsible for the safety of all persons and equipment involved. Only the Authorised Person can cancel this Permit.				
	Name	**Signature**	**Time**	**Date**
Permit issued by (Authorised Person):				
Recipient of Permit:				
Surrendered by:				
Cancelled by (Authorised Person):				

PERMIT TO EXCAVATE

Contract Title:			**Contract No:**		
Location of Works:			**Date of Work:**		
Risk Assessment:	**Yes**	**No Þ Stop**	**Method Statement:**	**Yes**	**No Þ STOP**
Person in Charge:			**Name of Contractor:**		

Part 1 Description of Work *(Include if appropriate Safe Method of digging when within 0.5 metres of services)*

Anticipated period that excavation will be open:			Hours		Days	
Type of ground to be excavated- *(Tick box)*	Rock	Clay	Sand	Gravel	Mixture	Other
Describe the work to be carried out:						

Part 2 Precautions to be Taken Before Work *(Provide further details to these questions in part 3)*

	Yes	No		Yes	No
Service Utility records checked		**Stop**	Is there a danger of collapse or undermining adjacent structure/road etc.?	**Stop**	
Site Maintenance Plans checked			Will excavation support be required?		
Electro-location (CAT scan) survey carried out by trained competent person.		**Stop**	Is ground support available on site?		**Stop**
Will underground services be marked on site?		**Stop**	Will anyone enter the excavation?		
Services marked on site drawings			Could water enter the excavation?	**Stop**	
Supervision informed of location of services		**Stop**	Could gas enter the excavation?	**Stop**	
Trial holes dug if service identified		**Stop**	Will Confined Space Permit be required?		
Are there any overhead cables or other restrictions on the use of excavators/plant			Other		

What services have been identified? (tick box & identify size, type and how many)	Gas	Electricity	Water	Telecom	Other (state)
Any other precautions required:					

Part 3 Precautions During Work *(Tick boxes as appropriate)*

Type of Excavation support	Drag box	Driven sheets	Piling sheets	Fully timbered	Hit/Miss sheeting	Jacking system	Battered sides	Other
Type of Edge Protection				Type of gas monitoring				

Adequate Access/Egress	Yes	No	Are existing services marked out on site	Yes	No
Are other restrictions identified in Part 2 controlled		**Stop**	Are existing services adequately supported	Yes	No
Note size and type of service					
Any other precautions to be taken:					

Permit Valid From:		**Time of Expiry:**	

Part 4 Authorisations

ONLY PERSONS AUTHORISED IN WRITING BY THE SENIOR RESIDENT MANAGER MAY COMPLETE AND ISSUE THIS PERMIT.

All Signatories to this Permit confirm that they understand the precautions to be taken prior to and during the work. The Recipient of this

	Name	Signature	Time	Date
Permit issued by (Authorised				
Recipient of Permit:				
Surrendered by:				
Cancelled by (Authorised Person):				

Site Excavator Checklist

Site		**Contract No.**	
Machine/equipment		Supplier	
Make		Model	
Capacity (lifting only)		Plant/Serial No.	
Condition - list obvious defects		Tyres- any obvious cuts/worn tread	

Documentation	**Date of Examination/Inspection**	**Date checked**
12 month thorough examination		
Lifting equipment test certificates (Before first use)		
6 month thorough examination of lifting equipment		
Weekly inspection register		

General information	
SWL marked on boom or clearly displayed in cab	
Are check valves fitted?	
Is there a suitable lifting eye/point?	

Operator Training		
Name of operator (print name)		
	Card number	**Expiry date**
Type of certificate issued		
Categories of plant applicable	1	4
	2	5
	3	6

Checked by:	
Print Name and Company:	
Signature:	Date:

Note: Excavators fitted with a rated capacity indicator should be treated as a crane and a Crane Checklist used

OIL STORAGE REQUIREMENTS

Above Ground Storage Tanks for Offices					
MUST have -	**GO**	**RA**	**MUST NOT have -**	**GO**	**RA**
Good integrity and condition.			Walls not penetrated by valves or pipes.		
110% bund, with rainwater sump in base.			Inadequate bund.		
Minimum clearance between bund and tank not less than 750mm.			Any valve, sight gauge, pipe work outside of the bund.		
Suitable location to minimise damage by impact.			Be within 10m of any watercourse/drains.		
Base and walls impermeable to water and oil.			Be within 50m of a water abstraction point.		
Angle fillet at junction of base and wall to deflect ice.					
Sight gauge supported.					
Sight gauge fitted with a valve that automatically closes when not in use.					
Vent pipe located within the bund, discharging vertically downwards.					

Storage Tanks for Fuelling Mobile Plant (+ all the above list)					
Flexible draw off pipe has automatic closure valve.			Pipes must not hang out of bund.		
Delivery pipe must be locked within the bund when not in use.					

Mobile Bowser					
Must have a hand pump or an automatic cut-off nozzle.					
Pump/valve must be locked shut when not in use.					
Pump/valve fitted with a lockable tap where it leaves the tank. Kept locked when not in use.					
Sight gauge must have a lockable valve where it leaves the tank, and kept locked when not in use.					

GO = Good order RA = Requires Attention

HARNESS CHECKLIST

Contract.....

Make/Supplier/ Identification No.	Date	Webbing	Stitching	Buckles	Karabiners & Snap hooks	Checked By	Signature

Here are the Do's and Don'ts

DO

- Carry out a full visual inspection of your "Fall Arrest" system every time before use.
- Make sure that every part of your "Fall Arrest" system is fully compatible.
- Use anchorage that is located directly above the working position.
- Use approved permanent anchorage points that have been built or installed by professionals.
- Always ensure that the closing bar on the karabiner hook is locked shut. Kwiklok types do this automatically but should be checked. Screwgate types must be screwed home manually and checked by applying pressure against the closing bar.
- Make sure that the space you would travel through in the event of a fall is free from protrusions and hazards.
- Ensure that your harness is fitted as close to your body as is comfortable to prevent it's upward movement in the event of a fall.
- Only use compatible ancillary equipment.

DO NOT

- Anchor to a structure that itself can fall, ie. a free standing ladder or other loose structures.
- Use an anchorage point that will not take a shock load of 1000kg.
- Use an anchorage point that is located below the point of attachment to your harness. (Special conditions apply to Scaffolders)
- Use waist connection points on a harness for "Fall Arrest". Waist connection points are for work positioning or restraint only.
- Loop lanyards around structures with sharp edges. Do not use if less than 5mm or 7/32" radius edge.
- Use any "Fall Arrest" equipment without reading both the user manual and individual product fitting instructions.
- Use any "Fall Arrest" equipment without familiarisation training and if possible practical training.
- Mix different manufactured products into your "Fall Arrest" system without checking and confirming their compatibility.
- Use any "Fall Arrest" products that are showing signs of wear and tear. Return for formal inspection.
- Extend the length of your lanyard beyond 2M. For greater working distances use a Fall Arrester Block.
- If you have any doubts on any equipment DO NOT use it.

CHENNAI METRO RAIL PROJECT LIMITED	SAMPLE SAFETY FORM REFERENCE:	FSAF- 024

CONTRACTORS MONTHLY ACCIDENT STATISTICS REPORT

NAME OF CONTRACTOR	CONTRACT NO

REPORT FOR MONTH ENDING:

COMMENCEMENT DATE: **SCHEDULED COMPLETION DATE:**

	ACCIDENT STATISTICS SUMMARY	FOR MONTH	CUMULATIVE
1.	Number of Man-hours Worked		
2.	*Number of Man days Worked*		
3.	*Number of Reportable Fatal Accidents*		
4.	*Number of Reportable Non-Fatal Accidents*		
5.	*Number of Dangerous Occurrences*		
6.	*Number of Man-hours Lost*		
7.	*Number of Man days Lost*		
8.	*Number of Reportable Accidents per 100,000 Man-hours Worked* *= [(3) + (4)] x 100,000 = Accident Frequency Rate* *(1)*		
9.	*Average Number of Worker Daily*		

REMARKS:

Signed: Safety Officer: Date: / /

Signed: Project Manager: Date: / /

NOTE: This form must be completed and returned to the Employer's Representative within 5 days after the end of each month.

OPERATIONAL GUIDANCE PROCEDURE

GSAF /0001

LIFTING OPERATIONS

0		Issued for use
0		Reviewed/edited/amended in conjunction with management review
Rev.	**Date**	**Description**

	Prepared by:	Reviewed by:	Approved by:
Name:			
Date:			
Signature:			

Table of Contents

1 Introduction

The purpose of this Standing Instruction is to provide Crane Operators and associated personnel with fundamental safe working procedures to be followed during crane lifting operations.

The document provides guidance on:

- Responsibilities and competence of personnel involved in lifting operations;
- Risk Assessment and preparation of Lift Plans;
- Execution of crane operations;
- General instructions for Crane Operators;
- General instructions for Banksmen and Load Handlers.

2 Scope

This procedure covers crane lifting operations undertaken by personnel employed by (Contractor Name) Infrastructures Limited, either directly or through contractual obligations. The type, classification or location of crane covered by the requirements of this document is not limited; although the requirements are primarily aimed at crane operations covering the Dahisar-Bhayandar Link Road. Specific requirements regarding thorough examination, testing and inspection of equipment are not covered within this procedure.

The guidance contained within this procedure has been provided to enable compliance with local legislation and regulations as well as providing best practice within the international community. As the nature of the activities described is common throughout the construction industry, the guidance would be applicable to operations outside of India; however, local legislation, regulations and procedures must always take precedence over this instruction where specific restrictions may be a requirement.

Use of the guidance provided within this procedure by personnel other than those working for must only take place following suitable risk assessment of local conditions to ensure applicability.

3 Glossary of Terms

Banksman	Part of the *Competent Lift* Team, this, clearly identifiable, person has responsibility for ensuring safe lift-off and lay-down of the load. In addition, controls the lifting operation during a *blind lift*
Blind lift	A lifting operation where the Crane Operator is unable to see the load being lifted or lowered and relies on radio or hand signals provided by the *Banksman*
Competent Person	A person with adequate practical skills and theoretical knowledge to allow planning and supervision of lifting operations – this role may be held by more than one person on the lift depending on the nature of the operations, and may be the Crane Operator

Crane Operator	Part of the *Competent Lift* Team, with responsibility for operation of one or more cranes on the installation – must have demonstrable competence, training and qualifications
Lift category	Used during preparation of the *Lift Plan*, categorisation of lifting operations – Routine, Simple, Complicated, Complex – reflects the increasing risk and level of control required
Lifting accessory	Items of equipment used to connect the load to the machine undertaking the raising or lowering of the load – wire rope slings, shackles, eyebolts, etc.
Lifting equipment	The general term used to cover all pieces of equipment used to raise or lower loads, including *Lifting Accessories*
Lift Plan	Following *Risk Assessment* a formal, written document is created to detail the method to be employed to undertake the lifting operation – this should identify personnel and equipment required and how the lift will be carried out
Load Handler	Part of the *Competent Lift* Team, and also know as the Slinger or Rigger, this person assists the Banksman in preparing the load for lifting and guiding it to the lay-down area
LOLER	The Lifting Operations and Lifting Equipment Regulations 1998, Statutory Instrument 2307 – the legal requirements concerning the use of lifting equipment in the UK
Lift / Crane Co-ordinator *Appointed Person*	The person on site with designated responsibility for coordination and control of lifting operations
Risk Assessment	The formal, written process by which hazards associated with the job are identified, their likelihood of happening assessed and measures put in place to reduce the risk to as low as reasonably practicable

4 Reference Documents

The following documents provide additional information on lifting operations and associated activities:

The Lifting Equipment and Lifting Operations Regulations 1998 (LOLER), Statutory Instrument 2307, London, The Stationary Office.

The Provision and Use of Work Equipment Regulations 1998 (PUWER), Statutory Instrument 2306, London, The Stationary Office.

Safe Use of Lifting Equipment, Approved Code of Practice and Guidance L113 on The Lifting Operations and Lifting Equipment Regulations 1998, 2001, London, HSE Books

5 Rules for Safe Lifting Operations

Lifting operations using cranes should only commence if:

1. An assessment of the lift has been undertaken and the lift method has been determined and planned by a competent person

2. Crane Operators are trained and deemed competent for that Equipment
3. Rigging of the load is carried out by competent persons
4. All lifting equipment and accessories have been 3rd party certified for use within the last 12 months, as a minimum
5. All lifting equipment and accessories have been visually inspected before each use by a competent person
6. The load does not exceed the dynamic or static capacity of the lifting equipment
7. Any safety devices installed on the equipment are fully operational

6 Responsibilities, Competence and Training of Personnel Involved in Lifting Operations

6.1 *Responsibilities*

6.1.1 Person Responsible for Lifting Operations

The Person Responsible for Lifting Operations (PRLO) is appointed by the Project Manager and has overall responsibility for co-ordination and control of work activities involving lifting operations. This person is typically a Shift Supervisor, Installation Manager, Project Engineer or Team Leader.

The PRLO must ensure that, when lifting activities are identified, a Competent Person is appointed to plan such operations.

6.1.2 Competent Person

The Competent Person (CP) is someone who has the required level of competence, through practical skills and theoretical knowledge, to plan and supervise lifting operations. The CP must be able to:

- Carry out Risk Assessments;
- Prepare and assess Lift Plans;
- Conduct Toolbox Talks.

The CP is the focal point for technical aspects of the lifting operation, although they may not be directly involved in supervision of the operation

6.1.3 Crane Operator

In appointing an individual to the position of Crane Operator the Employer, and where applicable the Owner, or their representative will have satisfied themselves that the appointee has been adequately trained and is competent to fulfil all of the duties consistent with the Job Description and Job Accountabilities for the position.

The Crane Operator may also be the Competent Person (as described in 6.1.2 above) and undertake the associated duties.

The Crane Operator, as a designated Competent Person for Crane Operation duties,

is expected to undertake all required crane operations in a safe and controlled manner. When a situation arises, or conditions exist, where, in the opinion of the Crane Operator, the safety of personnel, plant or equipment may be jeopardised then lifting operations shall be suspended until such time as control measures have been introduced to minimise or eliminate potential risks.

When crane operations have been temporarily suspended due to inclement weather the Crane Operator has the responsibility to only resume operations when fully satisfied that conditions have improved to within the safe operating parameters particular to the crane in use. Crane Operators participating in a training programme must only undertake lifting operations strictly aligned to their level of formal training and experience.

6.2 *Competence and Training*

The categories of personnel normally permitted to be involved in lifting operations involving a crane are described below along with the extent of their responsibilities, training and competence criteria:

Personnel Category	Responsibilities	Competence Criteria
Banksman	Such personnel shall be regularly involved in supervision of loading and unloading of transport vehicles and the transfer of loads to and from established lay-down areas using a variety of cranes with which they have been familiarised.	Satisfactory completion of a recognised Slinging and Lifting course e.g. at Cogent / CITB Level 2 OR Demonstrable experience in the co-ordination of operations and other services including load movements and crane direction.
Slinger Signaller / Load Handler	Such personnel shall be regularly involved in the slinging of loads and crane signalling Responsible for connecting / Disconnecting all loads.	Satisfactory completion of a recognised Banksman / Slinger course OR 6 months demonstrated experience of relevant supervised worksite activities

7 Planning of Crane Operations

All lifting operations entail the same four basic process steps: define the lift, plan the lift, execute the lift and learn and record. The following chart gives an overview of the activities in each step and the personnel involved:

Note: that, in line with Section 6 above, the Crane Operator could be the Competent Person or part of the Competent Lifting Team.

7.1 Define the Lift

Having identified a requirement for a lifting operation involving the use of a crane it should be established if the particular operation has been carried out before on that site, as a Risk Assessment and Lift Plan may already exist.

If a particular Risk Assessment and Lift Plan do exist then they should be assessed to confirm that they are still applicable; changes to personnel, site layout or work environment could all result in the need for a reassessment of hazards. Assuming that significant changes have not taken place, lifting operations may proceed under the requirements of the Lift Plan, subject to the normal approvals.

If the lifting operations have not been carried out before then a risk assessment should be carried out and a lift plan prepared.

7.2 Planning

Under *The Lifting Operations and Lifting Equipment Regulations 1998* (LOLER), all lifting operations must be planned by a competent person to ensure that they are conducted safely. The planning process shall address:

- Identification of hazards and restricted areas;
- Selection of competent personnel;
- Specification of the minimum number of people required to conduct the lifting operation;
- Selection of Lifting Equipment;
- Communication of lift requirements and hazards;
- Procedures for changing the Lift Plan;
- Emergency, recovery and contingency plans

7.2.1 Lift Categorisation

Lifting operations should be categorised to reflect increasing risk and consequent increasing level of control required. The categories of lifting operation are as follows:

A generic Risk Assessment and Lift Plan may be used for Routine Lifts; however, classifying a lifting operation as ‘Routine’ does not automatically make it a ‘Safe’ lifting operation – most incidents associated with lifting occur during ‘Routine’ operations. The Risk Assessments and Lift Plans shall always be reviewed during the Toolbox Talk for continued applicability.

The control requirements and competencies for Routine Lifts can be summarised as follows:

Category of Lift	Control Measures	Competent Personnel
Routine Crane Operations · Within the normal operating parameters of the crane · Lifting over non-sensitive areas · Suitable environmental conditions · Familiar, competent Crane Operators · Load has known and evaluated weight, shape · and centre of gravity · Standard rigging arrangements	· Risk Assessment (generic) · Lift Plan (generic) · Toolbox Talk	· Crane Operator · Banksman · Slinger

NON-ROUTINE LIFTS

Non-Routine lifting operations can be further sub-divided to reflect increasing risk:

- Simple lifting operations
- Complicated lifting operations requiring a specific Lift Plan
- Complex lifting operations requiring a specific Lift Plan with engineering input

The control requirements and competencies for Non-Routine Lifts can be summarised as follows:

Category of Lift	Control Measures	Competent Personnel
Non-Routine SIMPLE · Equipment installed by a competent operator · Load has a known and evaluated weight · Centre of gravity below the lifting point · Use of a certified lifting point directly above the load · Ample headroom · Without sensitive, difficult or restricted areas · Single lifting appliance · Unlikely to be affected by changing environmental conditions · Experienced and competent equipment Operator · Standard rigging arrangements · Suitable laydown area available	· Risk Assessment (generic) · Lift Plan (prepared by competent Rigger) · Work Permit · Toolbox Talk	Maintenance Technicians · Rigger · Slinger Signaller · Lift Co-ordinator

Non-Routine COMPLICATED Continuation of a lifting operation with different equipment (due to malfunction, inadequacy or unsuitability) · Use of two or more items of Lifting Equipment, including tailing pipe using winch and crane (tandem lifting) · Within sensitive, difficult or restricted areas	· Risk Assessment (specific) · Lift Plan (specific) · Work Permit · Toolbox Talk	Crane Operator · Rigging Supervisor · Rigger · Lift Co-ordinator

Non-Routine COMPLEX

• Continuation of a lifting operation with different personnel – e.g. shift changeover
• Lifting of personnel, including Man- Riding operations
• Over or in sensitive areas – e.g. public area / live roads
• Tandem lift with two cranes
• Lifting with a helicopter
• Transferring the load from one lifting appliance to another
• In environmental conditions likely to affect equipment performance

- Formal work pack with method statement
- HAZID
- HAZOP
- Dropped Object Study
- Risk Assessment (specific)

- Lift Plan prepared and reviewed by a qualified Engineer
- Work Permit
- Toolbox Talk

- Crane Operator
- Rigging Supervisor
- Rigger
- Lift Co-ordinator
- Professional Engineer

• Operator under training
• Load with unknown or difficult to estimate weight and / or centre of gravity
• Load is special and / or expensive the loss of which would have a serious impact on production operations
• Non-standard rigging arrangements
• Load lowered into or lifted from a confined space

The Crane Operator, while not necessarily in charge of the lifting operation, is an integral member of the lifting team and should be satisfied that adequate control measures, in line with the categorisation tables above, are in place prior to commencing crane use. Similarly, the Crane Operator should confirm that all personnel involved in the operation, particularly for those classified as 'Complicated' or 'Complex', are competent.

7.2.2 Risk Assessment

Every lifting operation has inherent risks that must be assessed and controlled.

The Competent Person must carry out, and document, a Risk Assessment identifying associated hazards, their severity and likelihood of occurrence prior to any work taking place. Measures must be put in place to reduce the risk to As Low As Reasonably Practicable (ALARP).

The Risk Assessment shall address, but is not limited to, the following aspects and activities:

- Weight, size, shape and centre of gravity of load;
- Availability of approved lifting points on load;
- Method of slinging, attaching and detaching the load;
- Overturning, load integrity and the need for tag lines
- Suitability and condition of the Lifting Equipment to be used;
- Initial and final load position and how it will get there;
- Lifting over live equipment;
- Number and duration of lifts;
- Conflicting tasks in area;
- Environmental conditions, including weather and permissible limits;
- Lighting in the pick-up and laydown areas;
- Proximity hazards, obstructions, path of load;
- Working under suspended loads;
- Access and emergency escape routes for the Lifting Equipment Operator and load handlers
- Experience, competence and training of personnel;
- Number of people required for task;
- Pre-Use Inspection of equipment by the Operator;
- Visibility of the load by the Operator and / or person guiding the load;
- Communication between all personnel taking part in the lifting operation

The following is an example of a typical risk matrix that can be used to determine the level of risk associated with any task through consideration of the potential severity of any incident and the likelihood of such an incident occurring.

		Hazard Severity				
	Harm to People	Negligible injury, no absence from work	Minor injury requiring first aid treatment	Injury leading to lost time accident	Single fatality or multiple serious injury	Multiple fatalities
	Equipment Damage	Minor damage	Moderate damage	Significant damage	Limited structural damage	Major structural damage
	Environmental Impact	No significant impact	Minor impact	Moderate pollution	Severe but localised pollution	Major pollution
Likelihood of Occurrence	**Very Unlikely** A freak combination of factors would be required for an incident to occur	LOW	LOW	LOW	LOW	LOW
	Unlikely A rare combination of factors would be required for an incident to occur	LOW	LOW	LOW	MEDIUM	MEDIUM
	Possible Could happen when additional factors are present but otherwise unlikely to occur	LOW	LOW	MEDIUM	MEDIUM	HIGH
	Likely Not certain to happen, but an additional factor may result in an incident	LOW	MEDIUM	MEDIUM	HIGH	HIGH
	Very Likely Almost inevitable that an incident would result	MEDIUM	MEDIUM	HIGH	HIGH	HIGH

LOW RISK May be acceptable but review task to see if risk can be reduced further

MEDIUM RISK Task should only be undertaken with appropriate management authorisation after consultation with specialist personnel and assessment team. Where possible, the task should be redefined to take account of the hazards involved or the risk should be reduced further prior to task commencement.

HIGH RISK Task must not proceed. It should be redefined or further control measures put in place to reduce risk. The controls should be reassessed for adequacy prior to task commencement.

The Crane Operator, acting as Competent Person, may be required to complete a Risk Assessment for particular crane operations. Additional advice or technical support must be sought where the Crane Operator does not feel competent to perform the Risk Assessment due to the nature or complexity of the tasks involved. A sample *Task Based Risk Assessment* template can be found in Appendix 1.

7.2.3 Lift Plan

A Lift Plan shall be prepared or identified for every lift. The Lift Plan shall, as a minimum, identify:

- The competent person planning the lift;
- Equipment required;
- Personnel required and their particular roles;
- Step-by-step instructions;
- Communication methods to be used;
- Contingency and rescue plans

All Lift Plans – generic, specific or engineered – shall be developed, reviewed and approved by persons competent to do so. For example, 'Routine' or 'Simple' plans can be reviewed and approved by the Competent Person; 'Complicated' plans by the Site Manager and 'Complex' plans by a qualified, specialist Engineer.

A sample Lifting Operations Plan has been included as Appendix __.

