



Restricted zone

Excavator



Operator's line of sight

- Safest zone for approach
- Wait for:
 - Bucket on ground
 - Deadman's lever applied
 - Operator "thumbs up"



Do not enter Restricted zone

When machine operational

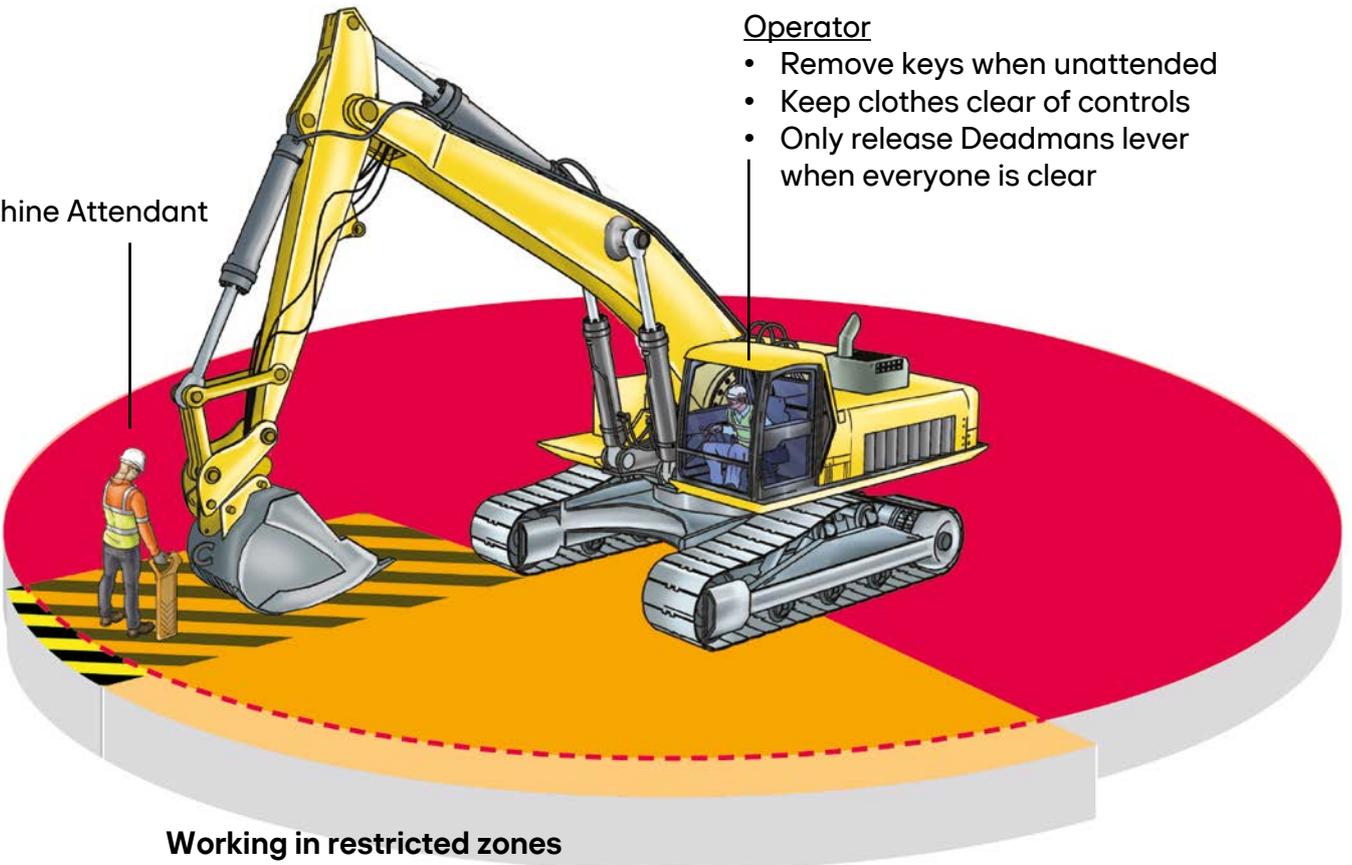
Scan to see animation



Operator

- Remove keys when unattended
- Keep clothes clear of controls
- Only release Deadmans lever when everyone is clear

Machine Attendant



Working in restricted zones

1. Method Statement & Risk Assessment for all works.
2. Plan safe enter/exit routes.
3. Only enter red zone to reach bucket or lifting points, & are:
 - Experienced in working alongside excavators.
 - Briefed on red zone.
 - Aware of proximity risks.
4. Operator can see work in red zone at all times.
5. Agree communication, e.g. radios, verbal or hand signals.





