

Risk Assessment – Excavation Using Plant (and Works in Excavations)



Client:	Middleton Sheet Metal Co Ltd	Site Address:	1 Hanson Close, Middleton, M24 2HD
Description of Work Activities:	Excavation using plant, working in and around excavations.	Persons at Risk:	JKSL Site Operatives; client's staff, clients and contractors
Are vulnerable persons at risk? (Delete as applicable) Who?	Yes-/ No All vulnerable persons will be excluded from site. Mothers / Children / Disabled Persons	If any of these groups are at risk, an additional Risk Assessment must be undertaken to address the risks to the groups identified.	

This Risk Assessment (RA) is for the tasks associated with excavation and transfer of materials using mechanical plant. It does not include other tasks like root barrier installation, hand-screening or using powered hand tools. In addition, a site-specific Risk Assessment (SSRA) or on-site risk assessment and Method Statement (MS) should be produced for these works and should be consulted as well as additional guidance and separate RAs for other potential hazards, particularly manual handling and noise.

Young workers may have a reduced perception of risk and could attempt unsafe procedures whilst excavating using plant. JKSL currently have no young persons employed, but if such an employee were taken on, a work plan, supervision arrangements and other personal risk management measures should be investigated.

JKSL's Site Foreman will not go ahead with works or will stop and inform the client's site manager and JKSL head office if they deem the safety measures on site to be insufficient to protect persons at risk from on-site hazards associated with the work activities.

Staff will wear the following PPE at all times: lace-up boots or wellington boots to EN ISO:20345 with good tread; full-length hard-wearing PPE with hi-vis vest or jacket to EN ISO:20471; safety glasses to EN166; hard hat to EN397. Hard hat and glasses may be removed by a machine operator when they are in the cab of the machine, but must be put on before exiting the machine. Gloves to EN388 may be worn (or must be, if instructed by site management). EN 14044 knee pads should be worn when working in a kneeling position. Alternative / equivalent PPE to items specified may be provided or used if it has been deemed suitable for the task.

Hazard	Potential Consequences	Risk Rating (see notes)			Actions Required (in addition to working to JKSL Standard Site Procedures & JKSL H&S Handbook)	Residual Risk (see notes)		
		Severity (1-5)	Likelihood (0-5)	Risk Rating		Severity (1-5)	Likelihood (0-5)	Risk Rating

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Potential to disturb asbestos-containing materials (ACMs)	Asbestos dust causing long-term lung problems (asbestosis, mesothelioma)	5	See SSRA		Also see site-specific RA. At least one Asbestos Aware (AA) trained Operative on site at all times and all JKSL site operatives to be AA refresher trained annually. If no information is provided on asbestos on site, a visual survey should be undertaken before works start. Excavation works must not commence without soils analysis. Stop works immediately if you find suspected ACMs. Inform Site Manager and JKSL Project Manager. Take appropriate measures before re-starting works (likely to require asbestos consultant, RPE and air monitoring). Where operatives' skin, hair, gloves or clothes have come in to contact with suspected asbestos-containing materials, follow protocols on HSE's EM1 factsheet.	5	1	5
Services and/or unexploded ordnance in the areas being excavated	Rupture of electric, gas or water infrastructure, causing flooding, explosion or electrical discharge. Unexploded ordnance causing explosion. Outages to local buildings.	5	See SSRA If no other info is available, assume as below:		Competent operative to CAT scan all areas before breaking ground. Check service drawings and desktop assessment where available. Request UXO survey from the client. If site specific information is not available, assume there are services in the area. Take care to locate the services near to visible signs of services (e.g. lamp posts and manhole covers). Mark suspected service locations using chalk or paint. Carry out all excavations within 500mm (laterally) of known or suspected services by hand using shock shovel. Do not undermine services unless suitable measures can be put in place to adequately support them. Re-scan areas every 300mm (depth) of excavation. Stop digging immediately if any suspected UXO is found and evacuate the area immediately, and report to Site Manager and JKSL Project Manager.	5	1	5
			5	25				

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Service Strikes – contact with overhead power (or other) lines	Contact with overhead power lines causing electrocution, fire, burns, death.	5	1	5	A visual survey of the site will be undertaken before starting works, and service drawings will be consulted if these are available. Locations of overhead cables will be noted and where they fall on haul routes, “goalposts” or other suitable measures will be used to alert and remind staff of their presence. Where overhead services are present in working areas or any area where excavators are used, the Project Manager must review this before works start, investigate the possibility of making cables inactive for the duration of the works. No plant must be operated without restrictors in place to limit the reach to an agreed height. Don’t carry anything above shoulder height in these areas.	5	1	5
Sharps	Needle stick or other sharps-related injuries	See SSRA			See JKSL sharps guidance. Separate RAMS required for hand-screening, root barrier etc. Pre-start site walkover to look for sharps. If suspected sharps are sighted at any time, immediately notify Site Mgr and JKSL Project Mgr and stop any manual works in the area. Mechanical works may continue if suitable controls are in place to ensure that nobody will risk coming into contact with sharps. Report any sharps injury immediately and call 111 or 999 for advice.	5	1	5