7.2.4 Assessment of a Lifting Operation

In general, the Crane Operator will be working on a site where Risk Assessments and Lift Plans are already in place and lifting operations using cranes are 'Routine'. However, before commencing operations for the first time, or where the lifting operations clearly fall within the
'Complicated' or 'Complex' categories, the Crane Operator should make the following assessment:

- Verify that there is single point accountability for the lifting operation;
- Identify the personnel involved in the lifting operation;
- Review the Risk Assessment;
- Confirm that all hazards associated with the lifting operation have been identified and mitigated;
- Review the Lift Plan;
- Verify that the Lift Plan has been approved by a Competent Person and test that person's competence;
- Confirm that the crane is capable of lifting the load by considering weight, size and shape;
- Verify that the crane and other lifting equipment being used is certified for use;
- Verify that all those involved in the lifting operation have participated in a toolbox talk at which the risks and hazards and control measures were clearly described;
- Verify that a visual inspection of all lifting equipment and accessories has been completed;

- Confirm the Banksman / Signaller's level of competence;
- Confirm the Load Handlers' levels of competence;
- Test that the communication methodology is suitable and understood by all personnel involved in the lifting operation;
- Test the emergency response and contingency procedures;
- Test the safety culture – will people 'STOP' the job if there is an unsafe act or omission?

7.2.5 Tandem Lift Additional Factors of Safety

Lifts involving two or more cranes are complex operations requiring considerable skill and planning. As a result, multiple crane lifts (or tandem lifts) must be planned and carried out under the supervision of a competent person.

The exact weight each crane will carry must be determined in advance since all cranes must operate in unison. Operator headset communications systems should be implemented. For these more complicated lifts, no more than 75 percent of the net capacity of any crane should be used. Because the load weight shifts from one crane to the other during movement of the booms, these changes need to be considered during the planning process. Pre-planned load considerations can also be disrupted if one crane lifts its end of the load before the other crane lifts, causing the first crane to be overloaded. A practice run without the load is recommended to help coordinate the process.

7.2.6 Crane Siting Considerations and Assessment

Outriggers, which must be fully extended, locked and secured on a substantial foundation. The outrigger foot or float must also be stabilized on secure footing, such as solid block. To prevent sinking and shifting out of level, the crane should rest on a steel or wooden mat if soft soils are present.

Ground stability is also an issue whenever the crane is positioned along a trench or excavation; the bank of the trench can be soft and "shear" under added weight and vibration. Because it cannot be strengthened with matting, this area should be avoided. Soils along buildings and structures, too, are typically soft since the adjacent area is usually composed of backfill. Yielding in such areas can cause the crane to sink and tip in that direction. Timber matting bolted together to form a single unit can be used for reinforcement under such conditions.

Leveling the crane is critical to maintaining a safe lifting capacity: a crane that is out of level one degree loses 10 percent of its lift capacity with a short boom or up to 30 percent with a long boom at minimum radius. Because diminished capacity can also occur with wind loading, wind variables must be considered before and during the lift. Though books often

recommend that the crane be positioned with the boom extending into the wind, this approach proves problematic as the crane swings with the load. Compensating for wind, therefore, should involve strategems for exposure in all directions involved in the lift. Compliance with the crane manufacturer's recommended wind-velocity shutdown limit is required for safe operations, though many operators halt work if the wind speed reaches a generic 30 mph.

Crane positioning co-ordinates must be clearly identified on the Lift Plan.

8 Crane Daily Checks and Inspections

Prior to each use a crane shall be visually inspected by the Crane Operator or Maintainer / Operator to ensure that, as far as is practicable, it is in a good state of repair and safe to use in carrying out lifting operations.

8.1 Crane Access Ladders, Walkways and Hatches

Each time that they access the crane, and prior to commencement of lifting operations, the Crane Operator must ensure that all access ladders, walkways, gates and hatches are:

- Free from obstruction;
- Cleaned of any residual oils and greases. In addition:
- All deck plates must be secured and access hatches closed;
- Service hoses (diesel, air and water) are neatly stowed;
- Warning signs, including one stating ‘Authorised Persons Only Beyond This Point’, and barriers are posted accordingly.

8.2 Housekeeping

It is important that a high standard of housekeeping is maintained at all times and to this end the Crane Operator must:

- Check that the machinery house and engine compartments are in a clean and tidy condition. Any oil spillages must be cleaned up and loose materials (tools, rags, etc.) removed;
- Ensure that all personal belongings or clothing are stored in such a manner that they do not interfere with the proper control of the crane during operations;
- Check that the Crane Operator’s cab windows are clean, that the windscreen wipers are in good condition and that the screen-wash system is operational;
- Ensure that crane structures and walkways are free from all loose material, tools, etc. as these may result in dropped objects;
- Where possible, ensure that a copy of the Crane Operating Manual is available for reference in the crane cab.

8.3 Pre-start Checks

The Crane Operator must:

- Carry out a visual check of the crane to determine its serviceability. This should include the boom, hook blocks, sheaves, wire ropes and pendants (including spooling on drums, rope terminations and any anchorage points – refer to Appendix 4), cab and machinery house cladding;
- Ensure that the pre-start checklist supplied by the Operating Company or Manufacturer is completed. These should include a physical check of all oil, coolant and fuel levels;
- Check that all guards over and around moving machinery are in place and secure;
- Check that cladding and panel work on the Crane Operator's cab and machinery house is watertight as water ingress may affect the operational integrity of the crane.

If refuelling of the crane is required the Crane Operator must observe the following minimum safety requirements:

- Refuelling must not take place whilst the engine is running;
- Refuelling operations are only to be carried out under the supervision of the Crane Operator, who must remain at the station during such operations;
- Appropriate COSHH, Risk and Environmental Assessments must be taken into account prior to commencement of refuelling;
- Extreme care must be taken to prevent overflow or spillage of fuel onto the engine, exhaust or electrical equipment;
- All isolation valves must be closed on completion of the refuelling operation.

8.4 Start Up of Prime Mover

Prior to starting the crane the Crane Operator must ensure that all controls are in neutral and that the main clutch (where fitted) is disengaged.

On start-up of prime mover ensure that all air and oil pressure gauges are within their safe operating range before carrying out function checks of the crane controls.

8.5 Pre-Operations Checks and Function Tests

At the commencement of each shift the Crane Operator must carry out a function test of all crane controls, including the following:

- On friction-clutch and brake type cranes it is imperative that the co-efficiency of these components is verified as there is potential for ingress of foreign materials (water, grease, etc.) that could cause slippage – when checking the boom hoist system, the boom should be raised 10-20 centimetres out of the rest and held for a few minutes on the brake;

- Boom minimum / maximum radius and hook block (main and auxiliary) overhoist / pay-out cut-outs - always approach limits with caution;
- Rated Capacity Indicator (Safe Load Indicator) serviceability, and correct number of hoist rope falls is displayed;
- Activate the RCI test function to ensure that all visual and audible alarms operate correctly;

Appropriate load-radius chart is in good condition and posted at a strategic point within the Crane Operator's cabin;

- Gross Overload Protection system pressures are within the appropriate operating range;
- Manually operated Emergency Load Release must be checked at least once each month under strictly controlled conditions, generally with a laden hook and by a Crane Operator authorised to perform the activity – procedures for this activity must be strictly adhered to. The Emergency Load Release must be secure and it should not be possible to inadvertently activate the release during normal operations.

8.6 Safety Equipment

Fire extinguishers provided must be of the correct type and size as specified by the Owner and the Crane Operator must be familiar with their application and use.

8.7 Checks to be Carried Out During Operation of the Crane

While undertaking lifting operations with the crane, the Crane Operator shall:

- Periodically check all gauges to ensure that all pressures and temperatures remain within the safe operating range;
- Listen for unusual engine and / or machinery noises;
- Be aware of slight 'shocks' which could indicate bad spooling of the hoist ropes or imminent equipment failure;
- If anything out of the ordinary occurs, **STOP, CHECK** and **REPORT** defects or malfunctions to the Line Supervisor, Contract Support Engineer and Owner's Representative.

9 Execution

9.1 Communication of Lift Plan

Prior to starting lifting operations the Competent Person shall hold a Tool Box Talk with all personnel assigned to carry out the lift.

The person in charge of the lifting operation shall be clearly identified and made known to all members of the lift team and personnel in the proximity.

All personnel involved in the lifting operation shall have their individual responsibilities clearly

allocated.

All personnel involved should have the opportunity to review the findings of the Risk Assessment and the details of the Lift Plan to ensure that they clearly understand and agree with the methods and control measures to be used.

9.2 Communication

At all times there shall be adequate communication between all personnel involved in the lifting operation. Either hand signals or radio equipment appropriate for the relevant lifting operation shall be used.

9.2.1 Hand Signals

Crane Operators and Banksmen must be familiar with the system of signalling in force. The signals presented in Appendix __ are recommended for adoption in the UK.

The Crane Operator must:

- Ensure that the Signalling System is clearly displayed at a strategic point within the crane Operator's cab;
- Only respond to signals given by the Banksman, or to the 'STOP' signal given by other persons in an emergency situation;
- Maintain visual contact with the Banksman – lifting operations must cease if visual contact is lost and only recommence when a clear line of vision is re-established;
- Cease crane operations if inclement weather or darkness impair the ability to see the Banksman and operations cannot continue safely.

9.2.2 Radio Communication

The Crane Operator is to reach a clear understanding with the Banksman before lifting operations begin on the protocols to be used.

If there is any interruption to the communication (e.g. third-party transmission) the Crane Operator must STOP the lifting operation immediately, only resuming when communication with the Banksman is re-established.

Radio checks shall be carried out prior to the start of the lifting operation. When directing the load, instructions shall be clear and unambiguous.

When directing a crane in blind lifting, transporting personnel and other lifting operations where radio communication is of prime importance, confirmatory communication by the Crane Operator shall be used.

Where appropriate, a communication method can be used whereby the signaller gives a continuous signal to continue the movement. The equipment Operator shall stop immediately if he does not receive the signal.

During periods of no communication or planned radio outage, all lifting operations should be risk assessed and suitable procedures and personnel levels identified and agreed to enable safe execution of the operation.

The following protocol is recommended for radio communication during lifting operations:

- Call signs should be set up and adhered to – for example, Alpha North Crane, Bravo South Crane, etc.
- Call signs must be used at all times to establish the authenticity of commands or directions;
- At the end of an instruction or enquiry the transmitting operator should indicate the end of the message by the command ‘over’;
- The receiving operator should indicate understanding of any dialogue through the response ‘roger’;
- Under no circumstances should the transmitting operator assume understanding without acknowledgement (‘roger’) from the receiving operator;
- If any dubiety exists regarding a message, the receiving operator must not acknowledge but should repeat the message as he understands it and ask for confirmation or simply request the transmitting operator to repeat;
- At the close of communication the transmitting operator should indicate the end of the transmission with the command ‘Out’;
- For single function operations the Banksman should relay to the Crane Operator using terminology such as: ‘‘Boom up’, ‘Slew right’, etc. Where it is necessary to carry out an operation slowly the Banksman should instruct the Crane Operator accordingly. To stop a function the Banksman should instruct the Crane Operator to ‘Stop’. To stop all operations the Banksman should instruct the Crane Operator with ‘All stop’;
- For simultaneous function operations the Banksman should relay to the Crane Operator using terminology such as: ‘Come up on the load and boom down’, etc. To stop a function the Banksman should instruct the Crane Operator to ‘Stop on the boom, slew right only’, etc. To stop all operations the Banksman should instruct the Crane Operator with ‘All stop’;
- Under no circumstances should profane language be used while transmitting;
- Should the radio antenna become damaged exposing the central core, the antenna must immediately be replaced in order to maintain not only optimum performance but to ensure user safety;
- Radio messages should reflect work requirements only; general conversation should not be carried out over the air waves;
- Always ensure that you fully depress the transmission button before speaking into the

microphone. Speak clearly at all times and do not release the buttonuntil a few seconds after completing your message;

- When banking the crane, ensure that any accompanying colleagues' radios are switched off – if more than one radio is switched on in close proximity interference and distortion of the signal will take place when an instruction is transmitted;
- During blind lifts when the load is being hoisted or lowered for a long time do not maintain the transmission button in the depressed position for the duration of the lift – the Banksman should give the initial instruction and then talk to the Crane Operator every 3-4 metres to reassure the Operator that the line of communication is still active and that the

  lift remains under control;
- During high winds, ensure that the area of the microphone you speak into is not exposed to the wind as background noise created may distort the transmission;
- Ensure that the radio microphone is not exposed to rain. If a plastic carrying case offering full protection of the radio is not available, a simple precautionary measure such as a small plastic bag or a piece of cling film around the microphone will ensure that it remains dry;
- Do not carry the radio in a pocket; always ensure that they are carried in protective holsters attached to the body by either shoulder lanyard or waist belt. This will ensure that the radio does not become a dropped object if dislodged when working at height or climbing ladders.

9.3 Controlling Access to the Lift Area

Access to the work area(s) and to the Crane shall be appropriately controlled, which may include the use of security measures and barriers.

All personnel should avoid any area where they might be injured by a falling or shifting load. Never stand between loads and walls / bulkheads, etc. and always ensure that an escape route is available.

No personnel shall be allowed under a load without an independent second barrier being in place. A full risk assessment must be carried out to ensure that the barrier is sufficient, access is controlled and failure of the primary restraint, e.g. the crane or rigging, will not result in the injury of personnel.

9.4 Conducting the Lifting Operation

Lifting operations shall be conducted in strict accordance with the approved Lift Plan. Any variation from the agreed Lift Plan shall result in the job being stopped and reassessed to ensure continued safe operation.

The Crane Operator shall obey a stop signal at all times, no matter who gives it.

Where personnel are to be lifted the detailed requirements of Appendix __ shall be complied with.

Loads to be lifted shall be confirmed to be within the rated capacity of the crane and attached by means of suitable lifting accessories.

The Crane Operator shall not leave the operating controls while the load is suspended unless suitable risk management controls have been put in place for ensuring continued security of the load and site (e.g. restraining the boom and load hoist, providing notices and barriers).

9.5 Moving the Load

9.5.1 Load Handling

The following requirements shall be observed during handling and movement of the load.

- **Weather Conditions** - Prior to commencing lifting operations the Crane Operator shall take stock of the prevailing weather conditions (wind speed and direction, visibility, etc.).

  lifting operations shall not commence if the weather or environmental conditions are likely to jeopardise the safety of the activity – refer to Appendix __ for a copy of typical *Adverse Weather Guidelines*;

- **Responsibility for the Load** - While there is a shared responsibility for the safety of each lifting operation – Crane Operator, Banksman, Load Handler (Slinger) – the Banksman remains the person in charge of the lifting activity during initial lifting of the load and at lay-down. The Crane Operator is responsible for the safe operation of the crane while the load is in the air;
- **Weight and Slinging of Load** - Before a load is lifted the Crane Operator must establish the weight of the load to be lifted and that the lifting gear being used is certified, of sufficient capacity and is correctly attached and positioned so as to prevent uneven lifting or slippage of the load;
- **Vertical Load Line** - Prior to hoisting, ensure that the Slinger has correctly positioned the hook over the centre of the lifting point so as to alleviate any 'drift' in the load as it is lifted clear;
- **Tag Lines** - Tag lines or handling lines should be attached to long or awkward loads (Pier Caps, U Girders etc.) to facilitate safe handling of the load.

- **Hoist Brake** - At the commencement of the first lift, the Crane Operator must check the operation of the hoist brake;
- **Overload on Lift Off** - As the load is lifted off, monitor the Rated Capacity Indicator for a possible overload;
- **Obstacles** - When slewing loads, the Crane Operator must make himself/herself aware

of any other activities or obstructions within the crane radius arc;

- **Lifting Over People** - The load must never be moved over people; if personnel not involved in the lifting operation enter the lifting area, STOP the operation and sound the crane klaxon/horn as a warning;
- **Structures Close to Lifting** - Where lifting activities necessitate the crane boom being used in close proximity to conflicting structures such as Over Head Power-lines, telecom towers, residential / office structures, trees etc. a Lift Plan should be prepared and a Toolbox Talk carried out between all concerned parties, outlining all associated risks and subsequent control measures to be taken;
- **Contact Point Monitoring** - Where a crane boom is being used in close proximity to conflicting structures, the Crane Operator shall ensure that the Banksman is positioned at a point where the load, crane boom and potential contact points are in clear view;
- **Potential Collisions** - If at any point the Crane Operator becomes concerned that the boom is too close to a conflicting point or that the Banksman has given an instruction to undertake a manoeuvre that may result in a collision, operations must cease immediately and the Banksman should be made aware of the situation. Crane operations must not commence until appropriate control measures have been put in place and all necessary precautions taken;
- **Blind Lifts** - When carrying out blind lifts, monitor the Rated Capacity Indicator for any loss or increase in the weight of the load as this could indicate that the load has snagged on the superstructure or the adjacent equipment. If the indicated load does vary suddenly, cease the lifting operation and advise the Banksman;
- **Crane Radius** - Always keep loads within the specified radius of the crane. Do not permit Load Handlers to push or pull loads, either manually or mechanically, inside or outside the working parameters of the crane. The crane rope must always be retained in a vertical state;
- **Holding a Suspended Load** - When the load is to remain static for prolonged periods, the Crane Operator shall engage the hoist drum brake and the boom drum pawl, where these devices are not automatically applied, to prevent the lowering of the suspended load;
- **Smooth Operation** - During crane operations, all movements of the crane shall be carried out in a controlled manner. Smooth operation reduces the possibility of the inherent risks involved with undue shock loading or stress to the structure;

9.6 General Instructions for Crane Operators

9.6.1 The Crane Operator Must NOT:

- **Personnel on the Crane** - Operate the crane until certain that personnel descending from the crane or its structure are well clear and outside the swing path of the crane

superstructure and have signalled the all clear;

- **Access to the Crane** - Authorise access to the crane or its superstructure until the crane has been brought to a complete halt and those gaining access have clearly stated their intentions;
- **Limit Switch** - Rely on limit switches or cut-out devices to stop boom or load line motions;
- **Limit Switch Override** - Override limit switches unless specifically allowed in the crane manufacturer's Operating Manual or Instructions or Procedures – extreme caution must be exercised and the limits returned to its normal position and checked upon completion of the lifting operation;
- **Engine Shutdown** - Use an emergency stop to shut down the engine during normal operations – these systems should only be used during a periodic function check or, if the normal stop system fails to operate, in the event of a dangerous engine condition or component failure;
- **Slew Parking Brake** - Engage the slew parking brake or lock until the crane superstructure has come to a halt;
- **Drag Loads** - Use slewing motion to drag loads as this imposes severe side stresses on the crane boom;
- **Stowed Hook Block** - Operate the crane with a handling pendant or other ancillary equipment attached to the stowed hook block on cranes fitted with more than one block;
- **Interference with Safety Equipment** - Interfere with the Rated Capacity Indicator or other safety equipment fitted to the crane;
- **quipment Adjustment** - Tamper with or adjust any equipment on the crane unless competent, qualified and authorised to do so;
- **Riding on the Load** - Allow personnel to ride on crane hook blocks or the load;
- **Use of Defective Equipment** - Use the crane if a fault or defect is liable to compromise the safety of personnel or lead to the damage of equipment;
- **Over-Greasing** - Over-grease crane components as this could lead to contamination of the brakes or clutches causing slippage during lifting operations;
- **Lifting Wire Ropes** - Lift wire ropes, cables or other materials of a similar nature that are not:
  - already spooled on drums provided for that purpose;
  - coiled and slung securely using an approved slinging arrangement involving at lease double-wrap and bite;
  - a single strand with a lifting arrangement secured ¼ to ⅓ of the length from one end by a clamp or other device (certified and specifically designed for the purpose)

to prevent the lifting strop slipping.

9.6.2 The Crane Operator MUST:

- **Maintenance Warning** - Post 'Do Not Operate' signs in a prominent position in the Operator's Cab if the crane is out of use for maintenance;
- **Maintenance Isolation** - Ensure that the crane engine or power pack is isolated and that systems have been depressurised when maintenance is being carried out;
- **Maintenance Security** - Ensure that, during crane maintenance activities, tools, equipment and lubricants are retained in a secure manner. This is particularly important when working at heights and 'Tool Saver' devices must be used under such circumstances;
- **Boom Pawl** - Make use of the crane boom pawl, where fitted, when:
  - lifting loads at long radii;
  - lifting heavy loads;
  - lifting the boom from its rest;
  - lifting loads from across the deck;
  - the crane is parked;
  - the crane is under maintenance;
- **Stowing the Boom** - Ensure that the Banksman is present when stowing the boom in its cradle;
- **Heavy Loads** - Exercise extreme caution when using friction clutch and brake type cranes to lower heavy loads. At all times ensure that the speed of descent of the load is controlled and within the capabilities of the crane load-lowering, transmission and braking systems;
- **Empty Hook** - Exercise caution when lowering the crane hook block such that the rope payout rate is not exceeded, preventing possible damage to the rope;
- **Shift Handover** - Talk to the Crane Operator from the previous shift during handover of the crane to determine if the crane has any defects that require immediate rectification or if there is any other important information that should be known. Similarly, at the end of each Shift, ensure that safety-critical information is relayed to relief personnel on the Handover Form;
- **Emergency** - Ensure that loads are landed safely and the crane is secured if an emergency occurs;
- **Emergency Equipment** - Ensure familiarity with the operation of the Emergency Load Release and Load Lowering Equipment, where fitted;

9.7 Banksman and Load Handler (Slinger) Procedures

Crane operation is a safety-critical activity and, as such, requires skilled personnel to carry out lifting operations. In addition to the Crane Operator, at least two more essential personnel are required to make up the competent lifting team – a Banksman and Load Handler (Slinger). While there is a shared responsibility for the safety and efficiency of each lifting operation, specific responsibilities are attached to particular individuals:

- Banksman – controls the initial lifting of the load, lay-down of the load and lifts that are out of the Crane Operator's line of vision (blind lifting);
- Crane Operator – controls the load while it is in the air.

This Section of Procedure' has been prepared to give guidance to Banksmen and Load Handlers, allowing integration with the procedures for crane operation given previously in this document and ensuring that all personnel involved in the lifting operation work to a common system.

These procedures should be used in conjunction with and complement relevant sections of the Client and Company HSEQ Manuals. Other Interface documents or where interface with other contractors is identified shall also be given appropriate consideration and control measures identified.

The Banksman and Load Handlers, as part of the competent lifting team, should be familiar with the Hazard Identification, Risk Assessment and Lift Plan requirements of this Procedure.

In general, Risk Assessments and Lift Plans for crane operations will be available on every project. These must be referenced prior to commencement of crane operations to ensure continued applicability. If an additional Risk Assessment is required due to changing circumstances then this must be documented.

If the Banksman and Load Handlers assist in crane maintenance activities such as rope changes then they should be made aware of the requirements of Risk and COSHH Assessments.

The minimum competent lifting team of Crane Operator, Banksman and Load Handler should be supplemented by additional competent personnel to suit the particular requirements of the lifting operation e.g. tandem lift co-ordinator.

The Banksman shall not handle the load but must retain an overview of the lifting operation at all times.