Restricted zone

Forward tipping dump truck



Operator's line of sight

- Safest zone for approach
- Wait for:
 - Operator to apply brakes & put machine in neutral
 - Operator "thumbs up"



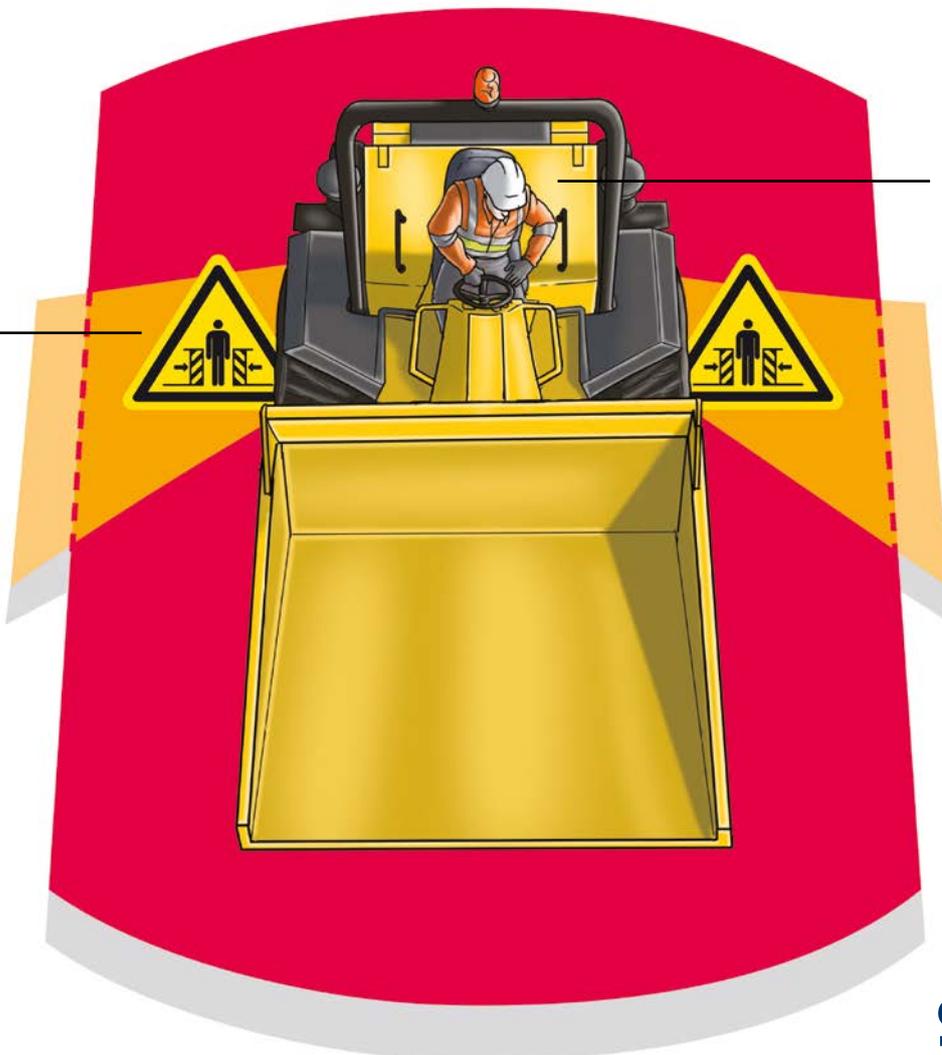
**Do not enter
Restricted zone**

When machine operational

Scan to see
animation



Avoid
crush areas
at all times



Operator

- Lower bucket when people approach
- Remove keys when unattended
- Keep clothes clear of controls
- Only release brake when everyone is clear