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Private or commercial road vehicles on site (including delivering or collecting from site).	Strikes from moving or falling equipment, manual handling injuries, injuries on mechanical plant such as lifting equipment etc.	5	See SSRA		See SSRA. A competent banksman will be in place to direct vehicles reversing and when entering or leaving site (except cars or vans <3.5t GTW on roads or parking areas). Operatives must stay away from danger areas near loading operations. Banksmen must stand in safe position. Follow all approved routes and traffic restrictions on site. Road vehicles limited to 5mph on all sites unless approved otherwise. Suppliers to provide RAMS and resources for loading, unloading and lifting. Wagon drivers removing materials from site must be briefed before being loaded. Plant delivered to site must be operated by competent operator only. JKSL will not unload any materials and will only take charge of deliveries once they are on the ground on site.	5	1	5
Mobile site plant and vehicles (including JKSL staff operating plant, e.g. dumper)	Impacts from moving machines and vehicles. Crush, shear or impact injuries. Broken bones, blunt force trauma, death.	5	4	20	See site-specific RAMS and other documents including client's traffic management plan. Principal Contractor must provide an induction if there are other contractors on site at any point. All plant must be supplied with relevant certificates and must be inspected daily by JKSL competent operator. Only competent qualified machine operators are permitted to operate any site plant. Operators must only use plant as intended and in line with best practice. Follow all approved routes and traffic restrictions at all times and limit speed to 5mph for all vehicles unless a higher speed limit is approved. Do not work (or operate another machine) within the swing of any excavator or near other plant and do not operate plant if anyone is in this area (including CAT scanning) or moving toward the area. Machines must be switched off with the key removed for cleaning, maintenance or decontamination. Competent banksman must be in place for reversing vehicles and for plant movements around site and to direct digging if appropriate.	5	1	5

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Falling / collapsing objects	Collisions, crushing or burial due to falling objects (including soils, quick-hitch buckets or stacked materials).	5	2	10	Also see site-specific RA and info on delivery vehicles in this RA. JKSL will not unload any deliveries and will only take charge of delivered materials once they are on the ground on site. JKSL Operatives must stay out of loading areas while loading or unloading is in progress and will adhere to all site traffic rules. Dumper drivers must switch off and leave the dumper while it is being loaded. Dumper drivers must visually check the area before unloading their bucket. Carry out on-going monitoring of excavation areas and stockpiles of soils and check them at the beginning and end of each working day and after adverse weather to ensure they are of suitable profile; sides are battered to a suitable angle and any other measures required to prevent collapse. Avoid stacking any materials above 1m in height and stack safely. Minimise height of stockpiles; only excavators permitted on stockpiles and should not be left on the stockpile when not necessary. People not to enter within 5m of stockpiles or on stockpiles unless necessary. Only trained staff to fit quick-hitch buckets; operator to carry out push test and shake test once the bucket has been fitted and fitter is at least 3m away.	5	1	5
Working with hazardous soils	Exposure to hazardous agents – to be specified in the relevant Method Statement & COSHH assessment(s) .	5	1	5	Soil analysis will be carried out before works and site staff will be informed if the soils are classed as hazardous, and a COSHH and new safe system of work must be produced. Don't use hand-screening for hazardous soils. Stop works and request (further) soil analysis if e.g. the colour, texture, smell or appearance of the soils is out of the ordinary. Always avoid skin contact with soils (wear gloves and full-length PPE) and avoid inhaling dust (stay upwind, wet soils if feasible and wear dust masks).	5	1	5

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Working in and around excavations	Collapsing material – crush injuries, asphyxia.	5	3	15	Client to provide information on all excavations not controlled by JKSL. Implement client's permit to dig (if they operate one) or use JKSL Permit to Dig for JKSL excavations. Continually assess your environment while working or moving around site and exercise due care to avoid hazards. Batter or step excavations at a suitable angle (normally 1:1 or shallower) to prevent any significant collapse.	5	1	5
Falls from height	Impact injuries, broken bones, head trauma, death.	5	3	15	Fence off (or otherwise protect) the edge of deep excavations. Fence smaller excavations or batter the edges to a shallow angle (<1:10). Climb up and down carefully from plant etc. (never jump down). Machines over 1.2m in height should be fitted with "boxing ring" safety systems. If not, the Site Foreman should contact JKSL office, and anyone fitting shutters etc. must be supervised and assisted while doing so. For smaller machines (without a boxing ring), take extra care while inspecting or fitting shutters and provide supervision wherever possible. Put the plant in a safe location (i.e. not on the edge of an excavation) when entering, exiting and fitting shutters and buckets or refuelling.	5	1	5
Maintenance and cleaning / decontamination of plant and equipment	Drawing-in, crushing, cuts or other hand / arm / limb injuries, heat or friction burns; serious injury, broken bones, death.	5	2	10	See relevant COSHH assessment(s) and separate RAMS for decontamination. Only competent operatives to do equipment checks and maintenance. Maintenance to be undertaken only when equipment is switched off and cooled down. If in doubt, delegate repair works to an outside professional. Any filing etc. to be done with hand tools only, on a solid, flat surface.	5	1	5