9.7.1 General Instructions for Banksmen

The Banksman shall ensure that:

- **Unforeseen Changes** - If anything out of the ordinary occurs, the lifting operation is STOPPED and checks undertaken to ensure that conditions are safe before operations continue;

- **Hi-Visibility** - They are easily identifiable from other personnel by wearing a high-visibility jacket, waistcoat or helmet cover, clearly marked to indicate that they are an authorised Banksman;
- **Signalling** - An agreed system of signalling has been agreed with the Crane Operator – see Section 10.2 and Appendix 6;
- **Hand Signals** - If using hand signals, a position should be taken in clear view of the Crane Operator and where visual contact can be maintained with the load, Load Handlers and potential crane boom collision points;
- **Radio Communication** - When using radio communication, visual contact must be maintained with the load, Load Handlers and potential crane boom collision points;
- **Signal Clarity** - Clear and distinct signals are given (either by hand or radio) to control lifting operations. In poor light conditions, hand signals should be exaggerated;
- **Weather Conditions** - The wind speed and direction is within the crane operating parameters;
- **Load Weight** - The weight of the load is known;
- **Crane Capacity** - The capabilities and parameters of the crane are known;
- **Lifting Accessories** - All lifting accessories to be used are in good condition, certified for use and of sufficient capacity to carry out the lift;
- **Tag Lines** - Tag lines are attached to any long or awkward loads – casings, cages, pier caps, u-girders - to aid handling;
- **Obstructions** - There are no obstructions within the radius or working area of the crane;
- **Load Readiness** - The area around the load to be lifted is clear, the load is not attached to the transportation cradle or adjacent equipment and that tag lines are not secured or tied off to adjacent equipment or structures;
- **Snagging** - No potential snagging points are present in the vicinity of the load whilst hoisting or lowering in restricted areas;
- **Clear Route** - The crane hoist rope, hook block assembly and attachments have a clear passage;
- **Personnel Escape** - Escape routes for all parties involved with each lifting operation have been identified should a problem develop during lifting the load clear of the ground or setting it down in its final position;
- **Personnel Involvement** - That area through which the load is to be moved is clear of personnel not directly involved in the lifting operation;
- **Dropped Objects** - If overhead lifting operations (for example pier cap erection) are planned, then the area at ground level should have suitable barriers erected to ensure that personnel not involved in the lifting operation are not exposed to danger from

dropped objects. Appropriate signs must be posted;

- **Landing Area** - The receiving landing area has sufficient room to take the load and that the Crane Operator knows where the load has to be moved to. The Banksman should precede the load to its destination or ensure that another member of the lifting team is in position to receive the load;
- **Check Load** - At the commencement of lifting, the load is stopped and held just clear of the ground/base to check the balance and security of the load. This will also give the Crane Operator the opportunity to check the function of the crane hoist brakes;
- **Simultaneous Operations** - A check is kept on other activities within the crane's operating area to avoid the development of hazards;
- **Blind Lifts** - When a blind lift is planned, the Crane Operator has received a full briefing on the intended lifting operation. Paint a verbal picture of the load movement about to be carried out and do not proceed until the Crane Operator has given acknowledgement of understanding – use of the *Toolbox Talk Record Form* would be an appropriate method of recording such a discussion;
- **Blind Lift Communication** - During blind lifting, no part of the lifting operation proceeds unless a precise acknowledgement has been received from the Crane Operator;
- **Blind Lifts by Hand Signals** - During blind lifts that are being conducted by hand signals and more than one Banksman is being used to relay instructions, each Banksman should stand where they can be clearly seen by the next person in the chain. All signals should be clear and precise and the Banksman at the load should have a complete overview of the activity;
- **Lifting Through Rooflights, Lift-Shafts, Slab Openings, Hatches** - When lifting operations are being conducted through roof-lights or hatches to lower levels, appropriate barriers are erected and signs erected with a contact number. Barriers must not be removed until the opening's protection has been replaced and is secure;
- **Unplanned Stop** - If an unplanned stop of lifting operations occurs, visual or radio communication is re-established with the Crane Operator as this may have been lost, resulting in the stop;
- **Live Plant** - The Crane Operator is not directed to move the load over live plant unless the lift plan has been classified as 'Complex' and appropriate measures put in place;
- **Slinging Methods** - Only orthodox slinging methods using certified lifting equipment are used;
- **Dragging Slings** - The crane is NOT used to drag slings or other lifting equipment from below loads;
- **Personnel Lifting** - Allow the carrying of personnel in cages/baskets or other equipment unless they have been specifically designed and designated as suitable for that purpose;

- **Unloading Barrels / Drums** - The appropriate lifting equipment is used for removal of barrels, drums, etc. from delivery vehicles or containers. Always ensure the integrity of barrel rims. Transfer of such loads across the site shall only be through use of suitable equipment (such as cargo nets) and not the equipment used for unloading alone;
- **Slinging Tubulars** - Bundles of tubulars – steel/re-bar, casing, scaffold tubes, etc. – are always slung using double wrapped slings applied 25% in from each end of the bundle. Appropriate rope grips or clamps and tie-wraps shall also be applied to ensure the security of the slinging arrangement;

9.8 Reacting to Changing Circumstances

All critical lifting parameters (e.g. weather, visibility, surrounding operations, site access and egress, Lifting Equipment, personnel) shall be identified during the Risk Assessment and on the Lift Plan. The competent person in charge of lifting operations shall ensure that these conditions are monitored as lifting operations proceed to ensure continued safety.

Immediately a lift deviates from the Lift Plan or any complication arises the lifting operation must be stopped and made safe. Any person may stop the operation. Thereafter, all personnel should remain in positions clear of the lift until re-assessment / re-planning of the lift is carried out and permission is given to restart. Procedures for recovering and landing the load in the event of the lift being aborted should be clearly identified.

10 Learn and Record

After completing the lifting operation, everyone involved in the lift should have the opportunity to discuss and make improvements to the Lift Plan. Any learning points noted on the plan should be reviewed by a competent person and, where appropriate, action taken. Learning points may include feedback on equipment effectiveness, lifting techniques, personnel, etc.

APPENDIX 1 – EXAMPLE Task Based Risk Assessment

Contract:	Date:	
Originator Name:	Signature:	
TASK	**Tandem Lift of 160T - U-Girders using Mobile Cranes**	

Task/Element	Potential Hazards & Consequences	Population at Risk	Risk Rating			Control Measures	Revised Risk		
			L	S	R		L	S	R
Category of Lift	Incorrect assignment of lift category may result in inadequate load / safety factors being accounted for. Possibility of crane failure & overturn; dropped load causing possible multiple fatalities; severe long term disruption to public transport & traffic; Fines; Project delays; Adverse public reaction; Shareholder unease; Reputation damage.	Stakeholders Members of the Public Contractors staff Sub Contractors GC Staff CMRL Staff				1 Category of lift is as per **'A NON-ROUTINE COMPLEX LIFT'** As per Lifting Operation Procedure No/ 000000000 **2 Important: Crane load capacities are to be reduced by 25%. Must only be operated to a maximum of 75% of the normal rated capacity.** 3 Lifting Operations Procedure No/000000 To be fully implemented.			
Authority to Control Lift	Breakdown in coordination of crane movements due to confusion. Possibility of single crane overload and subsequent failure. Consequences as per 'Category of Lift'					1 Nomination of person in 'Overall' in charge of Lift in accordance with Procedure No/ 0000000 2 Only the Crane Co-ordinator shall communicate with the Crane Operators during lifting activities. 3 Crane Operator has full authority to suspend lifting operations until satisfied that all measures and equipment serviceability is confirmed.			

Task/Element	Potential Hazards & Consequences	Population at Risk	Risk Rating			Control Measures	Revised Risk		
			L	S	R		L	S	R
Crane type to be utilised for Complex Tandem Lifts	1 Equipment Failure due to lack of inspection & maintenance; Incorrect Safe Working Load for the load being lifted. 2 Crane Failure during lift due to incorrect crane type for load and reach; Crane overturn due excessive load transfer during lifting (Load not level). As per above consequences.					1 Cranes involved in the Tandem lift must 3rd party certified and in date. 2 Both cranes in use must be of similar operating specification and function. (Lift Co-ordinator to ensure) 3 Crane operators to carry out pre-lift and serviceability check and complete check list. 4 Lift co-ordinator in charge to confirm checklist completion and serviceability status.			
Ancillary Equipment	Ancillary Equipment failure due to broken, damaged ropes, slings, shackles & beams; Incorrect type/SWL for load through inadequate marking; Not carrying out serviceability checks; Incorrect rigging of load thus overloading slings etc. Consequences include crane overturn and dropped load resulting in Multiple fatalities & major injury.					1 Ancillary lifting equipment (Beams, Slings, Shackles, Hooks etc) must 3rd party certificated and in date. (6 Monthly). 2 All ancillary equipment shall be clearly marked with an identification number and Safe Working Load. Where no markings are visible the equipment shall be rejected for use. 3 Slingers to carry out serviceability check prior to lift and complete serviceability confirmation checksheet. 4 Sling serviceability to be within the tolerances stated within Lifting Operations Procedure No/ 0000000			
Competence of Crane Operator & Lifting Team	Slinging and lifting process not planned or adequately resourced for the complexity needs of the operation. May lead to catastrophic failure of the activity with consequences as per 'Category of Lift).					1 Competencies shall be assessed and assigned as per the (Contractor Name) Lifting Operations Procedure Number 0000000 and as per the Clients Conditions of Contract. 2 Each lift process shall be resourced based upon the complexity of the Lift. 3 Trial lifts and co-ordination shall be undertaken.			

Task/Element	Potential Hazards & Consequences	Population at Risk	Risk Rating			Control Measures	Revised Risk		
			L	S	R		L	S	R
Site Lighting	Poor visibility, inhibiting efficient communication leading to individual crane overloading and possible failure / overturn; possible crane / load strike against obstruction.					1 High and low 'Halogen' level Lighting to be installed. 2 Electrician to be on standby during lifting Operations in case of failure. 3 Back-up generator to be available at site lifting location 4 In case of lighting failure Crane Operators shall cease all crane movements immediately (without direct communication from the crane Co-ordinator).			
Siting of crane	Collapse of Crane during lift due to inadequate siting of crane on soft uneven ground, manholes etc Consequences include; overturn; dropped load, multiple fatalities; severe long term disruption to public transport & traffic; Fines; Project delays; Adverse public reaction; Shareholder unease; Reputation damage and equipment / material/ product damage.					1 Lift Plan to be produced detailing crane siting arrangements by Lift Co-ordinator in charge. (Crane checked for level) 2 Lift plan to incorporate; · All Equipment to be utilised during the lift and serviceability status. · Personnel resources and the named Co-ordinator in Charge · Location of drains, manholes, unstable ground, overhead restrictions/power lines, · Specific Siting arrangements for the crane considering the weight and dimensions of the cranes and load. · Load / radius charts indicating the 25% reduction in lifting capacity · Working envelope of the cranes			

Task/Element	Potential Hazards & Consequences	Population at Risk	Risk Rating			Control Measures	Revised Risk		
			L	S	R		L	S	R
Lift Sequence	Coordination failure resulting loss of control over the process. Operations undertaken out of sequence without necessary precautions being implemented at each stage. Consequences include but not limited too communications breakdown, equipment and product damage, possible catastrophic failure.					**1 The full sequence of the 'Lift Process' shall be included within the lift plan from Stage (1) through to Stage (__), crane housing and removal.** **2 All involved to be thoroughly briefed on lift sequence** **3 Lift Co-ordinator to check each step has been fulfilled prior to continuing sequence.** **4 Sequence check sheet to be completed at each stage by the Lift Co-ordinator.**			
Slinging the Load	Ancillary equipment failure (see above). Unstable load causing unequal load transfer with possible crane overload and failure; limit switch operation preventing load to be landed.					1 All 'Ancillary Lifting Equipment' to be 3rd party certified and marked with SWL. & ID Number. 2 Centre of gravity confirmed (Ref drawing No/ 000000) 3 Sling method to be in accordance with the approved Method Statement No/ 00000 and Lift Plan (see Lift Plan Drawing _____) 4 Crane Operator to confirm load stability and level as per Procedure No/ 00000 e.g. rise off base approx 1 meter and hold on brake, check level.			

Task/Element	Potential Hazards & Consequences	Population at Risk	Risk Rating			Control Measures	Revised Risk		
			L	S	R		L	S	R
Communication n with Lifting Team	Confusion of Crane Operators through multiple instructions by different and unqualified individuals. Loss of control over the lift operation; Sequence of raising and landing load disrupted; Maintenance of level lift disrupted; possible crane overload.					1 Specific Method briefing to be undertaken with lifting team & recorded 2 Radio shall be used as per procedure No/ 000000? 3 Hand signals shall be utilised as per Procedure No/ 00000000? 4 Lift Co-ordinator in Charge to ensure clear lines of visibility with Banksman prior to commencing the lifting operation. To be maintained at all times during the lift. If visual of radio communication fails at any time the crane operator must suspend all movements until communications are re-established 5 The Crane Operator shall not take direction from any other individual other than the Lift Co-ordinator except in the case of an 'Emergency Stop'.			
Communication General	Personnel entering lift zone and danger area; Possibility of unqualified personnel individuals communicating and causing directional confusion, distraction of Crane Operators and lift team with Sequence disruption					Briefing arrangements and restrictions shall be communicated to all involved personnel prior to commencement of lifting operations. The briefing shall be recorded. The briefing shall include the methods to be adopted during the lift and restrictions on communication and access to others than the Lifting Team.			

Task/Element	Potential Hazards & Consequences	Population at Risk	Risk Rating			Control Measures	Revised Risk		
			L	S	R		L	S	R
Lifting within and over Public Areas	Breach of road closure barriers by members of the public. Distractions of the lift team with loss of operational control; possibility of vehicle strikes. Dropped load in public vicinity causing multiple fatalities and major injuries.					1 Temporary Road closure shall be implemented on the side where Cranes / Transporter are located. (Compliance with Transport Plan 2 Road shall be closed using Cones or Plastic 'Half Height' Barriers and supervised by Traffic Marshals. 3 No Gap shall be allowed within the Road Closure. 4 Road shall be re-opened on removal of transporter and crane booms housed. 5 Pavement / Sidewalk 'Pedestrian Access' shall be maintained until Lifting operations are to commence whereby the access shall be closed if the Lift / fall area encroaches into the public access route.			
Spectator Safe Distance Zone	Persons allowed entry the lift and or the drop zone. May cause distraction to the Lift Team.					1 A safe distance zone shall be established and demarked with Half Height Barriers. 2 The area beyond the safe distance zone shall be classified as the 'Lifting Zone' and sign erected 'Only Lift Team Beyond this Point' All Personnel not directly involved with the Lift Team shall be allowed within the Lift Zone. This shall be enforced by Security Personnel.			
Lifting and manoeuvring Load	Sequence not followed leading to general loss of load control during the lifting operation. Consequence range from catastrophic to equipment and or product damage.					1 Tag Lines x 4 shall be attached to assist manoeuvring of the load. 2 Load to be raised 1 meter off the transporter and load stability checked by Crane Operator. 3. Load to be lifted as communicated by the Lift Co-ordinator only to the landing point. 4. Load to be suspended above but close to the final landing point (pedestals) 5 Orientation marks to be aligned and load lowered slowly onto the supporting pedestals under the direction of the Lift Co-ordinator as advised by the (Contractor Name) Lead Engineer.			

Task/Element	Potential Hazards & Consequences	Population at Risk	Risk Rating			Control Measures	Revised Risk		
			L	S	R		L	S	R
Access provisions to landing area	Collapse of access equipment through poor design, inadequate stability and poor construction. Falls from height causing multiple fatalities and or major injuries					1 Access to the U-Girder landing point shall be via a 'Prefabricated Staircase'. See Lift Plan Drawing Ref: 2 The access provisions shall be inspected for suitability and stability prior to use.			
Emergency lay-down area.	No zone provided causing possibility of damaged equipment and product during emergency set down activity.					An emergency lay-down area shall be demarked and maintained free of all equipment and storage. The area shall be used should the U-Girder be required to be set down quickly prior to re-location. (See Lift Plan drawing)			
Emergency plan	Obstacles on escape route causing panic with the possibility of slips, trips and falls.					1.Emergency plan to be produced and facilitated e.g. ambulance & first aid provisions. 2.An evacuation route shall be identified on the Lift Plan and shall be designed to enable to quick movement of the lift team in the event of an emergency. The emergency route(s) shall be maintained free of all obstacles.			

APPENDIX 2 – Example Lifting Plan & Lift Method Statement

NON-ROUTINE COMPLEX LIFT

Project		Date			
Lift location		Client			
Document Ref.		Rev	**0**	**Issued by**	

Appointed Person carrying out the Assessment:				**Date of Assessment:**	
Contact:		**Phone:**		**Fax:**	
Site contact:		**Phone:**		**Fax:**	
Description of lift:					

Details of Loads (1)	Load Position 1	Load Position 2
Weight:		
Dimensions:		
Height of lift (worst case only):		
Max. radius (worst case only):		
Date of lift:		
Time of lift:		
Monetary value of load:		

Details of Rigging Weights (2)

Load Position 1	Load Position 2
Block Weight:	
Rope Weight:	
Lifting Beams:	
Slings:	
Shackles:	
TOTAL LOADS (1 +2)	Kg	Kg

Details of Cranes	1st Crane	2nd Crane
Make & model:		
Capacity:	- 25% for Tandem Lifts	- 25% for Tandem Lifts
Jib length:		
Outrigger spread:		
Outrigger load:		
Max. ground bearing capacity:		

Counterweight:		
Weight of crane:		

Alternative Crane Details (In the event of Emergency)

Make & model:		
Capacity:		
Jib length:		
Outrigger spread:		
Outrigger load:		
Max. ground bearing capacity:		
Counterweight:		
Weight of crane:		

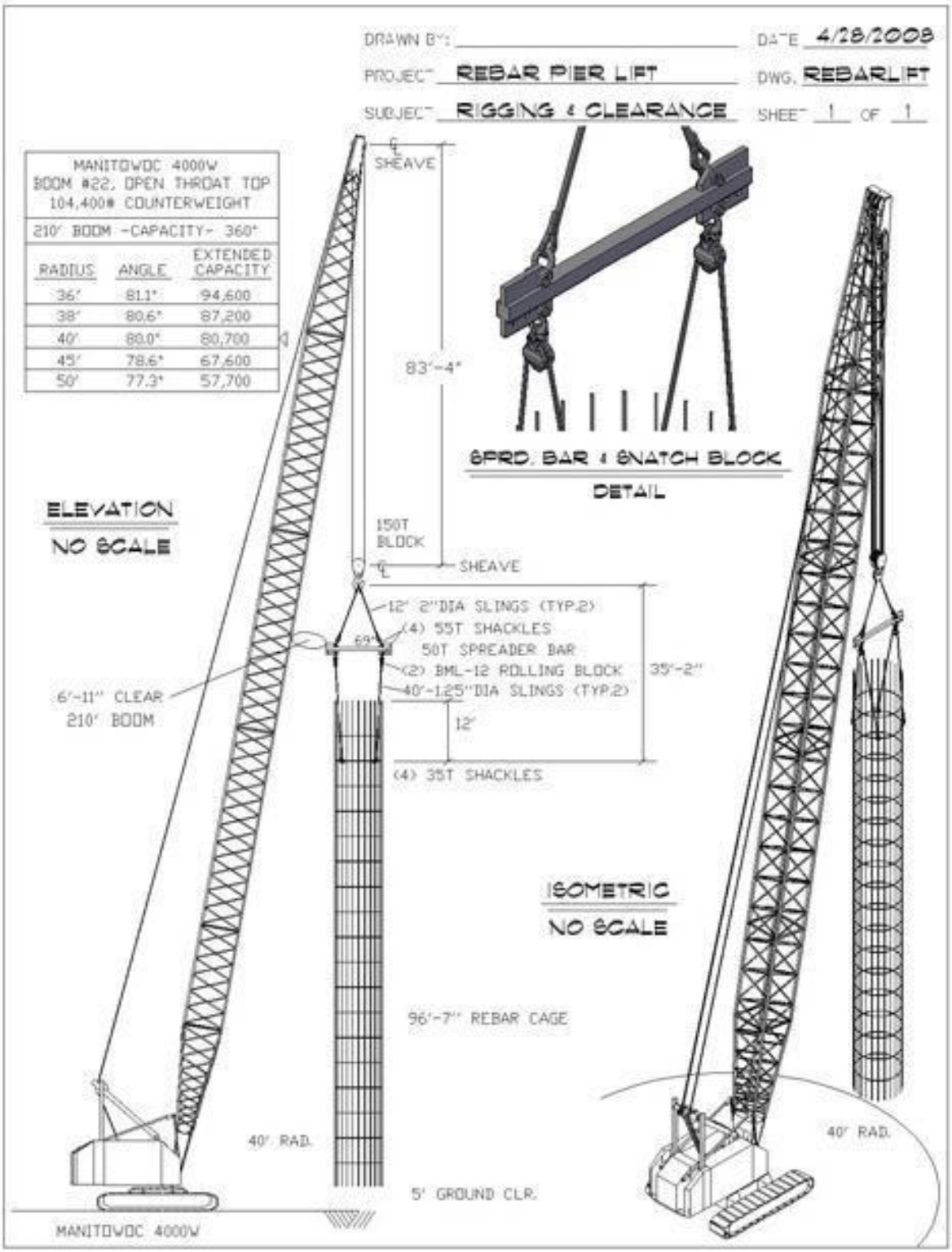
Ground Conditions	1ST Crane	2nd Crane
Access/Egress for crane & load transporter:		
Lifting position:		
Location of Underground Services		

Overhead Restrictions	**1st Crane**	**2nd Crane**
Overhead Power Lines		
Obstacles (Trees, Buildings etc)		

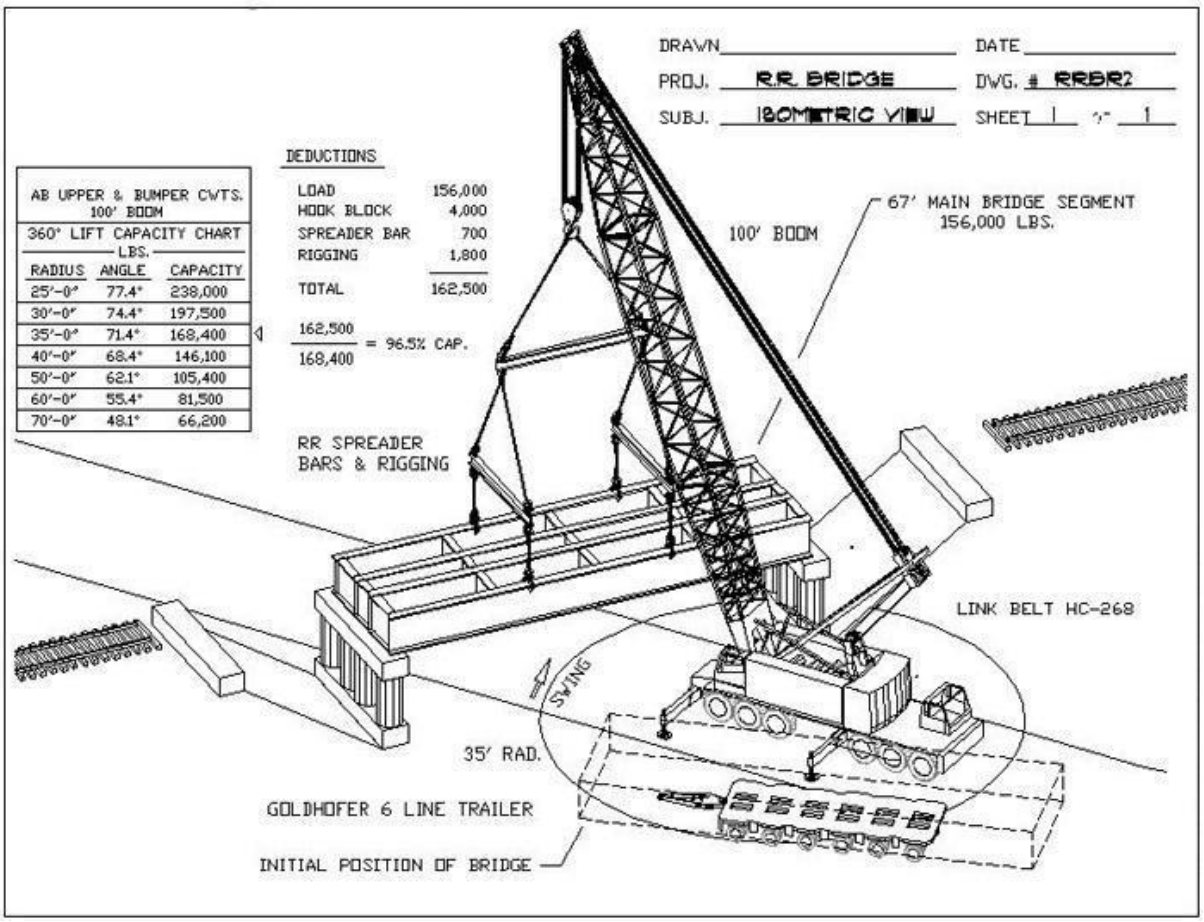
Lifting Accessories Used		
Sling(s)	Number(s):	Diameter(s):
	Length(s):	Capacity(s):
Shackle(s)	Number(s):	Size(s):
	Type(s):	Capacity(s):
Lifting Beam(s)	Number(s):	Length(s):
	Type(s):	Capacity(s):

Title	Name	Title	Name
Crane Co-ordinator / Appointed Person		Slinger(s)	
Crane Supervisor		Banksman Signaller(s)	
Crane Operator(s)		Crane Erectors	

Drawings / Plan (Example 1)



Drawings / Plan (Example 2)



Detailed Sequence of Operation (From road closure through to Lift completion)	
1	
2	
3	
4 ETC	

Appointed Person's Acceptance of Responsibilities		
I confirm that the lifts have been planned and will be carried out in accordance with current legislation and British Standard 7121 and that I accept responsibility for the preparation of this Lift Plan & Method Statement.	**Signed:**	**Date:**

Crane Supervisor's Acceptance of Duties		
I confirm that I have been fully briefed on the contents of this Plan and Method Statement and that I accept the duty of ensuring that the lift(s) will be carried out in accordance with the method and procedures set out in this document.	**Signed:**	**Date:**

APPENDIX 3 – Wire Ropes – Care and Inspection

A3.1 Introduction

Wire ropes are used throughout the construction industry on hoists, rope-orientated plant and on all types of crane work.