Restricted zone

Large articulated dump truck 10t



Operator's line of sight

- Safest zone for approach
- Wait for:
 - Operator to apply brakes & put machine in neutral
 - Operator "thumbs up"



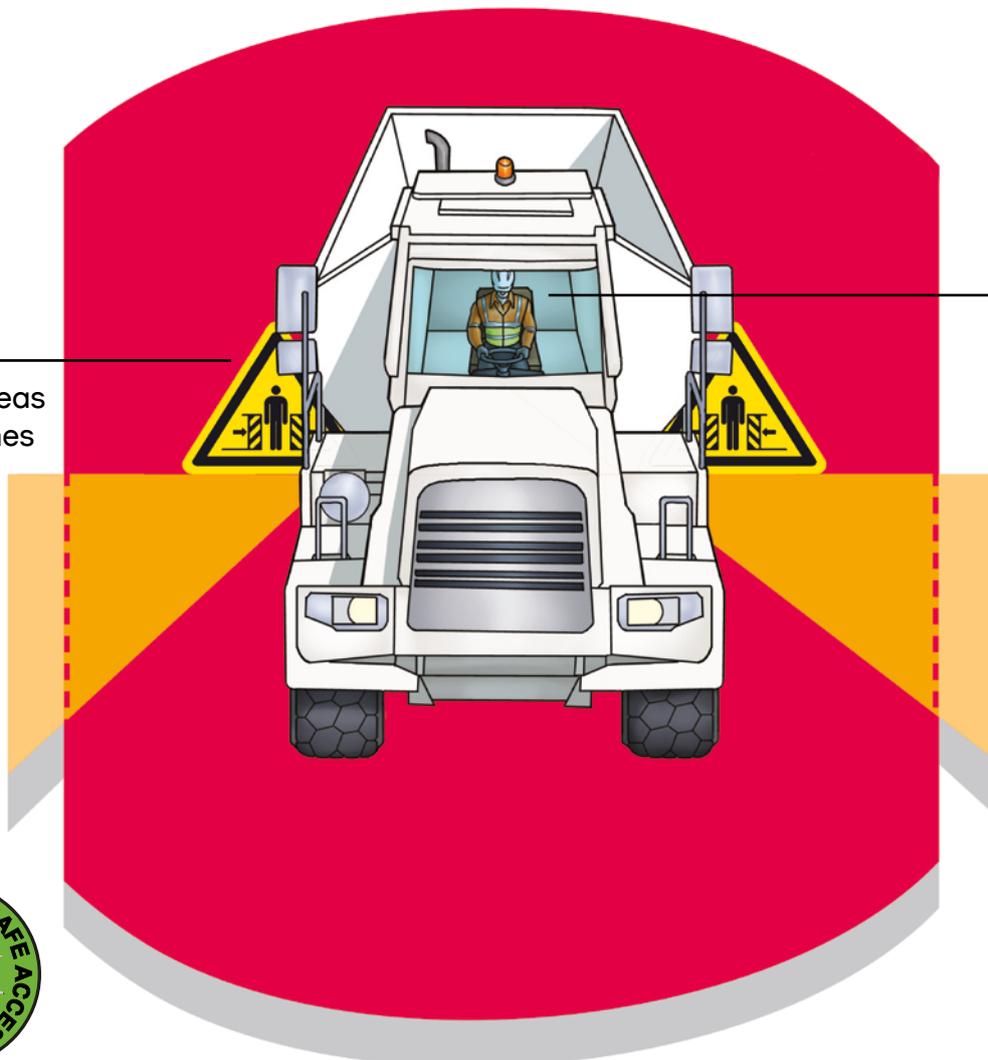
**Do not enter
Restricted zone**

When machine operational

Scan to see
animation



Avoid
crush areas
at all times



Operator

- Lower body when people approach
- Remove keys when unattended
- Keep clothes clear of controls
- Only release brake when everyone is clear





Restricted zone

Shovel loader



Operator's line of sight

- Safest zone for approach
- Wait for:
 - Bucket on ground
 - Brakes applied & machine in neutral
 - Operator "thumbs up"