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Build-up of carbon monoxide (normally only a hazard in deep excavations or enclosed areas)	Asphyxia, brain damage, death.	5	1	5	Never use plant (or generators) indoors or in an enclosed or partly-enclosed space. No lone working in areas where exposure to carbon monoxide is a potential risk. If you start to feel sick, dizzy or weak while working in an excavation, shout for help and get above the edge of the excavation and to fresh air right away. If symptoms are serious, seek medical attention immediately.	5	1	5
Fuelling equipment; use of lubricating oils etc. (petrol, diesel 2-stroke oil, grease)	Contact with skin or eyes; inhalation or ingestion of fuel. Risk of fire. See relevant COSHH assessment(s).	4	3	12	See relevant COSHH assessment(s) and wear additional PPE as required. Fuel plant only when switched off and keys removed. Fuel only on a hard standing or level area, away from drains and soil. Use "plant nappy" and have spill kit on hand. Seal all containers immediately after use and lock them in the van (or other storage area). Exclude all non-JKSL staff from fuelling areas.	4	1	4
Vibration from ride-on plant (whole body vibration)	Principally back pain due to chronic exposure, but potentially shock injuries – bruising, broken bones etc.	3	2	6	See separate Risk Assessment for use of vibrating hand tools and full-body vibration. Use machines that are big and powerful enough for the job at hand. Report any faults with the machine and don't use faulty plant. Adjust your seat so it is comfortable, adjusted for your weight & supports your lower back. Limit or rotate use of machines as appropriate. Ensure haul routes are maintained and level so far as reasonably practicable; avoid rough routes and drive slowly over uneven surfaces. Take regular breaks while operating machines. Don't jump down from machines. Inform your manager of any back pain.	3	1	3

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Using noisy equipment (i.e. mobile site plant)	Hearing damage, tinnitus (or eventual deafness) to operator or those working nearby.	3	4	12	See separate noise risk assessment. Follow the safe working distances and maximum time limits for use. All staff within the noise protection zone must wear EN352-1 ear defenders or equivalent. Plant operators (and banksmen) to maintain awareness of their surroundings and check all areas before plant operations. Stop works if anyone is in the hearing protection zone without hearing protection. Agree hand signals in and use signals / thumbs-up rule to communicate with plant operators.	3	1	3
Manual handling (for tasks associated with machinery, fuels and CAT scan only)	Back injuries, WRULDs; cuts, abrasions; impact injuries from tools or falling objects	3	3	9	See SSRA and manual handling RA regarding other tasks (e.g. handling geotextile). Avoid and minimise manual handling tasks wherever possible. Break down or share loads where possible. Use plant for carrying loads if this appropriate and a Lifting Plan is in place. Work according to training and direction and plan all manual handling tasks to reduce risk. Don't attempt to lift excavator buckets by hand.	3	1	3
Hand digging	WRULDs, back injuries, impact or cut injuries from hand tools, blisters, abrasions or other hand injuries.	3	4	12	Rotate hand-dig tasks and keep hand dig to a minimum, other than where required to avoid suspected services. Work as trained and directed; avoid un-natural stances or positions. Take regular breaks as necessary. Wear gloves unless their use provides other hazards (such as reduced grip or cold / damp affecting operatives' hands).	3	1	3
Concealed / unidentified objects, dips or bumps, slippery surfaces etc.	Ground-level slips/trips/falls, twists, sprains, broken ankle/leg etc.	3	See SSRA		Additional risk controls / safe system of work required if the initial risk level is greater than 3. Carry out a site walkover before starting works and mark slip/trip hazards and haul routes. Continually assess your environment whilst working or moving round site and exercise due care to avoid both known hazards and unexpected hazards. Plan lifting tasks in advance.	3	1	3
Further information: JKSL Health & Safety Policy; COSHH Assessment (and MSDS); Method Statement; Risk Assessment Notes								

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	Name:	Position:			Signature:	Date:		
Carried out by:	Chris Oliver	Operations Manager				28/07/2020		
Last update by:	Phil Whelan	Construction Director				02/01/2024		
Checked by:	Jonathan Harris	Surveyor				11/10/2024		
Next review due before:		01/05/2025						