Manufacturers of wire ropes have developed many types of rope construction, each of which has some special advantage for particular applications. A wire rope of the wrong type will not give satisfactory service and worn ropes should always be replaced with the same type of rope.

A3.2 Construction

Steel wire ropes are generally pre-formed during manufacture and the construction of the rope reflects the particular use for which the rope is intended. The three main rope construction features are:

- Number of wires in each strand – the greater the number of wires in the outer strand, the greater the flexibility: the fewer the number of wires in the strand, the better the resistance to abrasion;
- Number of strands in the rope;
- Direction in which the wires and strands lay (spiral).

There are three types of rope in common use:

- Ordinary Lay;
- Lang's Lay;
- Non-rotating.

A3.2.1 Ordinary Lay

In this rope construction the wires and strands spiral in opposite directions:

- RIGHT-HAND ordinary lay – wires spiral to the left and strands to the right;
- LEFT-HAND ordinary lay – wires spiral to the right and strands to the left.

Ropes are normally made in right-hand lay, but can be supplied in left-hand lay if required – for example, boom hoist systems employing two ropes on the same winch drum would be fitted with a right and a left-handed rope to prevent the ropes from unwinding during use.

These ropes are easily handled and can be used with one end left free to rotate. However, they wear quickly as only a few crown wires are in contact with the bearing surface at any time.

A3.3.2 Lang's Lay

In this construction the wires and strands both spiral in the same direction. Normally provided

in either 6 or 8 stranded construction, Lang's Lay rope has better wearing properties than Ordinary Lay. However, this type of rope is harder to handle and both ends must be secured to prevent twisting.

Again, ropes can be provided with either right or left-hand lay, although right-hand is more normal.

Where extreme abrasion is expected rope with flattened strand may be used as this construction offers the maximum wearing surface. The strands of this type of rope are either triangular or oval, resulting in a rope where the circumference is an almost continuous circle. Flattened strand rope is generally supplied as Lang's Lay.

A3.3.3 Non-Rotating

Non-rotating ropes resist twisting and are ideal for long, unguided lifting operations, such as crane hoist ropes. Both multi-stranded Ordinary and Lang's Lay ropes can be manufactured with a double layer construction to provide non-rotating properties – if the inner layer is left-handed Lang's Lay then the outer layer will be right-handed Ordinary Lay, or vice-versa.

Where high lifting is involved – then multi-strand non-rotating ropes are recommended. The finished strand of a rope is passed through a fixed die that compacts the strand to achieve a reduction in diameter, giving the following advantages:

- Higher breaking load to weight ratio over conventional rope – typically over 20%;
- Maximum resistance to crushing as there is greater surface / contact area between the rope and sheave or drum and greater internal contact area;
- Longer life;
- Excellent flexibility for spooling onto drums and pulleys.

A3.4 Wire Ropes Inspection

A3.4.1 Factors Causing Rope Deterioration

Deterioration may result from normal usage, from misuse or as a result of abnormal incidents. The most common types of deterioration are:

Normal Wear Occurring on Strand Crowns:

- Characteristics of the appliance that the rope is fitted to – rope tension, number of sheaves, condition of drum and sheaves, rate of acceleration / deceleration, inertia or momentum of sheave, fleet angle;

- Environmental conditions – abrasive dust, lack of adequate lubrication when rope in service;

The degree of wear can normally be seen without difficulty and presents as:

- Plastic flow on the wire surface;

- Reduction in overall rope diameter;
- Wear on individual visible wires;
- Wear on the sheave.

Internal Deterioration:

Manifests at the inter-strand, inter-wire or strand-core interfaces and is normally presented as notches or indents in the rope. This type of deterioration is primarily caused by pressure or friction caused by rope tension increase, reduction in the sheave / rope diameter ration, at high levels of bending cycles or if there is a lack of adequate lubrication.

Corrosion:

Corrosion can be a major cause of rope deterioration and is primarily caused by:

- Hostile environment – steam water, corrosive fumes, etc.;
- Contamination of lubricant with foreign matter or through fretting;
- Hot / cold environment leading to the breakdown of rope dressing.

External corrosion can normally be seen and assessed; however, internal corrosion is more difficult to see and address.

Abrasion:

Normally found at strand crowns in addition to normal wear this type of deterioration is primarily caused by:

- Seized or misaligned sheaves;
- Bad spooling;
- Rubbing against structure.

Mechanical Damage:

Primarily caused by:

- Incorrect wrapping of the rope;
- Incorrect fleet angle;
- Being struck by an object;
- Incorrectly profiled sheaves or drum grooves;
- Kinking and bends caused during installation.

Overheating:

Overheating can cause serious reduction in rope strength and is primarily caused by conduction, radiation, direct flame or electric arcing.

Malfunctions:

These normally result from poor installation, shock loading or the introduction of ‘turn’ into the

rope by operation of the crane.

Rotation:

Introduced when the wrong rope for the duty is fitted or long lengths of rope are inappropriately handled.

Fatigue:

Individual wires in ropes normally fail by being bent, tensioned or torsioned through a large number of cycles, or a combination of all three. Short rope movement will lead to concentration of this distortion.

Termination Failures:

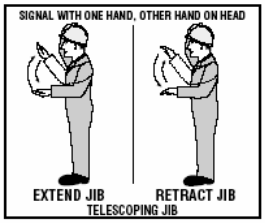
Primarily caused by incorrect fitting, corrosion fatigue or misalignment.

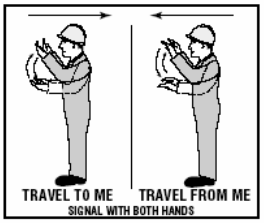
A3.4.2 Wire Rope Discard Criteria

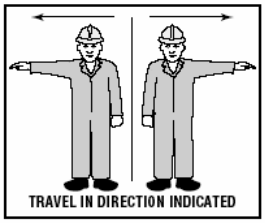
The main criteria for discard of a wire rope are as follows:

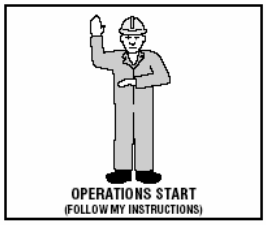
- Number, nature, type and position of visible broken wires – no more than 5% of the total number of wires in the rope over a length 10 times the rope diameter;
- Local groups of visible broken wires – a maximum of 3 in one or adjacent strand;
- Deterioration in the vicinity of the termination or damage to termination – no broken wires within 6mm (¼ inch) of the termination;
- Core deterioration – abrupt loss in rope diameter;
- Wear – maximum reduction in diameter from nominal of 10% (6 and 8 strand rope) or 3% (multi-strand rope);
- Internal corrosion – reject rope if internal corrosion is confirmed;
- External corrosion – reject rope if corrosion causes wire slackness;
- Deformations;
- Thermal damage.

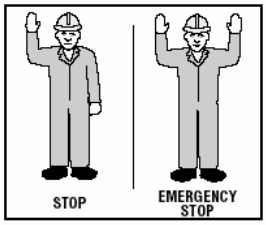
APPENDIX 4 – Recommended Hand Signals

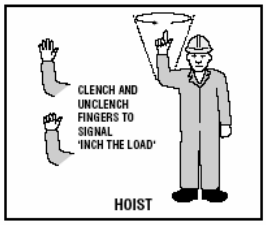


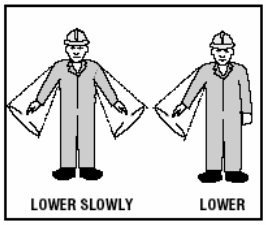


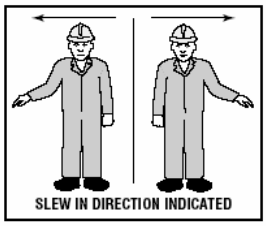


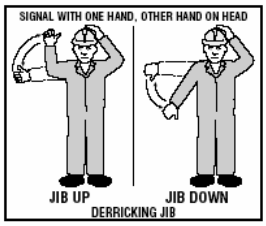












- Only those Personnel Authorised as Crane Banksmen are permitted to give signals to the Crane Operator.
- The Banksman should stand in a position where he can see the load and be clearly seen by the Crane Operator.
- Where possible, face the Crane Operator and make each signal distinct and clear.
- The Banksman must be easily identified e.g. by wearing a Hi-Vis Jacket or Waistcoat clearly marked to indicate that he is an Authorised Banksman.

The Signals illustrated are in accordance with the recommendations of BS 7121 - Safe Use of Cranes.

APPENDIX 5 – Lifting of Personnel

Moving personnel with the aid of a lifting appliance involves high risk and, as such, is categorised as 'Non-Routine Complex'. Such lifting operations are only permitted when the Site Manager has determined that the erection, use and dismantling of conventional means of reaching the worksite (scaffold, ladder, stairway, aerial lift, elevating work platform, etc.) would be more hazardous or is not possible due to structural design or worksite conditions.

The Site Manager, having approved operations involving lifting of personnel, shall clearly designate a person in charge of such lifting operations.

The lift plan for operations involving lifting of personnel must include a rescue plan and identify all personnel and equipment required for such a plan.

Lifting equipment shall be approved, certified and dedicated for lifting of personnel. Direct riding on the load or hook is strictly prohibited. All platforms or baskets used in the lifting or transportation of personnel shall be designed, manufactured and tested in accordance with International or European standards and have a current certificate.

Prior to initial use and at each new work site, all equipment to be used for personnel lifting

shall be inspected by a competent person.

Radio or visual communication between the lifting equipment Operator, Banksman and personnel being lifted shall be maintained at all times.

A5.1 Personnel Lifting With a Crane

Cranes are not primarily designed for lifting of personnel and, as such, additional measures have to be put in place to ensure compliance with national regulations, such as LOLER.

The Crane Operator shall always be at the crane controls when the prime mover is running and the personnel lifting basket or platform is occupied. Free-fall capability lock-outs shall be used during all personnel lifts.

Cranes shall be fitted with a device that holds the load securely in position in case of brake failure. Such a device could be a secondary brake or hydraulic system fitted with counter-balance valves and crossover check valves. In addition, for hydraulic or pneumatic systems, load check valves shall be fitted to prevent uncontrolled movement of the equipment in the event of a system failure.

A5.2 Personnel Work Cages & Baskets

The lifting equipment shall be rated to at least twice the weight of the load (including the maximum number of passengers).

A5.2.1 Work Baskets

Work cages and baskets shall have a guardrail enclosed from the toe-board to mid-rail to prevent tools or equipment from falling out of the cage / basket. In addition, the cage / work basket shall have:

- Inside handrail protected from external contact;
- An access gate that does not swing outwards and has a retaining device preventing accidental opening;
- Adequate headroom for personnel and overhead protection where personnel may be subjected to falling objects;
- Secure anchoring points for fall protection equipment, which must be worn by all passengers;
- A plate or other permanent marking clearly indicating the basket’s weight, load and passenger capacity.

APPENDIX 6 – Typical Adverse Weather Guidelines

Adverse weather will increase the risks presented to personnel and assets as a result of

lifting operations. To minimise the potential risk associated with lifting operations the table below provides typical operating limits for crane operations and factors that should be considered by those involved.

Assessment of Conditions				
Mean Wind Speed (Knots)	**Mean Wind Speed (M/S)**	**Description**	**Zone Definition**	**Additional Information**
0 – 1	0 – 0.5	Calm	**Normal Lifting Zone**	The following situations may require cessation of lifting operations; - Loss of Radio Contact - Loss of Visibility - Site Manager's Discretion - Crane operator's discretion
1 – 4	0.5 – 2.1	Light Air		
5 – 8	2.2 – 4.1	Light Breeze		
9 – 13	4.2 – 6.7	Gentle Breeze		
14 – 21	6.8 – 10.8	Moderate Breeze		
22 – 27	10.9 – 13.9	Fresh Breeze		
28 – 35	14.0 - 18.0	Strong Breeze		
36 - 43	18.1 – 22.1	Near Gale	**Review and Assessment Zone**	Lifting only with the agreement of: - Crane operator - Site Manager - Person in charge of lifting operations
44 – 52	22.2 – 26.8	Gale	**No Lifting Zone** Emergency Lifting Only (Safety of Life)	Emergency Lifting Only, Requires; - Risk Assessment - Consultation and approval by all parties
53 – 61	26.9 – 31.4	Strong Gale		
62 – 71	31.5 – 36.6	Storm		
72 – 82	36.7 – 42.2	Violent Storm		
83+	42.3+	Hurricane		

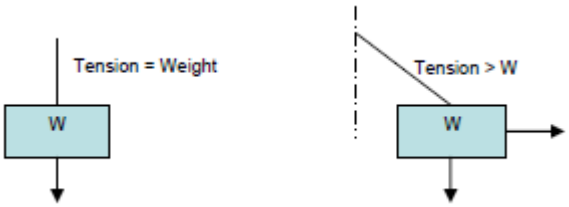
APPENDIX 7 – Guideline on Use of Lifting Accessories

A7.1 – The Principles of Tension

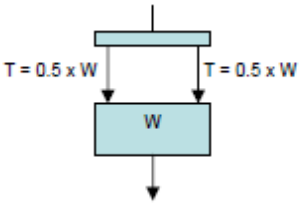
The way that lifting gear is used, and the conditions under which it is used - particularly during transfer of loads between transport vehicles to installation point – is critical to the safety of the lifting operation. Anyone using lifting equipment must understand the effects of angles, and the consequent the principles of tension, in lifting suspended loads.

Simply put, if a suspended load is hanging vertically, with no other movement, then the tension in the supporting lifting equipment is equal to the weight of the load. However, if the angle of suspension is not 0° - if the load is not hanging vertically – then the

tension in the lifting equipment increases as the resultant force increases as shown below:



If more than one sling is used then the weight is distributed between the slings. For parallel slings, each sling takes half of the load; for angled slings the tension in each sling is more than its proportion of the load, as shown in the diagram below:



The tension in equally loaded slings can be calculated from the following

formula: $T = \frac{W \times L}{No \times H}$

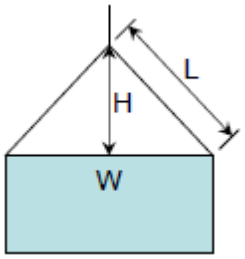
Where: T = tension in each leg

W = weight of load

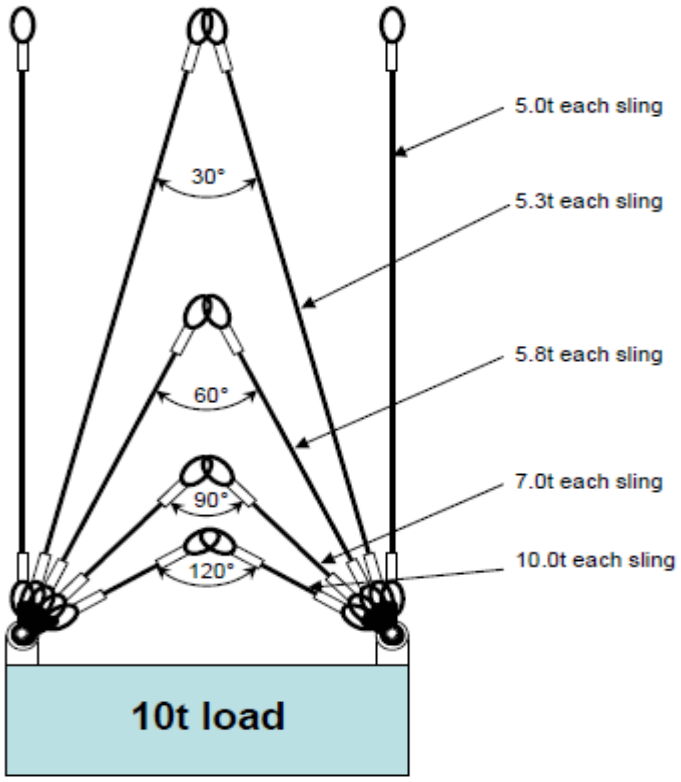
L = length of sling

No = 2, the number of slings

H = height (vertical distance between attachment points)



As the distance between attachment points (H) decreases, the angle between the sling legs increases and the resultant tension (T) in each sling increases. It is vital that the angle between slings be considered and the following diagram briefly summarises the de-rating of a pair of slings with increasing angle of separation:



So, for a pair of slings, the load that can be lifted is equal to: Slings at 0° capacity = 2 x SWL of one sling

Slings at 30° capacity = 2 x SWL of one sling x 0.966

Slings at 60° capacity = 2 x SWL of one sling x 0.866

Slings at 90° capacity = 2 x SWL of one sling x 0.707

Slings at 120° capacity = 2 x SWL of one sling x 0.50

As a further aid, Tables A10.1, A10.2 and A10.3 should be used for selecting slings of the correct capacity.

For example: Load Weight = 10 tonnes, 2-leg sling set to be used, slings are steel-cored angle between slings = 60°, angle of sling to vertical, ß = 30° from Table A10.1, slings of 26mm rope diameter required

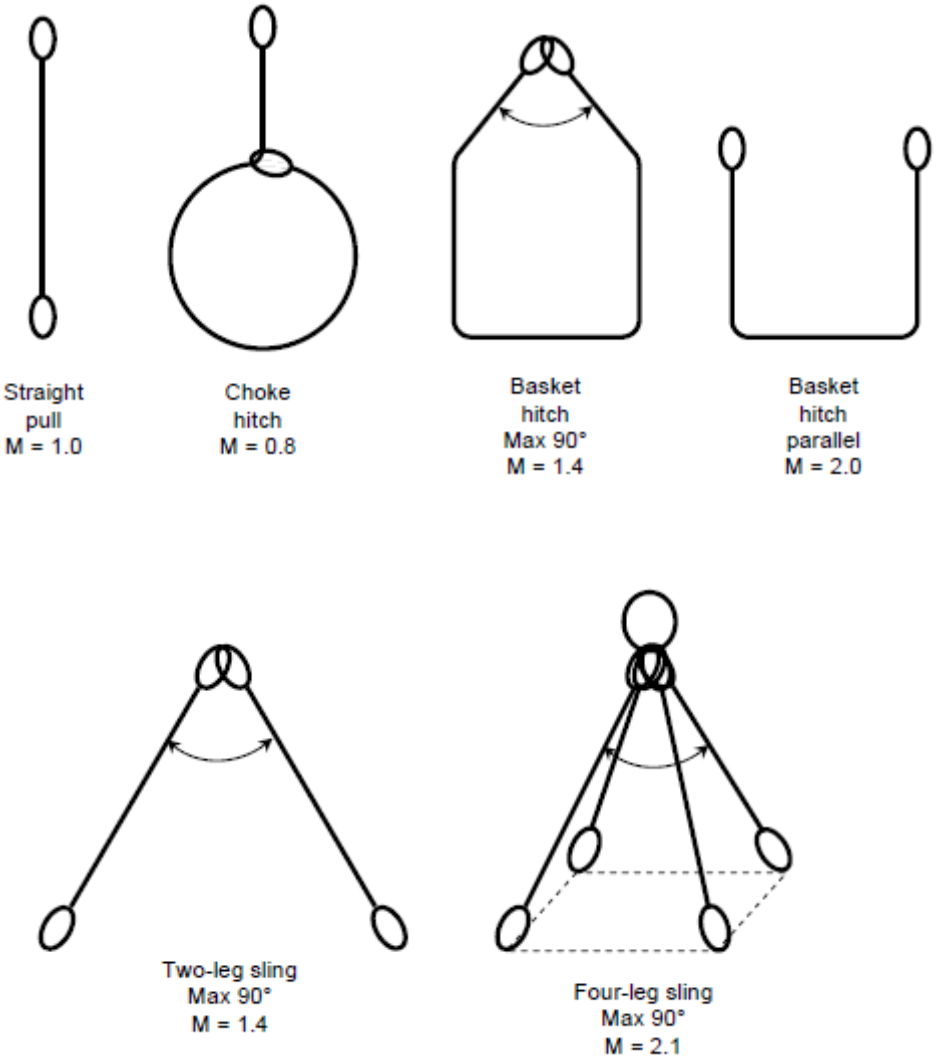
Taking another example: with four steel-cored slings rated at 3 tonne SWL (16mm diameter) and sling angle (ß on Table A10.1) to the vertical of less than 45°, a load weighing up to 6.3 tonnes could be lifted.

A7.2 Mode Factor

Another factor that has to be considered during selection of slings is the Mode Factor (M), which relates to the way, or mode, in which the sling is used to lift the load. The SWL of one leg of the sling arrangement is multiplied by the Mode Factor to give the

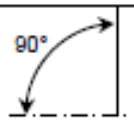
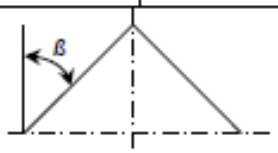
SWL of the configuration.

For steel wire rope slings:



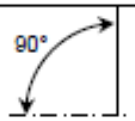
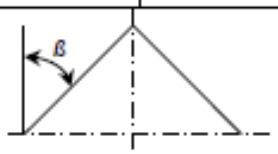
The following tables have been compiled in line with the requirements of BS EN 13414-1:2003 (E) *Steel Wire Rope Slings – Safety, Part 1: Slings for General Lifting Service* and BS EN 1492-2:2000 *Textile Slings – Safety, Part 2: Round-slings, Made of Man-Made Fibres, for General Purpose Use*.