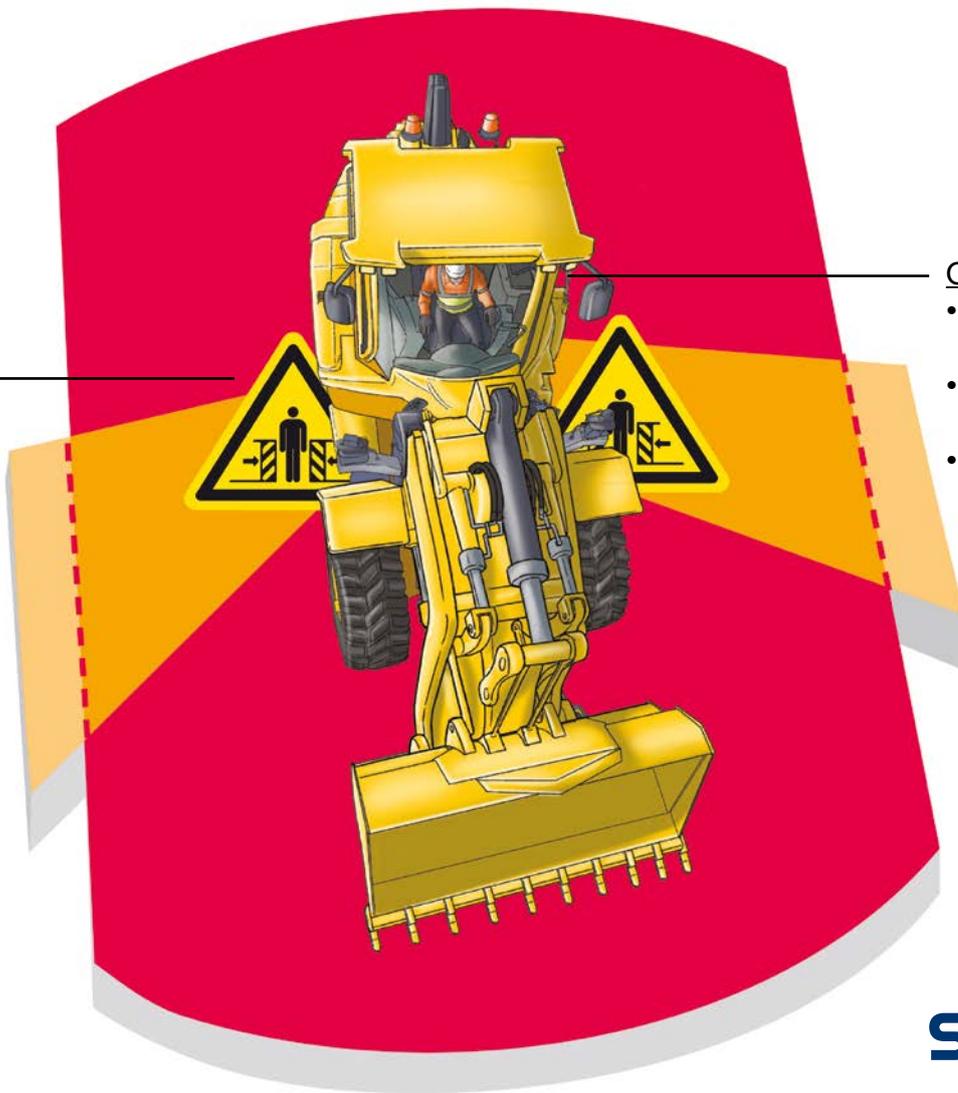
**Do not enter
Restricted zone**

When machine operational

Scan to see
animation



Avoid
crush areas
at all times



Operator

- Remove keys when unattended
- Keep clothes clear of controls
- Only release brake when everyone is clear