Table A7.1 Working Load Limit for Slings Using STEEL Cored Rope

	One-leg sling	Two-leg sling		Three and four-leg sling		Endless sling
Angle to the vertical	0°	0° to 45°	Over 45° to 60°	0° to 45°	Over 45° to 60°	0°
						
	Direct	Direct	Direct	Direct	Direct	Choke hitch
Nominal rope diameter mm	**Working load limits (Safe Working Load)** **tonnes**					
8	0.75	1.05	0.75	1.55	1.10	1.20
9	0.95	1.30	0.95	2.00	1.40	1.50
10	1.15	1.60	1.15	2.40	1.70	1.85
11	1.40	2.00	1.40	3.00	2.12	2.25
12	1.70	2.30	1.70	3.55	2.50	2.70
13	2.00	2.80	2.00	4.15	3.00	3.15
14	2.25	3.15	2.25	4.80	3.40	3.70
16	3.00	4.20	3.00	6.30	4.50	4.80
18	3.70	5.20	3.70	7.80	5.65	6.00
20	4.60	6.50	4.60	9.80	6.90	7.35
22	5.65	7.80	5.65	11.80	8.40	9.00
24	6.70	9.40	6.70	14.00	10.00	10.60
26	7.80	11.00	7.80	16.50	11.50	12.50
28	9.00	12.50	9.00	19.00	13.50	14.50
32	11.80	16.50	11.80	25.00	17.50	19.00
36	15.00	21.00	15.00	31.50	22.50	23.50
40	18.50	26.00	18.50	39.00	28.00	30.00
44	22.50	31.50	22.50	47.00	33.50	36.00
48	25.00	37.00	26.00	55.00	40.00	42.00
52	31.50	44.00	31.50	66.00	47.00	50.00
56	36.00	50.00	36.00	76.00	54.00	58.00
60	42.00	58.00	42.00	88.00	63.00	67.00

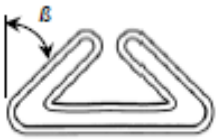
The ropes are of Classes 6x19, 6x36 and 8x36 and have ferrule-secured eye terminations.

Table A7.2 Working Load Limit for Slings Using FIBRE Cored Rope

	One-leg sling	Two-leg sling		Three and four-leg sling		Endless sling
Angle to the vertical	0°	0° to 45°	Over 45° to 60°	0° to 45°	Over 45° to 60°	0°
						
	Direct	Direct	Direct	Direct	Direct	Choke hitch
Nominal rope diameter mm	Working load limits (Safe Working Load) tonnes					
8	0.70	0.95	0.70	1.50	1.05	1.10
9	0.85	1.20	0.85	1.80	1.30	1.40
10	1.05	1.50	1.05	2.25	1.60	1.70
11	1.30	1.80	1.30	2.70	1.95	2.12
12	1.55	2.12	1.55	3.30	2.30	2.50
13	1.80	2.50	1.80	3.85	2.70	2.90
14	2.12	3.00	2.12	4.35	3.15	3.30
16	2.70	3.85	2.70	5.65	4.20	4.35
18	3.40	4.80	3.40	7.20	5.20	5.65
20	4.35	6.00	4.35	9.00	6.50	6.90
22	5.20	7.20	5.20	11.00	7.80	8.40
24	6.30	8.80	6.30	13.50	9.40	10.00
26	7.20	10.00	7.20	15.00	11.00	11.80
28	8.40	11.80	8.40	18.00	12.50	13.50
32	11.00	15.00	11.00	23.50	16.50	18.00
36	14.00	19.00	14.00	29.00	21.00	22.50
40	17.00	23.50	17.00	36.00	26.00	28.00
44	21.00	29.00	21.00	44.00	31.50	33.50
48	25.00	35.00	25.00	52.00	37.00	40.00
52	29.00	40.00	29.00	62.00	44.00	47.00
56	33.50	47.00	33.50	71.00	50.00	54.00
60	39.00	54.00	39.00	81.00	58.00	63.00

The ropes are of Classes 6x19, 6x36 and have ferrule-secured eye terminations.

Table A7.3 Working Load Limit for Round-slings

WLL of roundsling in straight lift	Colour of roundsling cover	Working Load Limit in Tonnes				
		Straight Lift	Choked Lift	Basket Hitch		
						
				Parallel	ß = 0 to 45°	ß = 45° to 90°
		M = 1	**M = 0.8**	**M = 2**	**M = 1.4**	**M = 1**
1.0	Violet	1.0	0.8	2.0	1.4	1.0
2.0	Green	2.0	1.6	4.0	2.8	2.0
3.0	Yellow	3.0	2.4	6.0	4.2	3.0
4.0	Grey	4.0	3.2	4.0	5.6	4.0
5.0	Red	5.0	4.0	10.0	7.0	5.0
6.0	Brown	6.0	4.8	12.0	8.4	6.0
8.0	Blue	8.0	6.4	16.0	11.2	8.0
10.0	Orange	10.0	8.0	20.0	14.0	10.0
Over 10.0	Orange					

Construction Method Statement Contents Guide

The headings and sub-headings listed below are not exhaustive
Identified Yes / No

1.	**Purpose**		
2.	**Scope of Work (detailed)** Detailed description of Works to be undertaken. Limits of work and site boundaries, including time limits / Completion criteria		
3.	**References/Consents/Supporting Information**		
4.	**Hazards & Risks Identified** · List significant hazards with operation and as identified in the Project Safety Plan. · Consider health and safety implications · Risk Assessments · Hazardous substance assessments		
5.	**3rd Party/Arrangements/Protection/Communication & Liaison** **Method** · Movement – storage of materials and equipment · Restricted clearances – plant & equipment · Reduced site lines for travelling public and construction plant · Occupied premises within or adjacent to operations · Over-flying work operations (cranes) · Site security · Road traffic management · Pedestrian management · Interface with public bodies and schools · Public safety · Temporary fencing and protection **Communication & Liaison** · Identify specific persons who must be contacted, additional to those specific in the Project Safety Plan e.g. other section engineers · Consider other contractors working nearby. Highway Authorities.		

	Occupiers of adjacent property. Client undertakings. · Sub-standard conditions reporting **Supporting Information** Drawing and layout of initial, interim and final works. Temporary Works design, support calculations, checking and approval Quality control arrangements		
6.	**Environmental** · Noise, dust, smoke, mud, vibration. · Disposal of waste, frequency and method of disposal. · De-watering arrangements and disposal of water · Pollution controls Fuels, oils etc., storage and containment Environmental – liaison		
7.	**Method: Briefing Arrangements, Plant, Personnel** **Method** · Reference to programme chart showing sequence of separate tasks · Standards and Procedures · Sketches · Access and egress arrangements · Delivery of materials · Details of temporary structures · Method of authorising start of work · Risk Assessments considering Health and Safety **Personnel** · Number of contractors and sub-contractors · Communication methods · Supervision arrangements, including names of person in charge · Competence and training requirements. (especially in respect of plant and equipment used) · Working hours · Shift hand-over arrangements · Welfare and first aid · Access requirements, special conditions **Briefing Arrangements** · Determine level and extent of briefing arrangements including accompanying documentation. · Detail how understanding is to be confirmed by contractors and or individuals **Plant & Equipment** · Specify plant and equipment to be used		

	· Competence requirements to operate or erect plant and equipment · Authority to work · Operational Restrictions · Permit systems · Inspection and examinations · Record keeping · Temporary lighting · Detail of cranes, lifting machines, appliances and lifting tackle; including details of site access, · Rigging and de-rigging		
	Infrastructure Protection · Identify hidden services · Use of approved Cable Locating Tools · Identify infrastructure susceptible to damage e.g. power and telecommunications equipment, · pipes, air mains, fire detection equipment · Sketch showing location of services or reference where information can be found. · Isolation and protection – safe working locations. · Permits to work · Lock out procedure and control. · Hand over and re-energising · Plant movements. · Additional fire precautions · Hot Work arrangements · Structural considerations for existing buildings & structures.		
8.	**Quality** · Quality Control arrangement		
9.	**Safety** · Control measures for specific health hazards e.g. Leptospirosis · Relevant contractor's risk assessments, including COSHH and manual handling · Permit to work systems · Personal protective equipment requirements · Etc		
10.	**Hold Points** Hold Points are trigger levels if exceeded then the work ceases. This will include safety, quality and environmental issues.		
11.	**Inspection & Test Plans**		

OPERATIONAL GUIDANCE PROCEDURE

GSAF/0003

WORKING AT HEIGHT

		Issued for use
0		Reviewed/edited/amended in conjunction with management review
Rev.	**Date**	**Description**

	Prepared by:	Reviewed by:	Approved by:
Name:			
Date:			
Signature:			

Table of contents

1 Scope

This procedure is applicable throughout the Dahisar-Bhayandar Link Road to include Site, Office, Casting Yard, or in any other area that persons may work at height.

This procedure is for anyone directly or indirectly involved in work at height: employees, supervisors, the self-employed and those in control of work premises.

Purpose

1. Sets out the key requirements for safe working at height under ----------'s direction;
2 Provides guidance on the main types of work equipment available for work at height;
3. Provides guidance on planning, organizing and carrying out work at height.

2 Definitions

WAHR: Work at Height Regulations

The WAHR have no minimum height requirement for work at height. They include all work activities where there is a need to control a risk of falling a distance liable to cause personal injury. This is regardless of the work equipment being used, the duration the person is at a height, or the height at which the work is performed. It includes access to and egress from a place of work. It would for example, include:

- Working on a scaffold or from a mobile elevated work platform (MEWP);
- Working on the back of a lorry, e.g. sheeting a load;
- Using cradles or ropes to gain access to parts of a building;
- Climbing permanent structures, such as gantries or telegraph poles;
- Working close to an excavation area or other opening, where someone could fall into it and injure themselves or others;
- Painting or plastering at height;
- Work on staging or trestles;
- Using a ladder/step ladder or kick stool;
- Working in a shaft;

Activities that are **not** considered to be work at height include:

- Slips and trips on the same level;
- Falls on permanent stairs if there is no structural or maintenance work being undertaken;
- Work in, for example, an office on the upper floors of a multi story building where there is no risk of falling (except activities within the workplace which do involve a risk of falling, e.g. from a stepladder).

3 Responsibility

(Contractor Name) has a corporate and social responsibility to prevent ill health and injury to our employees and others not in our employment, such as members of the public and contractors. The Project Manager shall be responsible for ensuring at a local level, the requirements contained within this procedure are implemented.

4 Procedure

4.1 (Contractor Name) shall ensure that a suitable and sufficient risk assessment is undertaken for all work that involves working at height and arrangements put in place to for:

- Eliminating or minimising risks from working at height;
- Organising and performing work at height;
- Selecting suitable work equipment to perform work at height;
- Protecting people from the consequences of work at height;

The risk assessment and the action taken should be proportionate to the harm that could occur if no action was taken. It should include a careful examination of what harm could be caused from working at height with a view to taking the necessary steps to reduce the likelihood of this harm occurring, either through avoiding the activity or, where this is not reasonably practicable, through carrying it out in a safe manner using the appropriate work equipment.

4.2 Hierarchy for safe work at height

Following the risk assessment this hierarchy should allow you to select the most appropriate methods for work at height. The overriding principle is to prevent, so far as is reasonably practicable, any person falling a distance liable to cause personal injury.

1. **AVOID** the risk by not working at height – where it is reasonably practicable to carry out the work safely other than at a height do so.
2. **PREVENT** falls - where it is not reasonably practicable to avoid work at height, you should assess the risks and take measures to allow the work to be done whilst preventing so far as is reasonably practicable people or objects falling. This might include ensuring the work is carried out safely from an existing place of work; or choosing the right work equipment to prevent falls.
3. **MITIGATE** the consequences of a fall – where the risk of people or objects falling still remains you should take steps to minimize the distance and consequences of such falls. This also involves the selection

and use of work equipment.

4. At all stages give collective protective measures (e.g. guardrails, nets, airbags, etc.) precedence over personal protective measures (e.g. safety harnesses) however due to the nature of our works the use of harnesses will be a predominant mitigation measure employed during the erection, alteration and striking of scaffolds.

5 Examples / Diagrams / Flow Charts

6 General Assessments

General Risk Assessment for work at height activities. These assessments specify the general control measures to be employed and do not relate specifically to scaffolding tasks. Specific task assessments will be produced and where necessary be further supplemented with a method statement.

In the majority of cases (Contractors Name) has identified that the severity of an incident will not alter however overall risk can be reduced through implementing additional control measures to reduce the likelihood of an incident. Therefore it will be noted in many of the following assessments that the severity, should an incident occur remains the same.

WORKING AT HEIGHT (GENERAL) RISK ASSESSMENT

Originator Name (Print):	**(CONTRACTOR NAME)**
Signature:	

KEY:	L = Likelihood	S = Severity	R = Risk (Likelihood x Severity)
RISK RANKING:	L = Low priority to be implemented when resources allow.	M = Medium priority to be scheduled as soon as practical.	H = High priority to be acted on immediately.

Task/Element	**Potential Hazards**	**Population at Risk**	**Risk Rating**			**Control Measures**	**Revised Rating**		
			L	**S**	**R**		**L**	**S**	**R**
(Corporate) **Working At Height**	Fatality Serious Injury Enforcement (Prosecution) Financial Losses Business Losses Damage to; Moral & Motivation Reputation Stakeholder confidence Brand / Image	Company Company employees Contractors Sub-Contractors Client	**H**	**H**	**H**	**(Contractor Name) Shall:** 1. Assess the risk to help you decide how to work safely; 2. Follow the hierarchy for safe work at height – avoid, prevent, mitigate; and give collective measures priority; 3. Plan and organize your work properly taking account of weather conditions and the possibility of emergencies; 4. Make sure those working at height are competent; 5. Make use of appropriate work equipment; 6. Manage the risks from working on or around fragile surfaces and from falling objects; 7. Inspect and maintain the work equipment and inspect the place where the work is to be carried out (including access and egress).	**L**	**H**	**M**
Workforce consultation & communication	Errors made by employees due to lack of information on safety and specific task company arrangements.	Individual, Staff Other contractors Visitors	**H**	**H**	**H**	(Contractor Name) shall consult employees on matters relating to health and safety with respect to work at height and involve representatives in the development of risk assessments for task specific work at height. (Contractor Name) shall provide information concerning specific risk assessments relating to the task being undertaken and any restrictions and details of the preventive and protective measures introduced.	**L**	**H**	**M**

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Selecting equipment for access or egress	Incorrect supply and selection of equipment. Inadequate or inappropriate for tasks and loads envisaged. Failure of equipment or error by individual resulting in possible falls from height and injuries from minor to Fatality.	Individual, Staff Other contractors Visitors	**M**	**H**	**M/H**	Selection of equipment for access or egress will depend on the particular use envisaged and will be detailed within the task specific method statement and or risk assessment. For frequent access, (Contractor Name) will consider more permanent arrangements. For example, if a scaffold is to be in place for some time, the erection of a staircase with handrails would be more appropriate than a ladder tied in place, especially if bulky loads are being carried up a long flight. (Contractor Name) will consider the use of hoists or other if this will reduce the risks of falls. Scaffolding and cradles will be used in preference to personal fall protection systems. However, it does not prohibit the use of the latter type of equipment if these are the most appropriate in the light of the overall plan and risk assessment, and the nature of the work to be undertaken.	**M**	**M**	**M**

Section-1: OSH&E Document Volume 2, GSAF 003

Systems of work or means of access	Incorrect planning resulting in workers taking foreseeable risk. Fall from height from climbing over guardrails or barriers etc	Individual, Staff Other contractors Visitors	**H**	**H**	**H**	Systems of work or means of access will be designed so that workers do not have to climb over guardrails. If frequent access is required consideration will be given to the use of gates, which will allow access when required and also protect those working on the scaffold by providing a barrier. For work on high-rise buildings, which may take considerable periods of time to complete, the use of mast climbing work platforms or suspended platforms may be appropriate. These will only be erected, altered, operated or dismantled by those with the necessary competence and in accordance with the manufacturer's instructions.	**L**	**H**	**M**

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Task/Element	**Potential Hazards**	**Population at Risk**	**Risk Rating**			**Control Measures**	**Revised Rating**		
			L	**S**	**R**		**L**	**S**	**R**
Mobile Elevating Work Platforms **(MEWPs)**	Incorrect planning equipment & use resulting in workers taking foreseeable risk. Fall from height from climbing over guardrails etc. Injuries ranging from minor injury to Fatality	Individual, Staff Other contractors who may be working below	**M**	**H**	**H**	MEWPs should not generally be used as a means of access to or from another structure or surface – climbing out of MEWPs in these circumstances has injured several people. However, MEWPs may be used for this purpose if they have been specifically designed for it e.g. triple boom with access gate, or as part of a properly planned operation where, in exceptional circumstances, this is the safest way to gain access to a place of work at height. In such cases suitable fall protection should be worn and correctly anchored.	**L**	**H**	**M**

Requirements for ladders use	Incorrect supply and selection of equipment. Inadequate for loads being applied. Failure of equipment resulting in possible falls from height and injuries from minor to Fatality.	Individual, Staff Other contractors Visitors All persons who may require use for access & egress	**H**	**H**	**H**	Ladders are work equipment as defined and must be suitable for the task. For example, they should be strong enough to take the loads placed upon them. New ladders are marked in accordance with their conditions and class of use. For example, anyone using a ladder or stepladder for industrial work must ensure that it is marked: - · Timber BS1129: 1990 Kite marked Class 1 Industrial; · Aluminium BS2037: 1994 Kite Marked Class 1 Industrial; · Glass Fibre BSEN131: 1993 Kite marked Industrial; and · Step stools BS7377: 1994.	**L**	**H**	**M**

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Task/Element	**Potential Hazards**	**Population at Risk**	**Risk Rating**			**Control Measures**	**Revised Rating**		
			L	**S**	**R**		**L**	**S**	**R**

Ladders	**Hazards** High runs causing fatigue over a period of time and loss of concentration. Unstable ground Being struck by transport Falls of personnel and materials. Failure of ladder through misuse and excessive weight being applied	Individual, Staff Other contractors Visitors All persons who may require use for access & egress	**M**	**H**	**H**	When considering using a ladder to perform work at height, or as a means of access or egress, (Contractor Name) shall carry out a risk assessment. The assessment should be proportionate to the risks involved, for example, a generic assessment may be quite suitable for simple, routine or repetitive tasks, but more complex work will need specific planning, and doing a written assessment will ensure that the risks are recorded. Such a risk assessment should cover factors such as the height to be negotiated, the site conditions (including weather), the duration and extent of the work, the frequency of access, etc. It is important to remember that: Ladders should only be used as a place to work when other, potentially safer, means such as tower scaffolds are not reasonably practicable; · **Ladders should only be used for access when putting in a permanent staircase is not reasonably practicable.** **(Important)** Where a contractor has specified ladder access, (Contractor Name) shall advise the above with regard to risks identified within the specific scope of works e.g. ladder access may be unadvisable if tools and equipment are to carried aloft and an alternative such as a staircase be more viable in reducing the risk associated with falls and falling materials. Ladders should only be used as work equipment, either for access and egress or as a place from which to work, where a risk assessment shows that the use of other work equipment is not justified because of the low risk and the short duration of the job or unalterable features of the work site. The risk assessment is essential and should consider not only those using the ladder but others who could be affected, such as passers-by.	**L**	**H**	**M**

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Task/Element	**Potential Hazards**	**Population at Risk**	**Risk Rating**			**Control Measures**	**Revised Rating**		
			L	**S**	**R**		**L**	**S**	**R**

Ladders (cont)	Weather conditions wet, icy, and windy Other contractors in close vicinity. Minor cuts. knocks. Back injuries. Fractures. Fatality.	Individual, Staff Other contractors Visitors All persons who may require use for access & egress	**M**	**H**	**H**	The safety of sole workers who use ladders, such as maintenance workers, depends significantly on their correct use, and adequate training is essential. Safety should not be compromised by haste to complete the job. All ladders will be used in accordance with the manufacturers' instructions. If ladders are to be used to work from, and not just for access or egress, (Contractor Name) will ensure: · A secure handhold and secure support are available at all times; · The work can be reached without stretching; · The ladder can be secured to prevent slipping.	**L**	**H**	**M**
Portable ladders (not step-ladders)	Ladder slipping from not being secured. Unstable ground. Being struck by transport. Falls of personnel and materials. Injuries from minor to major and fatality.	Individual. Staff. Other contractors. Visitors. Lone workers. All persons who may require use for access & egress.	**H**	**H**	**H**	Portable ladders **(not step-ladders)** should always be placed at the correct angle, which is around 75 degrees or roughly one metre out for every four meters up. The feet of portable ladders should be prevented from slipping during use, e.g. by: · Tying them effectively to an existing structure securing them at the top is the best method and is the method that will be employed by (Contractor Name) whenever possible; securing at the bottom or middle is not very effective to prevent sideways slip unless it is done properly with equipment designed for the purpose; Using an appropriate ladder stabiliser or anti-slip devices; Footing a ladder is not effective in stabilising a ladder and will only be considered suitable when it is not practicable to secure the ladder in another way.	**L**	**H**	**M**

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Task/Element	**Potential**	**Population**	**Risk Rating**	**Control Measures**	**Revised Rating**

	Hazards	at Risk	L	S	R		L	S	R
Working in the vicinity of fragile surfaces and openings e.g. roof-lights	Fall from height. Injuries ranging from minor to major and fatality	Individual, Staff Other contractors Visitors	**H**	**H**	**H**	If the work requires regular or occasional access where there is a fragile surface, permanent fencing, guards or other measures to prevent falls shall be in place. Where a risk of falls remains, fall arrest equipment will be used.	**L**	**H**	**M**
Falling Objects	Inadequate edge protection allowing materials or tools to fall from a height. Access of persons into the area below operations Possible injury ranging from minor to major and fatality.	Staff. Other contractors. Visitors. All persons who may have access to the working area below persons working at height.	**H**	**H**	**H**	If a falling object could injure someone, steps will be taken to ensure that this is prevented. The effectiveness of any measures will depend on the material and tools that are being used, and the effect that wind or other factors may have in creating a more widespread hazard. The risk of falling materials causing injury will be minimized by keeping workplaces at height clear of loose materials. Ways of preventing objects rolling or being kicked off the edge might include toe boards or solid barriers, or attaching them to people or fixed structures. Any guards used (including brick guards) must be robust and would usually require a mid rail. Personal items, such as mobile phones, can cause serious injury if they hit someone. High visibility netting may be one way of dealing with this risk, another might be to ensure personal items or other equipment not necessary for the task are left in a safe place before working at height. During the erection, alteration and dismantling of scaffolding the area below the works shall be cordoned off to prevent access by unauthorised personnel into the danger areas. Signage shall also be erected alerting people to the hazards.	**L**	**H**	**M**

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Task/Element	Potential Hazards	Population at Risk	Risk Rating			Control Measures	Revised Rating		
			L	S	R		L	S	R
Rubbish chutes	Waste material ejection causing injury to persons in vicinity. Minor to Major.	Staff. Other contractors. Visitors.	**M**	**H**	**M/H**	Rubbish chutes used to dispose of materials from height will be properly managed so that the debris does not hit anyone either as it goes down the structure or when it hits the skip or pile at the bottom. Skips shall be covered to prevent refuse being ejected. Where Skips cannot be adequately secured to prevent ejection, a cordon shall be set and access restricted to the skip area whilst being loaded	**L**	**M**	**M**
Inspection	Inspection not undertaken resulting in faults not being identified leading to; Possible failure of equipment collapse. Possible fall from height. Possible fall of materials resulting in injuries from minor to major and fatality	Staff. Other contractors. Visitors. All persons who may have access to the working area below equipment.	**H**	**H**	**H**	Equipment for work at height will be regularly inspected to ensure that it is safe to use. Marking the equipment will be required to ensure that it is obvious when the next inspection is due. Formal inspection, as required by this Regulation, will not be a substitute for any pre-use checks or routine maintenance. Inspection does not normally include the checks that are a part of the maintenance activity although certain aspects may be common. Nor does inspection include a pre-use check that an operator may make before using work equipment for work at height. Also, while inspections need to be recorded, such checks do not. Responsibility for weekly Scaffold and Mobile Tower Inspections shall be agreed upon with the Contractor.	**L**	**H**	**M** **M**

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Task/Element	Potential Hazards	Population at Risk	Risk Rating			Control Measures	Revised Rating		
			L	S	R		L	S	R
Record Keeping	No evidence that inspections have been undertaken. Fault of an incident may incorrectly be associated with a company failure. Possible prosecution	Company Individual staff member	**H**	**H**	**H**	(Contractor Name) shall record inspections that relate to the site safety or to the work equipment so that in the event of an accident they can provide useful information and corporate mitigation measures. The information will be made available to a health and safety inspector as required. The records will be stored in a way that is accessible and is protected from being tampered with, this may include electronically. Where Scaff-tag or similar system is in use a duplicate of inspections shall be maintained in the site office. This is to provide evidence should a tag be altered, lost or tampered with.	**L**	**L**	**L**
Thorough examination under LOLER	Possible failure of lifting equipment during lifting operations. Possible failure of equipment collapse. Possible injuries from minor to major and fatality	Individual. Staff. Other contractors. Visitors. Lone workers. All persons who may require use	**H**	**H**	**H**	Lifting equipment used for people or loads, requires a more detailed comprehensive inspection - called a thorough examination - which may include some dismantling and/or testing. If this is done it should avoid the need for a more frequent inspection unless the equipment's effectiveness depends on how it has been installed or assembled and there have been exceptional occurrences, which might jeopardize its effectiveness. However it is important to remember that some items of equipment for work at height, for example a mast climbing platform, will have some parts which are subject to thorough examination under LOLER, but also others such as floors and guardrails which will not be subject to LOLER and may need to be inspected more often. Specific examinations shall be identified by (Contractor Name) regarding all lifting equipment in use and applied according to LOLER and the manufacturers maintenance instructions. Records of examinations shall be maintained within the site office and made available for inspection as required	**L**	**H**	**M**

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Task/Element	Potential Hazards	Population at Risk	Risk Rating			Control Measures	Revised Rating		
			L	S	R		L	S	R
Guard Rails	Fall from height due to missing guardrails, top or intermediate rail. Top rail erected to low as to prevent a fall. Middle Rail to or to high that would enable an individual falling between rails. Rails not replaced after loading out of materials. Possible injuries ranging from minor to major and fatality.	Staff. Other contractors . Visitors. All persons who may have access to a working scaffold platform	**H**	**H**	**H**	Guard rails may be required to make a work platform or other place of work safe by preventing falls. The criteria set out in this Schedule apply to all guardrails whether permanent structures or work equipment, and the principles that lie behind the criteria are that whenever a person is working at height, in a place that is protected by guard rails, the rails should not allow the person to fall over, under or between them. To the extent that any permanent rails do not prevent this from happening, there will need to be temporary measures, such as the erection of scaffolding, to ensure that falls are prevented. The minimum height for guardrails to be at least **950mm**. It may be necessary, in certain circumstances, to remove guard rails, fencing and other means of protection for short periods, this can only occur: · To the time and extent necessary for the job, then the barrier is replaced; and · Such that guards are not removed while workers are at height unless there is some other safeguard, e.g. a safety net. (Contractor Name) shall inform any contractor verbally and formally where removal and non reinstatement of guardrails or safety barriers is apparent.	**M**	**M**	**M**

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Task/Element	Potential Hazards	Population at Risk	Risk Rating			Control Measures	Revised Rating		
			L	S	R		L	S	R
All Working Platforms	Slips, Trips and falls from height and same level same level. Falling materials Uneven boards. Persons climbing over storage and materials due to incorrect loading .Boards not being replaced at face after temporary removal. Toeboards removed. Access to incomplete scaffold. Waste storage Possible injuries ranging from minor to major and fatality	Staff. Other contractors. Visitors. All persons who may have access Persons working in the vicinity below the scaffold	**H** **H**	**H** **H**	**H** **H**	Working platforms are defined as 'any platform used as a place of work or as a means of access to or egress from a place of work' In considering whether a platform is suitable for work at height (Contractor Name) will ensure that it is: · Of sufficient dimensions to allow safe passage and safe use of equipment and materials; 'Sufficient dimensions to allow safe passage' means that runs, ramps, walkways and other 'platforms' of this type should be wide enough to allow a person at shoulder width to pass along them easily. This width would normally be considered to be at least 600mm although there are circumstances in which a narrower platform may have safety advantages, such as towers on stairs being used for light work, or other situations where wider boards would be more difficult to use at height because of their weight. · Liaison with contractor to establish exact requirements and intended use of the scaffold. This shall ensure the scaffold is erected to meet the needs of the task. · Platforms should be wider than 600mm if they are used for storage, for example, as well as access. · Free of hazards that could cause trips, or allow people's feet to pass through the flooring; · Constructed to prevent feet and objects passing over the edge, i.e. toe boards or edge protection are in place; · Kept clean and tidy, e.g. do not allow mud and debris to build up on platforms; However after handover of a scaffold this shall be the users responsibility and Secure from inadvertent access during the erection alteration and dismantling process and incomplete scaffold sign erected. Where possible ladder access shall be removed.	**M** **M**	**M** **M**	**M** **M**

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Task/Element	Potential Hazards	Population at Risk	Risk Rating			Control Measures	Revised Rating		
			L	S	R		L	S	R
Mobile Elevated Work Platforms (MEWPs)	1. Platform overturning, unstable ground 2. Platform overturning when traversing. 3. Platform overturning when struck by another vehicle 4. Falls of personnel and materials. 5. Failure of platform /cage. 6. Weather conditions - wet, icy, and windy. 7. Traffic. Site and public in close vicinity Minor cuts, knocks.	Staff. Other contractors. Visitors. All persons who may have access	**H**	**H**	**H**	MEWPs can provide a safe means of working at height if used properly in accordance with their instructions. (Contractor Name) shall assess the risks of users falling from or being thrown from the basket, and take precautions to eliminate or control those risks. The precautions for safe work from a MEWP include: · A guard rail and a mid rail round the edge of the basket to stop the user falling; · A slip-resistant floor; · Toe-boards round the edge of the platform; · Dead-man controls clearly marked to show their method of operation; · Use of stability devices, e.g. outriggers, provided to make the machine stable, which are interlocked such that the MEWP will not operate unless they are fully extended; and · Locking-out controls (other than those in the basket) to prevent inadvertent operation. · Making sure that the MEWP selected is suitable for the task; · Consideration of access to and exit from where the work is being carried out; · Planning the job to address the risks from overhead hazards and passing traffic, including precautions to prevent collision; · Use of trained/experienced operator(s); · Use of harnesses; · Instructions to the workers about safety issues; · Instructions in emergency procedures, such as evacuation, should the power be lost. Regularly inspected. MEWPs are also lifting equipment for lifting people as defined by LOLER. (Contractor Name) shall ensure that a MEWP has a thorough examination by a competent person at least every 6 months, or in accordance with an examination scheme drawn up by a competent person.	**L**	**H**	**M**

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Task/Element	Potential Hazards	Population at Risk	Risk Rating			Control Measures	Revised Rating		
			L	S	R		L	S	R
Mobile Elevated Work Platforms (MEWPs) **(cont)**	2. Back injuries, fractures to fatality from fall or being thrown from cage. 3. Injury from falling materials. 4. Asphyxiation from fume build-up in confined spaces.	Staff. Other contractors. Visitors. All persons who may have access	**H**	**H**	**H**	You should also ensure; · that routine maintenance is performed in accordance with the manufacturer's instructions and advice from a competent person. · Diesel powered MEWPs will only be operated where ventilation is assured. Consideration shall be given to Electric powered vehicles in confined spaces or alternatively Local Exhaust Ventilation (LEV) shall be used to remove harmful gasses. In addition to purpose built access equipment such as a MEWP, access to work at height may also be achieved by the use of working platforms fitted to counterbalanced fork lift trucks (FLT), very narrow aisle trucks There are two types of working platform - the occasional working platform and the integrated working platform. Occasional working platforms are simply a platform and an enclosure fitted to the forks of a counter-balanced FLT or VNAT. Integrated working platforms contain controls within the platform that are integrated into the controls of the truck/tele-handler.	**L**	**H**	**M**
Scaffolds	Collapse of structure Possible serious injury and fatality.	Staff. Contractors. Visitors. All persons in vicinity	**H**	**H**	**H**	(Contractor Name) shall ensure scaffolds will only be designed, erected, altered and dismantled by competent people. A competent person(s) will also supervise the works being undertaken. System scaffolds will be installed in accordance with the manufacturer's instructions.	**L**	**H**	**M**
Scaffold Bracing and Ties	Collapse of structure Possible serious injury and fatality.	Staff. Contractors. Visitors. All persons in vicinity		**H**	**H**	Scaffolds will be correctly braced and tied onto a permanent structure or otherwise stabilized. If a tie is removed to allow work to proceed, an equivalent tie will be provided nearby to maintain stability. This work must be undertaken under the supervision of a competent person. A liaison protocol shall be agreed upon where the contractor has control of the scaffolding. This will include the requirement for the contractor to inform (Contractor Name). where ties/bracing need removal/relocation to allow works to continue.	**L**	**H**	**M**

KEY:		L = Likelihood				S = Severity		R = Risk (Likelihood x Severity)		
RISK RANKING:		L = Low priority to be implemented when resources allow.				M = Medium priority to be scheduled as soon as practical.		H = High priority to be acted on immediately.		
Task/Element	**Potential Hazards**	**Population at Risk**	**Risk Rating**			**Control Measures**	**Revised Rating**		
			L	**S**	**R**		**L**	**S**	**R**
Tower scaffoldsing	Collapse of structure through incorrect erection & overloading. Falling materials. Tower overturning from: sideway force, being struck by a vehicle, blasting operations if not tied. Injury from Minor to Major	Staff. Contractors. Visitors. All persons who may have access Persons working in Vicinity	**H**	**H**	**H**	Tower scaffolds provide quick, easy and safe access. However, like any scaffold they will be erected by competent persons who have received the necessary training information and instruction. Manufacturer's instructions shall be followed when erecting system scaffolds and loads not exceeded by the person/contractor responsible. (Contractor Name) shall advise the contractor/worker of acceptable loadings prior to work start. All towers must be secured when in use so any wheels are locked and where necessary stabilisers in place. In certain circumstances, e.g. if over the manufacturer's recommended base to height ratio or if being used to carry out grit blasting or water jetting, they will also need to be tied to the structure.	**L**	**H**	**M**
Moving a tower scaffold	Tower overtuning. Injury from Minor to Major	Contractors. Persons on tower. Persons working in Vicinity	**H**	**H**	**H**	While moving a tower scaffold you should ensure that no one is on it; beware of any overhead obstructions or power lines; check there are no unsecured tools on the platform; and ensure that there are no depressions or uneven surfaces that may cause the tower to tip or damage the wheels and locks.	**L**	**M**	**L/M**

KEY:		L = Likelihood				S = Severity		R = Risk (Likelihood x Severity)		
RISK RANKING:		L = Low priority to be implemented when resources allow.				M = Medium priority to be scheduled as soon as practical.		H = High priority to be acted on immediately.		
Task/Element	**Potential Hazards**	**Population at Risk**	**Risk Rating**			**Control Measures**	**Revised Rating**		
			L	**S**	**R**		**L**	**S**	**R**
Rapid and effective rescue	Inadequate rescue plan. Delay in rescue resulting in suspension trauma.	All Harness users	**H**	**H**	**H**	The need for rapid and effective rescue is particularly important when using personal protective systems where a delay might have severe consequences, e.g. when someone is left hanging motionless in a harness after a fall. In a worst-case scenario loss of consciousness followed by death could occur in a few minutes.	**M**	**H**	**M//H**
Rescue from harness fall						This phenomenon, known as suspension trauma, is caused by a number of factors, but is principally due to the disturbance of blood flow to the vital organs, especially the brain but also the heart and kidneys, which is an effect of hanging motionless and possibly of the restriction of blood flow to the limbs by the harness. It can be exacerbated by other factors such as shock or injury caused by the fall itself			

Rapi and effective rescue **Rescue from harness fall** **(cont)**	Possible fatality and or injury from striking structures during fall. Injuries ranging from minor to major and fatality.	All Harness users	**H**	**H**	**H**	The time before loss of consciousness depends both on the severity and the combination of these factors, and can vary from about 6 minutes to 2 hours. (Contractor Name) shall ensure suitable means for rescue will be in place prior to undertaking works. The specific measures shall be readily available in the event of an emergency in order to achieve satisfactory rescue within a twenty minute timeframe. A specific assessment shall be undertaken for emergency rescue from a harness fall.	**M**	**H**	**M/H**

Supervision	Inadequate supervision levels leading to violations mistakes, errors and possible injury	Individual, Staff Other contractors Members of Public	**H**	**H**	**H**	Supervision levels shall be assessed specific to the tasks being undertaken. High risk activities such as scaffold erection will have a nominated and competent supervisor in attendance.	**L**	**H**	**M**
Training	Inadequate training, information and instruction leading to mistakes, errors and possible injury	Individual, Staff Other contractors Members of Public	**H**	**H**	**H**	· Training, Information and instruction shall be given to all (Contractor Name) employees specific to their role. · All scaffolders shall be evaluated through practical test prior to working on site. · Information and instruction shall be given prior to undertaking specific task. Records of training and instructions shall be maintained and made available for inspection where required.	**L**	**H**	**M**

KEY:	L = Likelihood	S = Severity	R = Risk (Likelihood x Severity)
RISK RANKING:	L = Low priority to be implemented when resources allow.	M = Medium priority to be scheduled as soon as practical.	H = High priority to be acted on immediately.

Task/Element	Potential Hazards	Population at Risk	Risk Rating			Control Measures	Revised Rating		
			L	S	R		L	S	R
Physical capability	Possible fatigue leading to lack of concentration and incident. Mistakes, errors and possible injury	Individual Staff	**M**	**H**	**H**	· General fitness assessment will be undertaken. · Frequent and longer recovery periods during manual handling operations. Consideration will also be given to the current weather conditions, e.g. extreme heat and cold. · Specific manual handling assessments to be carried out to take into account individual physical capability.	**L**	**M**	**M**

Section-1: OSH&E Document Volume 2, GSAF 003

Machinery Use	Incorrect Use Possible serious injury	Individual, Staff Other contractors Members of Public	**H**	**H**	**H**	· Training, Information and instruction shall be given to all (Contractor Name) employees specific to their role. · All works involving machinery shall be supervised. · Specific assessment for machinery use.	**L**	**H**	**M**
COSHH	Ill health	Individual, Staff Other contractors Visitors	**M**	**H**	**H**	· Assess the nature of any physical, biological and chemical agents they will be exposed to, for how long and to what extent. · Provide instruction. Specific COSHH Assessments to be produced and control measures implemented.	**L**	**H**	**M**

NB. (Communicate all findings to Persons Involved)

OSHE Audit Measurement Criteria (Model Answers)

Points will be objectively awarded by Contractor based upon site safety and environmental conditions

Scoring will be as follows:

(E) = 10, Good (G) = 8, Average (A) = 6, Fail

(F) = 0, Non-Compliance NC) = -10

Non-Compliance (NC) = -10 with the exception of those sections marked with an asterisk which will have a factor of 2 thus doubling the score for that section.

All non-compliances within the heavy bordered areas will receive an Action Notice at the required level. All Suspended Operations Notices will be referred to the Project Manager, who will visit site within 24 hours to carry out further safety inspections.

Any non applicable topic and the corresponding “possible score” will not be marked and the score will be calculated by recognising the relevant possible score as being 100% and the actual score as a percentage.

Table of Contents

1 Notices Displayed

ACTIVITY	EXCELLENT [An Exceptional Standard] **10 Points**	GOOD [Exceeding the Norm] **8 Points**	AVERAGE [In line with OSHE Procedures] **6 Points**	FAIL [In Need of Improvement] **0 Points**	IMMEDIATE ACTION [Unsatisfactory] **-10 Points**
1.1 Health and Safety Information Poster	Additional Posters displayed - i.e. mess room, site entry and point of work	Reps name notified at Induction	Displayed on office notice board/all boxes completed. Safety reps name on poster.	Not in prominent position (hidden away)	Not displayed, or incomplete.
1.2 SHE Policy Statements	Additional copies displayed in, i.e. canteens etc	Shown at Induction.	Displayed on notice board/ up to date.	Not in prominent position (hidden away) or expired.	Not displayed.
1.3 Employer's Liability Insurance Certificate	Additional copies displayed in other locations or shown at Induction.	Additional copies displayed in, i.e. canteens etc.	Displayed on office notice board/ up to date.	Not in prominent position (hidden away?	Not displayed or expired.
1.4 Protective Equipment Sign	Numerous signs on shows inside the work area.	Signs displayed at site entrance and along site hoarding/ perimeter fence.	Good clear sized signage in visible positions.	Few signs displayed, not easily seen.	No signs displayed.
1.5 Reversing Vehicles Sign	Banksmen wearing colour coded high visibility vests/ helmets.	Signs displayed with contact number for named banksmen.	Signs displayed at site entrance and around site.	Few or small signage in place. Signs not easily seen.	No sings displayed.
1.6 Emergency Procedures	Also displayed in site areas. Review dates set, drills completed. Reviewed after an	Good content. Displayed at both exits and fire points, all inducted.	Displayed but poor in content.	Not fully established, some not inducted.	Not displayed.

1.7 First Aider(s)	Helmet stickers worn. Additional first aiders on site.	First aid points clearly designated.	Named and displayed, good cover, fully trained.	Not identified. No full time cover.	None on site.
1.8 Project Notice Boards	Occupational health posters HAV etc displayed in prominent positions.	Good EHS information, COSHH etc. Policies in CHSP	Minimal requirements site rules etc.	Some displayed not all requirements met.	Not displayed.
1.9 Site rules	Additional copies displayed in other locations, i.e. work area.	Additional copies displayed in, i.e. canteens etc	Forms part of induction. Displayed on office notice board.	Not all site staff inducted.	Unsafe acts and conditions in breach of rules.

2 Registers

ACTIVITY	**EXCELLENT** [An Exceptional Standard] **10 Points**	**GOOD** [Exceeding the Norm] **8 Points**	**AVERAGE** [In line with OSHE Procedures] **6 Points**	**FAIL** [In Need of Improvement] **0 Points**	**IMMEDIATE ACTION** [Unsatisfactory] **-10 Points**
2.1Scaffolding	Daily monitoring records.	Up to date and records in place to demonstrate preventative actions.	Up to date and record of defects and corrective actions maintained.	Up to date and signed but with outstanding actions	Not up to date inspections missed.
2.2 Excavations	Daily monitoring records per shift.	Up to date and records in place to demonstrate preventative actions.	Up to date and record of defects and corrective actions maintained.	Up to date and signed but with outstanding actions.	Not up to date, or shift inspections missed.
2.3 Lifting Appliances	Chart showing test expiry or other scheme for displaying status of items.	Up to date and schedule of competent authorised users displayed.	Up to date. All plant weekly checklists fully completed within	Incomplete records or some items expired/ out of date.	No records, or difficult to find paperwork.

	Daily monitoring/ pre use records.		inspection schedule.		
2.4 Distribution & Lighting Electrics	Records of weekly inspections and monthly audit.	Up to date and good records of corrective actions and changes recorded.	Inspections in date and certificates available.	Up to date, but information poorly recorded.	Not up to date, or inspections missed/ test date expired.
2.5 Safety Reports	Daily inspections records maintained. Subcontractors complete weekly inspection reports.	Up to date, shows remedial action taken.	Up to date with good clear information. Well documented and dates of remedial action required, as/ when.	Up to date, information poorly recorded.	Not up to date, or inspections missed.
2.6 Work Equipment Registers	Maintenance and/or hire status records on site, equipment all risk assessed.	Up to date, shows remedial action taken, some equipment specific risk assessments.	Fully complete including subcontractor equipment. Use considered in task risk assessments.	Not fully complete (i.e. subcontractor records missing.	None existing, no risk assessments.

3 Health and Safety Plan

ACTIVITY	**EXCELLENT** [An Exceptional Standard] **10 Points**	**GOOD** [Exceeding the Norm] **8 Points**	**AVERAGE** [In line with OSHE Procedures] **6 Points**	**FAIL** [In Need of Improvement] **0 Points**	**IMMEDIATE ACTION** [Unsatisfactory] **-10 Points**

3.1 Reviews	All reviews briefed to staff on site and recorded (i.e. tool box talk). Plan updates available on site	Reviewed more frequently than procedures dictate, i.e. prior to phase changes or weekly.	Reviewed monthly and up to date. All sections reviewed. Evidence of changes made. ER Notified	Not reviewed regularly or only going through the motions (i.e. no record of appropriat e changes) ER not notified	Plan Not reviewed.
3.2 Hazard Log & Risk Register	Hazard & Risk Log Procedure in place for review and change Key Task Schedule. ER Notified of Updates to Hazard & Risk Logs. Updates available on site	Company Procedures referenced within Hazard & Risk Log. Procedures available on site	Hazard & Risk Log Schedule of Key Tasks completed with dates required, RA's and MS on site.	Hazard Log & Risk Register not available on site.	Hazard Log & Risk Register not in place or tasks/hazard s substantially missing from hazard/risk logs.
3.3 Risk Assessment & Method Statements Completed	Review of RA/MS carried out following near miss or incident/accident. Review evidence provided to ER	RA/MS Available on site. Schedule of operative briefings identified.	Completed as per Hazard Log & Risk Register. Suitable and sufficient for tasks. Notice of no objection received from ER	RA/MS on site but not suitable and sufficient for task. Notice of no objection not obtained from ER.	RA/MS not completed.
3.4 Risk Assessment & Method Statement Briefings	Follow up briefings, recorded to show updates and change reviews. ER Notified of change.	Record of all briefings maintained. Signed proof of attendance maintained.	Task Briefings carried for all Risk Assessment and Method Statements.	Only the occasiona l RA/MA briefing carried out.Task briefing noticted	No briefings of RA or MS carried out. Task briefing not conducted

3.5 Risk Assessments & Method Statement Implementation	Briefing records signed by operatives and available on site	RA/MS available on site. Operative trained and able to explain Assessment.	Works carried out as per the RA/MS. Designated supervisor available	Operatives not briefed on contents of the RA/MS. Change in methodology not notified to ER. Notice of no objection not received	Provision as determined in the RA/MS not available on site No supervision Not following the RA/MS safe system of work methodology.
3.6 Health and Safety Organisation Chart	List/Names of appointed persons displayed at point of work and in other locations i.e. Rest Areas	Names and positions of key competent persons provided (i.e. First Aiders, fire warden etc).	Up to date and all sections completed. Displayed in prominent position or provided in handout.	All sections completed Not displayed in prominent position or no handout provided.	Incomplete or not up to date (i.e. no showing management changes).
3.7 Manual Handling Assessment	Comprehensive controls designated. Daily monitoring recorded. Tool box talks carried out, information posters displayed.	Comprehensive specific risk assessments Briefings recorded.	Included in task risk assessment. Where possible mechanical aids are used Briefings recorded.	RA & controls needs enhancement. Control measures poor. Reliance placed on manual handling rather	No risk assessments
3.8 Manual	Tool box talks.	Additional	Completed	Some	None.

Handling Training	Guidance documents displayed at workface.	training, records maintained. Guidance documents displayed.	with all staff as per induction. Training being put into practice Records maintained.	completed poor in content.	

4 Welfare

ACTIVITY	**EXCELLENT** [An Exceptional Standard] **10 Points**	**GOOD** [Exceeding the Norm] **8 Points**	**AVERAGE** [In line with OSHE Procedures] **6 Points**	**FAIL** [In Need of Improvement] **0 Points**	**IMMEDIATE ACTION** [Unsatisfactory] **-10 Points**
4.1 Canteen & or designated site eating areas	Exceptional standards (i.e. using existing facilities) with additional facilities available (i.e. drinks dispensers cooked food etc)	Cleaned daily or more frequently as necessary.	Clean and tidy with lighting, adequate benches/ tables, facility for heating food, supply cups/ drinking water.	Untidy/grubby or cleaned by site labourer infrequently. Overfull waste bins.	None or dirty inadequate facilities. Materials stored in canteen/eating area. No facility for heating food. Waste food left lying.
4.2 Drying Room (where required)	Exceptionally clean with individual lockers.	Very clean and secure, separate use by female employees, separate from canteen.	Clean and tidy with benches/ clothes hooks in place. Heating/lighting.	Untidy/grubby with inadequate number of heaters/hangers, etc.	Dirty and heaters covered with clothes. Broken heaters.