Restricted zone

Dozer



Operator's line of sight

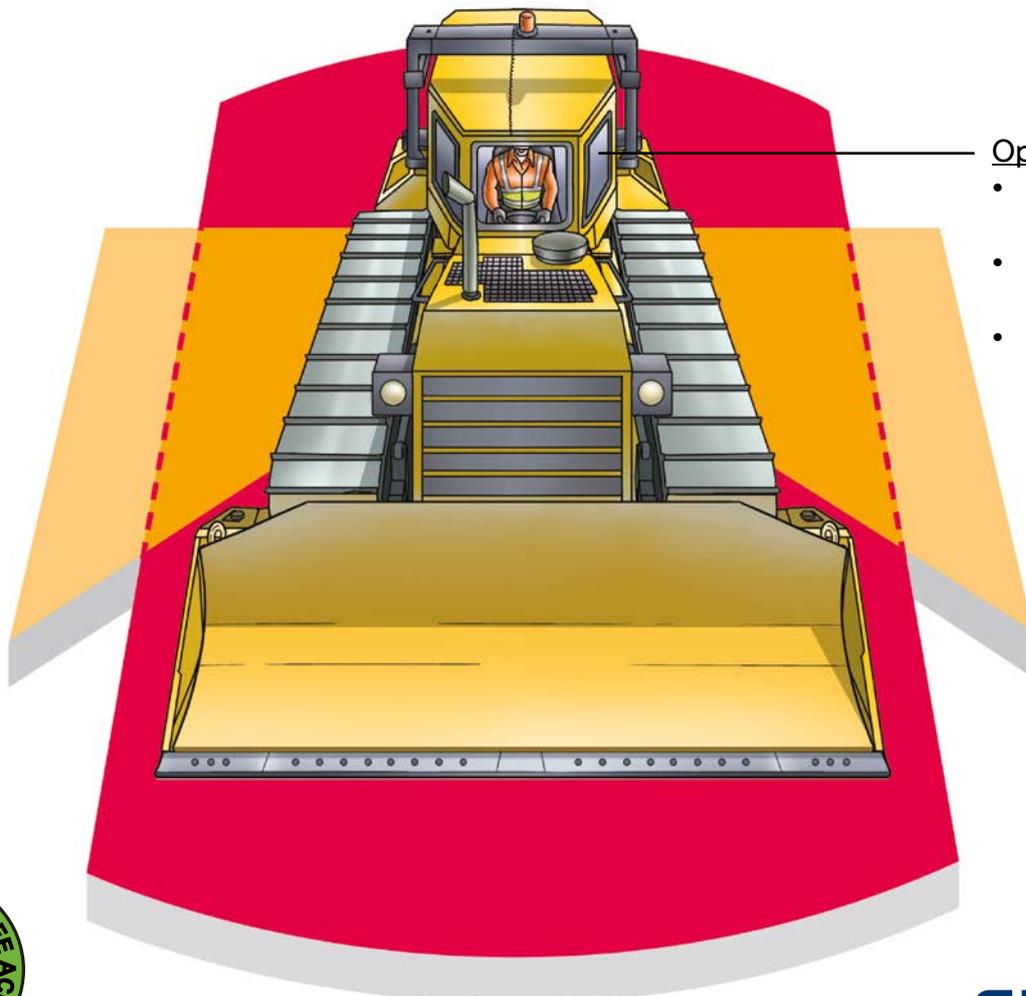
- Safest zone for approach
- Wait for:
 - Blade on ground
 - Deadman's lever applied
 - Operator "thumbs up"



**Do not enter
Restricted zone**

When machine operational

Scan to see
animation



Operator

- Remove keys when unattended
- Keep clothes clear of controls
- Only release Deadmans lever when everyone is clear