4.3 Toilets & washing facilities	Exceptional standards (i.e. using existing facilities) with additional facilities such as showers, where a risk assessment of site activities warrants their provisions.	Exceptionally clean and towels provided. Soap, barrier cream etc provided.	Clean and tidy with running water, soap, flushable toilets, towels and facilities for ladies where in attendance.	Untidy/grubby. Small wash hand basins (not able to fit forearms inside)	None or dirty, inadequate facilities i.e. too many person per available water closets. No washbasins.

5 Site Entry

ACTIVITY	EXCELLENT [An Exceptional Standard] **10 Points**	GOOD [Exceeding the Norm] **8 Points**	AVERAGE [In line with OSHE Procedures] **6 Points**	FAIL [In Need of Improvement] **0 Points**	IMMEDIATE ACTION [Unsatisfactory] **-10 Points**
5.1 **Safety of Traffic**	Records of meetings and or information sent to suppliers, etc. Plan displayed showing designated traffic routes for delivery vehicles / public where appropriate	All persons wearing high visibility clothing, good clear signage, one way/turn circle, Banksman clearly identified on signage and PPE. Discussed with police, local authority, etc where appropriate.	Traffic management Competent person designated. Clear instructions displayed. PPE, signs in place. Arrangements to eliminate reversing.	Inadequate traffic management system in place, instructions not provided to operatives delivery drivers / suppliers,	No control over vehicles entering site, no segregation of pedestrians / vehicles, mud on roads.

5.2 Safety of Public	Daily monitoring is recorded. Road markings where appropriate.	An appointed team/ designated person in place to monitor public access daily. Evidence of monitoring.	Effective segregation of pedestrian from vehicles, barriers, work areas. Good clear signage. Clean footpaths.	Untidy public access, poor signage, poorly constructed access-ways.	Pedestrian barriers missing/fallen over. Dirty footpath and uneven floors.
5.3 Relevant Site Signage	Monitored daily and upgraded where necessary. Evidence provided of daily review and updates	Good, clear and concise in all areas. Regular inspections.	Good in most areas, maintained in good condition.	Poor display in critical areas.	Not displayed at all.

6 Site Tidiness (X 2)

ACTIVITY	**EXCELLENT** [An Exceptional Standard] **10 Points**	**GOOD** [Exceeding the Norm] **8 Points**	**AVERAGE** [In line with OSHE Procedures] **6 Points**	**FAIL** [In Need of Improvement] **0 Points**	**IMMEDIATE ACTION** [Unsatisfactory] **-10 Points**
6.1 Work area Perimeter Hoarding (workshops restricted areas)	Daily monitoring of hoarding is documented. Records of reviews of any modifications kept.	Well maintained, inspected regularly.	Hoarding is in place and is stable. Access points in place Good clear signage.	Poorly designed. Does not extend sufficiently to restrict access.	Hoarding is incomplete, poorly erected, poorly maintained.
6.2 External Barriers Hoarding	Daily monitoring of Barrier is documented. Records of reviews of any modifications kept.	Securable gates (if necessary) an access points in place, clear signage, painted, well maintained, inspected regularly.	Barrier is in place and is stable. No gaps in hoarding. Good clear signage. Temp Works consulted.	Signs of attempted access. Wrong type barrier used, poorly designed.	Barriers unstable in places. Poorly erected, poorly maintained, gaps in hoarding.

6.3 General	Outside the site perimeter and inside site standard of housekeeping excellent.	Good standard of housekeeping is evident on all parts of the site (internal and external)	First impression on arrival to site of good housekeeping / storage. No wrapping/bags left lying.	Materials moved to work areas and left opened and not returned to storage areas.	Access to storage is poor with tripping hazards. Material wrapping around site.
6.4 Work Areas	Records of daily inspection/ monitoring from site designated persons are available and actioned.	No waste materials left in work area at the end of the day. Regular inspections.	All waste debris is removed from work areas and left clean and tidy.	Waste/debris moved to areas/stored in one area for removal, however it remains a hazard.	No attempt of housekeeping control. Loose materials causing trip and fire hazards in areas.
6.5 De-nailing	Surplus timbers skipped or transferred for use elsewhere.	De-nailed timbers stacked tidily. All nails cleared away to skips.	Timbers to be nailed segregated.	Timber waiting de-nailing not segregated. Evidence of poorly maintained pallets, etc	Timbers left with protruding nails in open areas and on access routes.
6.6 Storage	Daily monitoring recorded. Very good standard of storage is evident.	Regular inspection. Good clear access. Stable accessible lay-down areas.	Materials returned to storage areas, dedicated lay-down area, applicable signage displayed.	Poorly stacked materials and stored in wrong position. Safe movement of operatives not possible.	Material storage is uncontrolled & untidy, unstable. Material storage blocking site access. Materials stored in public area.

7 Fire Precautions

ACTIVITY	**EXCELLENT** [An Exceptional Standard] **10 Points**	**GOOD** [Exceeding the Norm] **8 Points**	**AVERAGE** [In line with OSHE Procedures] **6 Points**	**FAIL** [In Need of Improvement] **0 Points**	**IMMEDIATE ACTION** [Unsatisfactory] **-10 Points**

7.1 Site Offices	Daily checks recorded. Names of Fire Wardens identified at each fire point. Fire plan at each fire point.	Fire plan displayed in site offices/canteens. Fire point boxes in place.	Appropriates No's of extinguishers at marked fire points. Regular fire checks carried out.	Fire point not clearly identified. Fire extinguishers missing or out of date. Fire Warden checks incomplete.	No extinguishers in place No Fire Warden checks carried out.
7.2 Work Place Extinguishers	Daily checks recorded. Names of Fire Wardens identified at each fire point.	Fire Plan displayed at exits and at fire points.	Minimum of 2 extinguishers stored in red box at marked fire points. Regular fire checks carried out.	Fire points not clearly identified. Fire extinguishers missing or out of date. Fire Warden checks incomplete.	No extinguishers in place No Fire Warden checks carried out.
7.3 Hot Work Permits	Subcontractors provide records of monitoring Hot Work Permits issued daily. Warden records inspections daily.	Records of monitoring Hot Work Permits maintained by Site Manager.	Permits issued for all activities including Sub-contractors. All Hot Work Permits signed off and with end of shift inspections. Fire extinguishers are in place and housekeeping is good.	Hot Work Permits issued with incomplete sections. No monitoring of compliance of Hot Work Permit carried out.	No Hot Work Permit issued for hot work activities. Housekeeping poor where hot works are ongoing.
7.4 Conditions on Site	Excellent housekeeping. Records of daily monitoring available. Proof of monitoring is provided by the subcontractor	Regular inspection and monitoring of site conditions	Housekeeping is good with effective control of combustibles, paint, solvents, etc.	Housekeeping could be improved.	Housekeeping is poor and presents a fire hazard. Poor compliance from subcontractors.

7.5 Storage of Flammables	Proof of daily monitoring, records of monitoring by subcontractor	Records of monitoring by Fire Warden. All material returned to store at the end of the day or after use.	Adequate storage facilities, materials controlled. Adequate signage. Extinguishers near to point of use. Good ventilation	Storage facilities uncontrolled of left open. Poor signage. No extinguishers near point of use. No ventilation.	Containers / cylinders and drums (full and empty) lying around site. Excessive quantities on site. No suitable storage facilities.
7.6 Fire Plan	Records of briefing maintained and or Fire drills carried out.	Reviewed prior to all phase changes. Plan displayed in critical areas, at all fire points. Workforce aware and briefed.	Plan established and displayed at exit points and at fire points. Included within induction. Reviewed with health and Safety	Basic plan, not displayed. Not included in induction.	Not established
7.7 Fire Risk Assessment	Reviewed prior to start of all hot work or tasks using flammable materials. Records kept.	Reviewed prior to all phase changes. Records of briefing maintained.	Risk assessment completed and available. Task risk Assessments consider fire risk. Operatives briefed.	Poor content, not communicated to operatives.	Not carried out
7.8 Means of Escape	Daily recorded inspection. Fire drills carried out at planned intervals and recorded. Review of drills recorded.	Regular inspection carried out with evidence of inspection.	Maintained clear and well signed. Included in induction.	Minor obstructions, Poor signage.	Major obstructions. No signage, No emergency lighting.

7.9 Relevant statutory signs	Daily recorded inspection.	Regular inspections carried out. Reviewed with the Fire Plan.	Fully and clearly displayed. Included in induction.	Some displayed.	None displayed.

8 PPE

ACTIVITY	EXCELLENT [An Exceptional Standard] **10 Points**	GOOD [Exceeding the Norm] **8 Points**	AVERAGE [In line with OSHE Procedures] **6 Points**	FAIL [In Need of Improvement] **0 Points**	IMMEDIATE ACTION [Unsatisfactory] **-10 Points**
8.1 Safety Helmets (NOTE: Sikhs are exempt if wearing turban)	Induction records confirm that a satisfactory helmet or other headwear is brought to site. Records maintained for site issue	Spares available for short term visitors. Risk assessment available to support other headwear.	All persons are wearing safety helmets (or other form of approved headwear if applicable)	An occasional operative is not wearing a safety helmet. Helmet not to IS or BS standard	Numerous operatives, subcontractors and management are not wearing safety helmets.
8.2 Footwear	Induction records confirm that satisfactory safety footwear is brought to site.	All visitors wear safety footwear unless risk assessment identifies safe to do so.	All persons are wearing satisfactory safety footwear.	An occasional operative including subcontractors is not wearing safety footwear.	Numerous operatives, subcontractors & management are not wearing safety footwear.
8.3 Hi Viz	Induction records confirm that satisfactory Hi-viz clothing is brought to site. Records maintained for site visitors.	Spares available for short term visitors. Issued on site when not provided or found to be unsuitable.	All persons are wearing Hi-vis clothing to BS EN Standard.	An occasional operative is not wearing Hi-viz clothing.	Numerous operatives, subcontractors and management are not wearing Hi-viz clothing.

8.4 As per Risk Assessment	Specified, enforced, monitored and recorded (random daily checks).	Operatives briefed on correct use and maintenance requirements. Use monitored by supervisor.	PPE identified in risk assessment including relevant standard. Being used as per RA/MS In test.	PPE not specified in risk assessment. PPE not to an approved standard e.g. BS or IS. Harnesses not to BS EN 361 standard.	No risk assessment. Work at height PPE not inspected or tested e.g. 3 monthly test such as harnesses and lanyards

9 COSHH (Control of Substance Hazardous to Health)

ACTIVITY	EXCELLENT [An Exceptional Standard] **10 Points**	GOOD [Exceeding the Norm] **8 Points**	AVERAGE [In line with OSHE Procedures] **6 Points**	FAIL [In Need of Improvement] **0 Points**	IMMEDIATE ACTION [Unsatisfactory] **-10 Points**
9.1 File maintenance	Manufacturer s hazard data (MSDS) from supplier included in the assessment.	Good clear filing system available & corresponds to Hazard & Risk Register. Name of competent Co-ordinator displayed or in named in induction.	All substances identified in the Hazard Log & Risk register. File maintained Suitable assessment carried out. Competent person designated as coordinator.	Poorly maintained file. Incomplete or difficult to identify substances, etc. Occasional assessment carried out.	Not included with Hazard Log & Risk Register. File has not been developed adequately. No assessments carried out.
9.2 Assessment Briefings	Proof that operatives fully understand briefing content (i.e. signed assessment for questionnaire)	Records obtained from subcontracto r of assessment briefings.	Good clear records available of briefings carried out to operatives. Persons briefed identified.	Poorly kept or incomplete records of briefings, unable to read names, etc.	No assessment briefings carried out.

9.3 Assessment implementation	Copy of assessment at workface.	Pre-Task check completed and signed by supervisor	Workforce briefed Works carried out in full compliance with assessment.	Operatives and staff not aware of, or do not understand COSHH assessment.	Equipment not available on site to comply with COSHH as identified in assessment. Operatives not complying with the COSHH assessment.

10 Plant (X2

ACTIVITY	**EXCELLENT** [An Exceptional Standard] **10 Points**	**GOOD** [Exceeding the Norm] **8 Points**	**AVERAGE** [In line with OSHE Procedures] **6 Points**	**FAIL** [In Need of Improvement] **0 Points**	**IMMEDIATE ACTION** [Unsatisfactory] **-10 Points**
10.7 Safe Use	Team briefings carried out with management and operators as a proactive role rather than reactive. Record of briefings, meetings, etc.	List of authorised drivers and operators kept up to date. Record of equipment issued to and used by authorised persons.	Inspections show that plant is being used safely. Rules are being observed by operators.	No communication between teams doing different work within same area. Daily checks not showing faults. Banksman not present.	Plant operators driving too fast. Seat belts not used by operator. No stop blocks near excavations. Reckless operation, i.e. digging in close proximity to workers.

10.8 Ancillary Lifting equipment	Date of expiry displayed of lifting equipment examination on chart. Records of inspections available	File with sections related to lifting gear. Storage facilities available for equipment Weekly inspections completed	All lifting gear thoroughly examined every six months (certificate). All equipment stamped with ID Number and or colour coded Daily user check	No checks of lifting equipment on site by Crane Co-ordinator. Faults recorded but not actioned within a reasonable time	No 6 monthly examination certificate as per BS 71721 Badly worn slings on site. Badly stretched chains on site, etc. Wrong lifting gear used for lifting.
10.9 Suitability and Specific PPE	Assessed regularly, monitored, topic for tools box talks.	Suitably documented, specified in assessment.	Specified in risk assessment and utilised on site.	Some specified, suitability not assessed for environment. Reliance on PPE rather than permanent protection e.g. edge protection	None specified applicable standard missing.

11 Excavations (X2)

ACTIVITY	**EXCELLENT** [An Exceptional Standard] **10 Points**	**GOOD** [Exceeding the Norm] **8 Points**	**AVERAGE** [In line with OSHE Procedures] **6 Points**	**FAIL** [In Need of Improvement] **0 Points**	**IMMEDIATE ACTION** [Unsatisfactory] **-10 Points**

11.1 **Planning**	Training/briefing of safe system of work carried out before works commence. Records maintained of such briefings	Inspection requirements specified with necessary supervision appointed to ensure compliance with safe system of work, e.g. inspection required every shift. (2 per day)	All necessary equipment on site before works commence. RA/MS in place & reviewed . Team briefings carried out & recorded.	Works ready to start and not all equipment is on site/in place. Poor access into the excavation. Using makeshift ladders or no ladder No permit to dig in place where new excavation	Works are ready to commence however the RA/MS is not on site and not been reviewed by ER. Surveys not carried out
11.2 Provision of Service Locators	Information from service providers available to identify line of service.	Plans developed to ensure comprehensive coverage of area.	Correct cable (and certificate) avoidance tool on site. Operators trained in its use.	Cable avoidance tool available, no calibration certificate on file.	No cable avoidance tool on site. Untrained operators using equipment.
11.3 Underground Service identification	Task training carried out before works commence (proactive) and recorded.	Operatives briefed. All experienced operatives supervision.	Existing Plans available on site. Permit to work in use. Safe system of work followed	Permit to work not in place. Supervisors / Operatives not complying with safe system of work MS/RA	Safe system of work RA/MS not available or not completed. Not submitted to ER for notice of no objection
11.4 Edge Protection	Regularly monitored and recorded.	Sketch included in method statement.	Physical barrier in place/ used and suitable.	Inadequate edge protection e.g. only soft when fixed is required	No barriers in place.

11.5 Shoring	Regularly monitored and recorded. Maintenance/ inspection records available.	Sketch included in Method Statement. Operatives briefed in safe system of work.	In place as per approved Risk Assessments or Method Statements including good access.	Incorrect support equipment on site to carry out the tasks or equipment not on site.	Works not carried out in accordance with the approved safe system.
11.6 Competent Workface	Regularly monitored and recorded. Re- briefing of changes.	Operatives briefed in system of work. Records of briefing and	Trained operatives Works carried out in accordance with the	Operatives not familiar with the approved MS/RA.	Works not carried out in according with the approved safe system.
11.7 Temporary Work Assessment	Safe Working Procedures established and communicated to supervising staff. Records available	Temp works coordinator designated	Design Assessment in place. RA/MS incorporates recommendations of design assessment	Design assessment findings not incorporated into RA/MS	No Temporary work procedure No design assessment
11.8 Safe Working Procedure	Recorded inspections as per schedule.	RA/MS reviewed as work progresses, records maintained.	RA/MS in place and followed.	Verbal procedure only. Unsafe acts & conditions on site.	No RA/MS

12 Electrics

ACTIVITY	**EXCELLENT** [An Exceptional Standard] **10 Points**	**GOOD** [Exceeding the Norm] **8 Points**	**AVERAGE** [In line with OSHE Procedures] **6 Points**	**FAIL** [In Need of Improvement] **0 Points**	**IMMEDIATE ACTION** [Unsatisfactory] **-10 Points**

12.1 Condition of Site Distribution	Site Electrical layout drawing available. All faults detected & actions taken	Maintenance schedule available and followed to monitor condition of electrical distribution on site.	Designed, installed commissioned, tested, maintained by competent person.	Poor condition, frayed. No record of inspections. Loose cables on the ground.	Distribution not to standard IP65 IEEE 17TH Edition.
12.2 Overhead Lines Identified	Monitor compliance daily. Maintenance schedule to monitor defects in control measures.	All works carried out to Code of Practice.	RA/MS completed agreed by local electricity authority. Signs and barriers in prominent position. Briefings to plant operators	Overhead lines identified however poor maintenance of goalposts, barriers, etc. No briefings to plant operators	Not included within Hazard Risk Logs Not goal-posted. No contract made with local electricity company. Machines running under unidentified overhead lines.
12.3 Storage and Use of Power Tools	Good clear use of registers. Schedule of inspection periods displayed. Evidence of equipment being in good order, clearly identifiable and being used correctly by trained, authorised person. Task assessment sheets confirms condition check before use	Rechargeable tools used preferentially. Authorised users identified. Manufacturer data used to assist in training. Equipment in good condition.	Register of tools on site. Secure storage. Authorised issue and return. Use of 110v (preferable). Inspection, maintenance and defect withdrawal schemes. Trained used, VWF, noise and PPE managed.	Incomplete register. No records or out of date inspection and maintenance.	No records. No procedures in place for issue and authorised use. Poor inspection reg condition of tools.

12.4 Condition of Electrical Equipment	Subcontractors provide records of inspection and procedure to remove faulty equipment found on site.	Maintenance schedule/hire status record available to monitor condition of electrical equipment on site and completed.	Equipment secured in safe position. All cables labelled and in good condition. All equipment maintained as maintenance schedule	No inspection of maintenance schedule. No records of inspections	No Procedure. Poorly maintained equipment, cables frayed, bad connections, broken units. No record of inspections.
12.5 Competent Persons	Training records on site of competent persons.	Competent person identified on site notice board.	Competent person appointed for inspections and tests etc.	Untrained person carrying out inspections.	Untrained persons carrying out electrical tests.
12.6 Work Permit Procedure	Records maintained, regular monitoring and recorded inspection of permits	Permits contents communicated to operative, sign off procedure in place.	Permit in place issued for relevant operatives, fully completed.	Permit in place not fully completed and signed off.	None in place, unsafe acts/conditions.

13 Work at Height (X2)

ACTIVITY	**EXCELLENT** [An Exceptional Standard] **10 Points**	**GOOD** [Exceeding the Norm] **8 Points**	**AVERAGE** [In line with OSHE Procedures] **6 Points**	**FAIL** [In Need of Improvement] **0 Points**	**IMMEDIATE ACTION** [Unsatisfactory] **-10 Points**

13.1 Planning	Evidence of preplanning carried out of future high-risk activities by site management team including subcontractors before work commences. Access to ladders controlled by site management. Policy displayed or included in CSHP.	Tower scaffolds, MEWP in use in place of stepladders/ladders and shown on RA. Monitoring in place to ensure compliance with safe system of work. Risk assessments justify use of stepladders etc.	Suitably protected working platform (minimum 600mm fully boarded) has been provided. Scaffolders handover certificate on site.	Stepladders or ladders are in use where tower scaffolds or MEWP would be more suitable. No monitoring for compliance with safe system of work.	No procedure available (with notice) No RA showing hazards or risk of operatives falling. Operatives working without protection in place.
13.2 Ladder Access	Written record of inspection, defects, etc. produced by subcontractors before work commences.	Ladders show ID mark. Written record on inspection, defects, etc. Self-closing safety gate used on access platform.	Base is firm, level. Clear of excavations Set at 1-4, Lashed at two stiles. Clear access onto ladder and minimum 1m above platform landing	Ladder secured at only one point. Obstructions at base, Incorrect ladder tie used, Ladder set at wrong angle.	Ladders too short, ladders unsecured, Damaged ladders, Poor access to ladder, Access onto platform is poor

13.3 Scaffolding General	Well maintained scaffold Red Scaff-tag in use and enforced by supervisors Action taken, monitoring.	Scaff-tag system in place at prominent locations and at all access points to the scaffold. Inspections and handover completed upon adaption.	All components correct and in place. Inspections all in date with register completed. Handover certificate signed by competent person with working load stated.	Scaffold inspection not in date or not completed Scaffold not protected from vehicle strike Supporting concrete pump pipe-work without vibration and load assessment undertaken. No pre-load check(where applicable)	No Handover Certificate. Operatives working off incomplete platforms. No competent scaffolders. Poor Standard of erection; Bamboo or wood in use, boards and rails missing, no access, not plumb, missing bracing, damaged equipment in use or not to standard. Not erected to design (where applicable)
13.4 **Scaffold access Towers and Platforms**	Pre-Use checks undertaken daily and inspection recorded	Register of equipment maintained. Scaff-tag in use Platforms used wherever practicable (in preference to ladders)	Erected correctly All inspections completed record of inspection, defects, etc. maintained.	Platforms used but not assembled correctly such as missing bracing. Damaged equipment in use No pre use inspection. Operatives making adaption when not qualified	No RA carried out showing hazards or risk of operatives falling. Erected by unqualified persons Base to height width not correct causing instability Operatives working without edge

					protection in place.
13.5 **Edge Protection and Toe-boards**	Written record of inspection, defects produced weekly by subcontractor and before work commences.	Registers show records of inspections of components i.e. checking for defects.	All in place and secure, i.e. double guardrail in place.	Poorly recorded register i.e. not showing defects or edge protection missing, but no persons working on platforms.	Areas of edge protection missing. Operatives working on incomplete platform. Toe-boards missing
13.6 **Competent Persons**	Advanced scaffolder is the supervisor on site.	Training records held for persons erecting scaffolding under supervision (trainees)	Scaffolds erected by trained scaffolders. Certification of all training records on site match scaffolder on site.	Cross referencing of scaffolders names do not match with training records in site records.	Untrained scaffolders erecting scaffold without trained supervisor present. No training records available in site records.
13.7 **Other Precautions, Ladders, Stepladders, MEWPs**	Induction talks, tool box talks and other briefings with subcontract management on the safe system of work prior to works commencing.	Registers show records of inspections of components i.e. checking for defects.	Operatives complying with the approved Risk Assessment/Method Statement for work at height	Operatives using the equipment incorrectly, over reaching, over-stretching.	Operatives using ladders or steps, when the RA states MEWPs will be used
13.8 Temporary work	Daily monitoring recorded	Full assessment, controls	Assessment completed. Controls	Assessment completed not	None completed. No pre-load

Assessment	tool box talks.	communicated , inspection records.	reasonable. Erected as per design. Pre load check completed	covering all the issues.	check. Not following design No ER Notice
13.9 Recorded Inspections	Fully recorded and monitored at regular intervals, topic for tool box talks.	Fully recorded at regular intervals.	Completed as per legal requirement and OSHE Volume 1	None recorded, visual inspection only not comply with volume 1.	None completed, unsafe acts/conditio ns.

14 Floor Openings

ACTIVITY	**EXCELLENT** [An Exceptional Standard] **10 Points**	**GOOD** [Exceeding the Norm] **8 Points**	**AVERAGE** [In line with OSHE Procedures] **6 Points**	**FAIL** [In Need of Improvement] **0 Points**	**IMMEDIATE ACTION** [Unsatisfactory] **-10 Points**
14.1 Planning	Planned works include fixing of manufacturers cover in place when work is completed. Discussed in toolbox talks and inductions.	Briefing with operatives on the safe system of work before works commence. Records maintained	Suitable and sufficient risk assessment and method available with Notice from ER. Controls incorporate design assessment results	Inadequate Risk Assessment, does not incorporate the controls as specified in the design assessment Inspections not carried out or recorded.	No Risk Assessment carried out showing physical barriers or risk of operatives falling into hole. Design assessment does not incorporate falls from height

14.2 Provision of Protection	Daily monitoring recorded. Sub-contractors supervision management include inspection in their weekly report.	Daily inspections carried out, recorded and action taken immediately where deficiency found. Operatives briefed on early reporting where fault noticed	Physical protection has been provided i.e. two guardrails, toe-boards, signs fixed hole cover and barriers, covers are load bearing.	Guardrail in place but insufficient i.e. only one guardrail and toeboard in place, poor signage displayed. Rail does not take weight of a fall	Pallets used as covers, ply sheeting used as covers, pieces of ply used as covers, scaffold boards provided but unsecured, no supports, openings left open.
14.3 Relevant Signage	Safety signs monitored daily and recorded. Changed as work progresses.	Signs clearly visible and comprehensive. Regularly monitored until opening permanently closed.	Adequate warning signage in place before works start.	Incomplete or unclear signage in place.	No signs in place.

15 Confines Spaces (X2)

ACTIVITY	**EXCELLENT** [An Exceptional Standard] **10 Points**	**GOOD** [Exceeding the Norm] **8 Points**	**AVERAGE** [In line with OSHE Procedures] **6 Points**	**FAIL** [In Need of Improvement] **0 Points**	**IMMEDIATE ACTION** [Unsatisfactory] **-10 Points**
15.1 Planning	Works planned and sketch displayed where works activity is in operation and access points, clipped to permit to work.	Team briefing with all members of site management and subcontract supervision on the safe system of work before work commence. Proof of understanding maintained.	A detailed procedure and suitable and sufficient Risk Assessment has been carried out Team briefings carried out before works commence. Permit to work.	Little planning gone into producing a safe system of work, Equipment inadequate for task. Detector tot calibrated	No procedure in place including emergency actions. No Risk Assessment carried out showing hazards and risk to operatives.

15.2 Gas detection Equipment	Subcontractors and site management include inspection in their weekly MSR report.	Back up monitor on site. Records of monitoring carried out before works commence and after.	On site before works commence. Air monitoring carried out before agreed system of work in place by competent person. Calibration certificate on site.	Poorly maintained condition of monitor. Unable to read or poor audible sound of monitor. No calibration.	Untrained operative monitoring air supply. Faulty equipment on site. Battery low, no equipment on site, no monitoring.
15.3 Rescue Equipment	Subcontractor and site management include inspection in their weekly tour.	Site management include inspection in their daily routine.	On site before works commence as per the safe system of work. Certificate on site.	Poorly maintained condition of rescue equipment.	No rescue equipment on site and works in progress.
15.4 Competent Person	Subcontractors trained.	Site supervisor trained. Rescue team available	Site supervisor trained and experienced top man.	Supervisor untrained in confined space working.	All or some members of the team untrained.

16 Site Management & Supervision

ACTIVITY	**EXCELLENT** [An Exceptional Standard] **10 Points**	**GOOD** [Exceeding the Norm] **8 Points**	**AVERAGE** [In line with OSHE Procedures] **6 Points**	**FAIL** [In Need of Improvement] **0 Points**	**IMMEDIATE ACTION** [Unsatisfactory] **-10 Points**

16.1 Resources	All management staff are direct employees. An assessment of the supervisory resources necessary has been carried out and findings implemented.	Relief supervisory staff available as required. Duties hours including travel time (to camps) are within the maximums working times.	Site Manager available at all times Duty hours Key duty holders available at all times. Good shift rotation	Sub-contractors supervisors only. Key duty holders not always available. Operatives working excessive shifts (12 Hours Maximum)	No supervision on site **NOTE:** **THIS WILL RESULT IN AN IMMEDIATE STOP WORK (SCORE-20)**
16.2 Monitoring	Regular Monitoring by senior management.	Regular monitoring by Project Manager. Own KPI's established.	Scheduled audits by SHE Advisor completed.	Irregular monitoring, not following schedule.	No site auditing.
16.3 Action on Safety Advisers Reports	Evidence of actions to prevent recurrence of unsafe conditions available. Evidence of disciplinary action taken.	Record of liaison with subcontractors to correct unsafe practices. Reports include proposals for preventative action.	All matters raised in last report rectified. Last report sent to Project Manager. Action column signed off/dated.	Some items raised on last report rectified however items of less serious nature reported again (repeat item)	Matters on last report ignored, not rectified, repeat items recorded on report. Failure to action recorded.
16.4 Promotion of Health And Safety	Awards to subcontractors or individuals on safe working practices. Near miss reporting	Meetings held more frequently i.e. weekly. Reports from Safety reps, Sub-contractors	Meetings held monthly including actions/timescales. Safety reps identified and understand their duties. Information	Safety Committee or site meetings held infrequently, no action/ timescales	No record of Safety Committee Meetings or site safety meetings.
	scheme. Near misses recorded at the Meetings and action taken. Health and Safety posters displayed on	safety adviser reports available and shown action taken. Some posters displayed.	discussed at the Meeting distributed to site operatives.	noted on the minutes.	

17 Public Interface (*x2)

ACTIVITY	EXCELLENT [An Exceptional Standard] **10 Points**	GOOD [Exceeding the Norm] **8 Points**	AVERAGE [In line with OSHE Procedures] **6 Points**	FAIL [In Need of Improvement] **0 Points**	IMMEDIATE ACTION [Unsatisfactory] **-10 Points**
17.1 Safety of the Public (Internal access through site)	Arrangements inspected daily, recorded inspections, tool box talks.	Signs and barriers regularly checked and inspected	Procedures and protection in place	Inadequate or incomplete protection e.g. some segregation barriers missing	No protection or arrangements in place, unsafe conditions
17.2 Safety of Staff	Arrangements inspected and recorded daily. Procedures regularly reviewed, topic for team briefing and tool box talks.	Daily liaison, information displayed and updated. Arrangements monitored regularly.	Procedures in place, Staff briefings carried out. Inductions completed (where applicable)	Poor procedures or incomplete implementation, lack of communication.	No information provided, no procedures in place, unsafe conditions.
17.3 Public Information	Information regularly reviewed as work progresses. Public liaison officer appointed	Public safety notices sited in advance of all critical areas and phase changes.	Information clearly erected, contact information, duration of works etc.	Signs/notices poorly located information minimal.	None provided,
17.4 Public Interface (External)	All areas visually inspected daily and recorded weekly.	Signs and barriers regularly checked and inspected.	Procedures and protection in place.	Inadequate or incomplete protection. Areas open for inadvertent public access	No protection or arrangements in place in area of risk with evident hazards such as plant and machinery,
17.5 Traffic Management t	Drawings available on display around the	Barricade manager assigned. Daily &	Traffic Management Plan in place with	An attempt to segregate other road users or	No Traffic Management Plan in place, Road user and

	site and in site offices showing traffic routes and traffic management scheme. Information issued to suppliers regarding restricted delivery times e.g. schools	weekly inspections undertaken with remedial actions stated and rectified.	no objection from the ER. Plan measures implemente d on site e.g. Road Signage erected, Barriers with full lighting. Banksman in attendance, Entry/exit tapers correctly installed.	pedestrians has been made but without adequate planning. Barriers not maintained. Entry, exit tapers not correctly set or Maintained. Inadequate signage	or pedestrians movement is uncontrolled. Incorrect or no signage No barrier lighting. Openings in barriers with no security
17.6 **Highway cleanliness**	Areas inspected daily, records maintaine.	Areas undergo regular recorded inspections Programme established for regular cleaning.	Roads and pavements reasonable.	Reasonable but infrequent, no programme for, or poor cleaning.	Not carried out, hazardous conditions
17.7 **Staff Information**	Information regularly reviewed as work progresses.	Safety notices sited in advance of all critical areas and phase changes.	Staff notices posted on changes / shift handover information	Signs/notices poorly located with out of date information.	None provided
17.8 **Visitor Safety**	All visitors signed off site upon leaving.	All visitors accompanied at all times.	Site plan in place, information displayed, induction attendance recorded. Visitor register well used. All wearing PPE.	No clear directions displayed for visitors Only some inductions carried out. Entry register not consistently used. Not all wearing PPE.	No controls in place, visitors uncontrolled.

18 Waste

ACTIVITY	EXCELLENT [An Exceptional Standard] **10 Points**	GOOD [Exceeding the Norm] **8 Points**	AVERAGE [In line with OSHE Procedures] **6 Points**	FAIL [In Need of Improvement] **0 Points**	IMMEDIATE ACTION [Unsatisfactory] **-10 Points**
18.1 Provision of Skips	Daily recorded inspection of area.	Well signed and regularly inspected. Area around skip tidy, maintained	Safety sited, good access, skip in good condition.	Provided but position compromised safety, lack of signs. Open topped skip.	None provided, hazardous sighting
18.2 Instructions on waste disposal	Out-sourcing of waste management	Instructions displayed on notice board. Segregation points for hazardous waste clearly signed.	Formal procedure in place, disposal instructions included. Procedures followed	Identified in Hazard & Risk Logs, procedure not implemented with poor site control	Not identified in Hazard & Risk Logs No procedure, hazardous waste Waste not segregated.
18.3 Use of Reg. Waste Carrier	Carrier provides regular reports of handling/disposal performance at transfer station.	Regular collection with no excessive waste build up on site.	Waste carrier appointed procedures in place.	Different carriers used with, no formal procedure in place.	Not formally appointed, AD-HOC system
18.4 Use of Waste	Records of, quantities maintained	Transfer notes retained and filed.	Transfer notes raised, and signed off	Some completed not all retained	Non existent
18.5 Recycling Materials	All recycling opportunities identified and procedure in place for objective achievement.	Contractor sets recycling objectives and targets in a percentage format	Procedures established and recycling active.	Procedures and opportunities need enforcing	Recycling opportunities not identified
18.6 Waste Management Plan & Policy	All waste monitored and plan regularly reviewed. Corporate policy also displayed and implemented.	Comprehensive plan, waste streams identified, impact register in place.	Waste Plan established and implemented, waste management out-sourced, records maintained.	Plan only partly implemented, not all waste considered.	No plan or not implemented

18.7 Waste Minimisation	Full procedures, staff trained, records kept, waste monitored.	Staff inducted, records maintained.	Included in management policy, Procedures in place.	Partial implementation, records not completed	No arrangements in place
18.8 Identification of Special Wastes	Regular review of arrangements. Staff briefed/tool box talk.	Procedures in place. Records maintained and transfer notes raised.	Special waste segregated and labelled for disposal by licensed carrier	Special waste identified, not properly stored prior to disposal	Not identified, no arrangements in place, not segregated.

19 Noise

ACTIVITY	**EXCELLENT** [An Exceptional Standard] **10 Points**	**GOOD** [Exceeding the Norm] **8 Points**	**AVERAGE** [In line with OSHE Procedures] **6 Points**	**FAIL** [In Need of Improvement] **0 Points**	**IMMEDIATE ACTION** [Unsatisfacto ry] **-10 Points**
19.1 Identification of Sources	Regular review of sensitive receptors .	Information on Limit/exposure levels held on site.	Sources identified, assessments completed	Sources documented, assessments not completed	None recorded in Hazard & Risk Log or Aspect Impact assessment
19.2 Provision of Silenced Equipment	Maintenance and test certificates maintained for machinery	DBA frequently checked. Noise monitoring equipment available and calibrated	Equipment silenced to acceptable levels	Identified in Hazard & risk log but not implemented throughout. Some provided but do not cover all risks	Not identified in Hazard & Risk logs. Not provided in areas where noise levels are exceeded and near sensitive receptors
19.3 Monitoring	Noise levels from equipment checked and recorded daily	Frequent checks, records maintained .	Noise levels monitored calibration records on site.	Equipment on site, Irregular checks made no	None carried out

20 Occupational Health & Health Risks (x2)

ACTIVITY	EXCELLENT [An Exceptional Standard] **10 Points**	GOOD [Exceeding the Norm] **8 Points**	AVERAGE [In line with OSHE Procedures] **6 Points**	FAIL [In Need of Improvement] **0 Points**	IMMEDIATE ACTION [Unsatisfactory] **-10 Points**
20.1 HAV's Register	Records signed off daily, usage monitored, equipment well maintained.	List of competent operatives attached. Tool box talks completed	All equipment recorded, usage time/Trigger r times recorded Operatives checked for signs and symptoms	Basic register requires updating not all equipment on register	Not maintained
20.2 Silicosis Information	OCC health, exposure controlled monitored and recorded	Procedure established information displayed, controls implements, dust suspension in place. Tool box talks completed.	Procedures in place. information provided fully assessed	Minimal information, mentioned in policy	None procedures available No information provided
20.3 Skin Cancer Information	Comprehensive information provided, Sun block provided, controls monitored	Part of tool box talks programme	Minimum dress, part of site rules, information provided	Minimum dress, not part of site rules, minimal information	None provided
20.4 HIV AIDS Information	Comprehensive e information, contact numbers provided, controls monitored with	Educational programme scheduled and implemented. Liaison person nominated	Procedures in place information provided. Educational programme established	Minimal information, mentioned in policy	None provided
20.5 Leptospirosis Information	Comprehensive information provided,	Part of tool box talks programme	Procedures in place, information	Minimal information, mentioned in	None provided

	controls monitored, vermin controls implemented		provided on risk, prevention and symptoms	policy	
20.6 Tetanus	Comprehensive information provided, controls monitored	Part of tool box talks programme	Procedures in place, information provided	Minimal information, mentioned in policy	None provided
20.7 Hepatitis	Comprehensive information provided, controls monitored	Part of tool box talks programme	Procedures in place, information provided on risk and prevention	Minimal information, mentioned in policy	None provided

21 Training & Induction

ACTIVITY	**EXCELLENT** [An Exceptional Standard] **10 Points**	**GOOD** [Exceeding the Norm] **8 Points**	**AVERAGE** [In line with OSHE Procedures] **6 Points**	**FAIL** [In Need of Improvement] **0 Points**	**IMMEDIATE ACTION** [Unsatisfactory] **-10 Points**
21.1 Management Competency	Audit/inspection n training. Competency formally assessed	Knowledge of SMS (project, site and corporate arrangements)	Induction. Supervisors safety Course RA and MS training	Limited safety training, safety supervisors (or equivalent) training	No formal management or supervisory training No induction
21.2 Staff	Additional training needs identified specific to role. Competency formally assessed	Skilled in the area supervising	Skills training completed, inductions completed, all recorded on site. cards held, First Aiders	Only some have attended the supervisors course	None attended supervisors course No induction

21.3 Operatives	Additional training needs identified specific to role. Competency formally assessed	Fire training and first aid training completed for specific individuals	Induction completed, all recorded on site. Operatives received formal training in role needs.	Only some have attended safety training. Persons undertaking tasks or role for which no formal training has been given	None trained
21.4 Training Programme	Programme of additional training needs maintained. Implementation schedule attainment reported monthly	Programme Regularly reviewed and updated. Implementation standard monitored and reported on.	Programme maintained for induction, safety skills and competency. Health HIV AIDS. Equipment training for operatives	Training programme not up to date or not implemented	No training procedure or programme
21.5 Competency Certificate	All competency Records maintained on site. Records match task undertakings	Competency assessment carried out by contractor prior to working. Records of assessment maintained	Person undertaking skilled role have competency certificates and formal training e.g. welders, slinger	Formal qualification certificates only held for some skilled applications	No formal training certificates held for high risk roles e.g. scaffolding, crane operation
21.6 Toolbox Talks	Topics pre-selected attendance sheets completed and signed off by attendees, topics debated	Regular T.B.T's programmed proactive and records maintained	T.B.T's held but tend to be reactive, no programme	T.B.T's planned but none carried out	No T.B.T's held or planned.

MONTHLY REPORT CONTENTS

1. Monthly Audit Report.
2. Inspections
    i. Remedial Actions Taken.
3. Committee Meeting Minutes
    i. Action Taken.
    ii. Target Set.
4. Accident Statics.
5. Non Conformance.
6. Safety Programmes
    i. Future Program Initiatives.

Note:

Failure to submit by the 7th every month shall result in an audit score of "zero" being awarded by Employers representative as per Volume 1 (4.5.5.1.2)

1. A record of all personnel must be kept on site each day.(Visitors Register and the Operatives Daily Register).
2. All personnel must be made aware of the fire drill during the Safety Induction.
3. All personnel must familiarise themselves with the location of Fire Extinguishers Fire Alarm Call Points (temporary and permanent), Escape Routes and the Designated Assembly Point.
4. If a fire or bomb is discovered warn others by shouting and ensure TEL 999 is called.
5. Send a colleague to advise the designated fire wardens /fire safety co ordinator/site manager.
6. If it is a fire raise the fire alarm at a Break Glass or by sounding any temporary sirens / horns/ bells supplied for this purpose.
7. Try to put out the fire only if it is safe to do so, using the appropriate fire fighting equipment.
8. On hearing the fire alarms evacuate the workplace leave tools, equipment and personal belongings behind.
9. Proceed to the Assembly Point where a check will be undertaken to confirm all personnel are out.
10. Inform the fire/bomb warden or those in authority if you know someone is missing.
11. Do not return to the work place until instructed by Rok Management.

SHE Training Matrix

	Management																			Supervisor										Specific															
Types of training	SHE Orientation	SHE Leadership	SHE Plan	SHE Improvement Plan	Management of Change	SHE Audit & Inspection	SHE Emergency Response & Preparedness	Incident/Accident Investigation & Reporting	SHE Communication	SHE Promotion & Incentives	Traffic Management	Hazard Identification & Risk	Permit to work system	Confined space entry	scaffolding	Waste Management	Environment Monitoring	Labour welfare measures	Behavioural Based Safety Management (BBSM)	Job/Task Safety Analysis (JSA)	Safety Training Observation Programme (STOP)	Industrial First Aid & CPR	Incident / Accident Investigation & Reporting	Fire fighting	Confined Space Testing & Certification	Scaffold Erection & Inspection	Rigging	Wire Rope Inspection	Crane Inspection	Electrical/Mechanical Isolation	Permit to Work System	Confined Space Working	Explosive Handling & Control	Heavy Lifting Operation		HAZMAT Handling & Control	Welding, Cutting & Bracing	Power Actuated Hand Tool	Electrical/Mechanical Isolation	Roofing Work	Steel erection work	Scaffold Erection/Dismantling	False-work Erection / Dismantling	
Project Manager	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.		.																						
Sr. Construction Managers	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.		.					.																	
Quality Manager	.	.	.	.	.		.	.	.		.	.	.	.	.			.	.	.	.	.																						
Planning engineer	.	.	.		.	.	.	.	.			.		.								.																						
Construction Managers	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.				.	.	.	.	.													
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Machinery Operators	.						.				.					.						.		.			.																	
Material Handlers	.						.					.	.		.							.	.	.			.																	
Station Building Workers	.						.						.		.	.						.		.							.				.		.			.		.	.	
Steel workers	.						.						.		.	.						.		.			.				.				.		.	.			.	.	.	
Mechanical workers	.						.									.						.		.			.				.	.			.		.			.	.		.	
Other Civil workers	.						.									.						.		.			.				.	.	.		.		.			.	.		.	.
Electrical workers	.						.									.						.		.			.				.	.			.		.			.	.		.	
Transportation Drivers	.						.				.					.						.		.																			
Security Officers	.						.	.			.	.	.		.	.						.	.	.																			
Clerical Staff	.						.									.						.		.																			
Medical Doctor	.	.	.				.	.							.	.		.				.																					
Sr. SHE Managers		.					.								.		.					.																					
Jr. SHE Managers	.		.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
SHE Supervisors	.		.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

Construction Phase OSH Plan Contents

The construction phase, the health and safety plan sets out arrangements for managing the project (including monitoring and measurement), taking account of the particular risks. It must include details of arrangements for welfare facilities. The construction phase plan is required to be developed as the work progresses, providing a focus for the management and co-ordination of health and safety.

The principal contractor must identify the hazards and assess the risks related to their work and the work of their sub-contractors, including the risks the work may create for others.

At this stage, the plan must set out the health and safety goals for the project and explain how the key health and safety issues will be managed. To provide a basis for safe construction, the plan must clearly explain the action needed to control key risks and must provide details of good working practice. The plan also needs to incorporate, or refer to, any required method statements, risk assessments and procedural arrangements.

The following table details the expected contents of the Construction Phase Safety Plan. The contents list provided shall be used by the Employers Representative to asses the suitability of a Contractors Safety Plan submittal.

1.	**Description of project**
a)	Project description and programme details;
b)	Details of client, Employers Representatives, designers, sub-contractors and other consultants;
c)	Contact details of all relevant parties.

2.	**Communication and management of the work** *This section shall incorporate the Employer's Requirements as specified in OSH&E Volume 1, to include but not limited to:* Management structure and responsibilities; Health and safety goals for the project Arrangements for monitoring and review of health and safety performance Liaison arrangements between parties on site; Consultation with the workforce; The exchange of design information between the Employer's Representative, designers and contractors on site; Handling design changes during the project; Permits and authorisation requirements; The selection and control of sub-contractors e.g. assessment criteria; The exchange of health and safety information between contractors; Security; Site induction and on site training; Professional training & ensuring competence Welfare facilities and first aid;

the reporting and investigation of accidents and incidents including near misses;
the production and approval of risk assessments and method statements;

3. Hazard Log & Risk Register (Ref: FSAF 00)

4.	**Arrangements for controlling significant Hazards & Risks**
a)	**Safety risks:** services, including temporary electrical installations e.g. IP65; preventing falls; work with or near fragile materials; control of lifting / launching operations; dealing with services (water, electricity and gas); the maintenance of plant and equipment; poor ground conditions; traffic management and segregation of vehicles and pedestrians; storage of hazardous materials; dealing with existing or unstable structures; boundaries and access, including temporary access; accommodating adjacent land use; activities on or adjacent to the site during the works; site rules and other restrictions fire and emergency procedures

b) **Health risks:**

Removal of hazardous waste materials e.g.
asbestos; Dealing with contaminated land;
Manual handling;
Use of hazardous substances e.g. Silica,
oils etc; Noise and vibration; and
HIV/AIDS, Hepatitis, Malaria.

5.	**The health and safety file** Upon Completion of the project the Contractor shall supply a (Post Construction) health and safety file. This should include information about all the following topics, *where this may be relevant to the health and safety of any future construction* work. The level of detail should be proportionate to the risks likely to be involved in such work.
a)	A brief description of the work carried out;

b)	Residual hazards and how they have been dealt with (for example surveys or other information concerning Silica contaminated land, water bearing strata, buried services);
c)	Key structural principles incorporated in the design of the structure (eg, bracing, sources of substantial stored energy - including pre- or post tensioned members) and safe working loads for floors and roofs, particularly where these may preclude placing scaffolding or heavy machinery there;
d)	Any hazards associated with the materials used (for example hazardous substances, lead paint, special coatings which should not be burnt off);
e)	Information regarding the removal or dismantling of installed plant and equipment (for example lifting arrangements);
f)	Health and safety information about equipment provided for cleaning or maintaining the structure;