Restricted zone

Tele-handler



Operator's line of sight

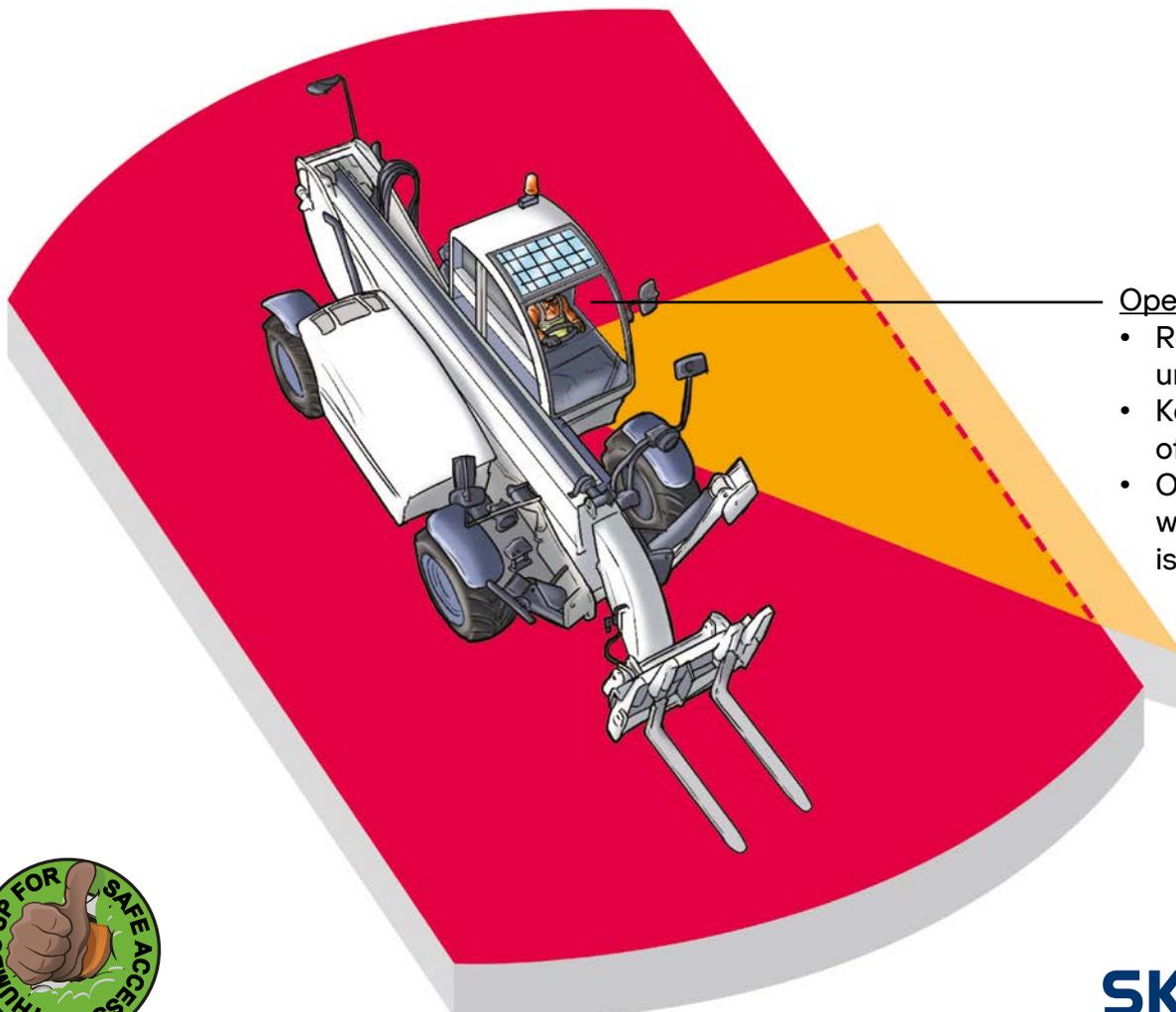
- Safest zone for approach
- Wait for:
 - Fork on ground
 - Brakes applied & machine in neutral
 - Operator "thumbs up"



**Do not enter
Restricted zone**

When machine operational

Scan to see
animation



Operator

- Remove keys when unattended
- Keep clothes clear of controls
- Only release brake when everyone is clear





Restricted zone

Small sit-on roller



Operator's line of sight

- Safest zone for approach
- Wait for:
 - Operator to apply brakes & put machine in neutral
 - Operator "thumbs up"



**Do not enter
Restricted zone**

When machine operational

Scan to see
animation



Avoid
crush areas
at all times



Operator

- Remove keys when unattended
- Keep clothes clear of controls
- only release brake when everyone is clear





Restricted zone

Large roller



Operator's line of sight

- Safest zone for approach
- Wait for:
 - Operator to apply brakes & put machine in neutral
 - Operator "thumbs up"



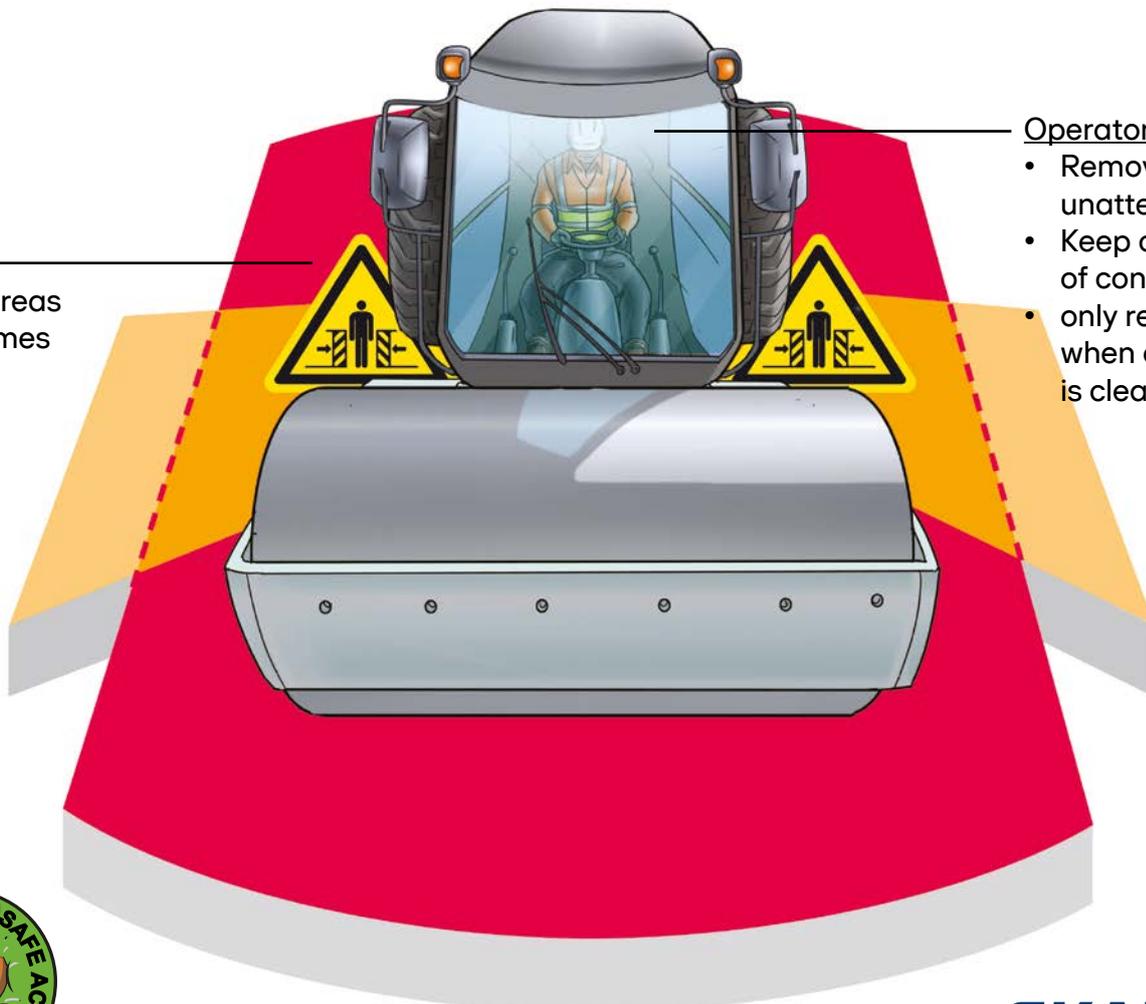
**Do not enter
Restricted zone**

When machine operational

Scan to see
animation



Avoid
crush areas
at all times



Operator

- Remove keys when unattended
- Keep clothes clear of controls
- only release brake when everyone is clear



Restricted, red or thumbs up zones

October 2024



What you need

- Group size ideally between 5 & 20 people (if bigger, see notes at end).
- A quiet space to talk with your group.
- A 20x20 metre cordoned off part of site e.g. car park or site area with good ground conditions and no vehicle movements.
- A 15te excavator (or as close to it as possible) to place in the centre of the area, with good even ground to walk around it. This session can be delivered using any item of plant in order to illustrate the red zones.
- Some barriers or cones to mark out the red zone in front of the plant (doesn't need to be all the way round).

How to start

- Introduce yourself
- Explain why you are doing this session. For example, "Because I am really worried about people getting hurt, by getting hit by plant." Make the message personal to you.
- Then follow the example script below...



Does anyone know of some recent accidents involving people being hit by plant?

(If no response, use the following as examples: Mihai Hondru, the banksman/vehicle marshal that was run over by a Dozer on the M25 in 2010, or more recently Ian Walker who got crushed by a wheeled excavator in Aberdeen).

"These examples are enough to tell us that we all have a real risk of being seriously hurt or killed by plant. The positive message is if you take in and follow the instructions in this session you will not get hurt!"

What is the restricted or red zone?

The correct answer is the working area of plant. It is the full swing radius of an excavator, or the immediate area that a wheeled/tracked item can move into and hit you. Restricted zones are areas where access is strictly controlled. You can only

enter the red zone if you follow the correct procedure; otherwise keep clear at all times.

The three main activities we will do:



Sit in the cab of the machine

Objective is to appreciate the visibility inside the cab and the blind spots.



Walk around the machine

Objective is to imagine how you would feel if machine was running.



Thumbs up

Demonstrate this positive form of communication to attract attention of the operator.

Ask everyone to give you a thumbs up.

Walk everyone over to the machine and show them the deadman lever – locked and unlocked position – and explain the difference.

If we are standing here in the red zone, what position should the lever be?

"Never stand here if the machine is unlocked."

- Show everyone how to safely get in and out of the machine (3 points of contact, back facing outwards)
- Explain to them (and show them) that when you are in the machine to put the deadman



lever into the unlocked position and look for the person wanting to enter your working area, giving you a thumbs up. When you see them, lock the deadman lever and give them a thumbs up back.

- Walk everyone back out of the red zone, and select the first candidate to get into the cab.
- Assemble everyone else behind a barrier or cone, facing the front of the machine.
- In groups of 2 or 3 get them to attract the attention of the operator with a thumbs up, get them to check that the machine has been disabled and then ask, **“Are you happy to walk up now?”**
- Walk them to the rear of the machine, in touching distance of the counterweight. Ask them **“If the engine was running and you were stood here, how would you feel?”** or **“What would your family say to you if you were standing here?”**. Ask the same question on the blind side of the machine.
- Walk them back to the rest and repeat the walk-around with the next group of 2-3 people. Also switch the person in the cab of the machine for each walk round.
- Once everyone has done the walk-around, get the remaining people who haven't been in the cab of the machine to get in line. In turns they will indicate via thumbs up to get the person in the cab's attention to enter the red zone and replace them.

Summary

1) What have you learnt about visibility from the cab? Is it good or bad?

“Even though there are 360° cameras that eliminate the blind spots, which are great for the operator, it doesn't change how much at risk you are by standing close to plant.”

2) How did you feel standing close to the plant? Good or bad?

“You all gave me similar answers. So why are people on site sometimes so close to plant?”

3) Thumbs up: how aware do you think the operator was of you when he gave you the thumbs up?

“It is now very common for plant to have a sign on it saying ‘Give a thumbs up to the operator before approaching’. This is great but do we all do it? Think of the rail industry – if you are trackside and a train approaches, everyone has been trained to signal the driver. So if they can do it on rail, why can't

we do it with plant? Especially as it is a more frequent activity.”

When you give a thumbs up to an operator it is more powerful than just eye contact. You are asking them if you can come into their area and that they look after you when you are there. When the operator acknowledges and gives you a thumbs up back, they are accepting you into this area and responsibility for you.

Thumbs up is what we do EVERY TIME on this project to keep ourselves & others safe.

4) What are we going to do, every time, around plant?

Correct answer is: Keep clear of the working area of plant (red zone), unless the operator has disabled the machine and given you a thumbs up.

Notes

- For bigger groups:
 - It might be time-consuming to get every person to sit in the machine. Try and focus on those who've never been inside plant before or have some people get in and out of the cab after the session.
 - Have more than one person walk around the plant at the same time, e.g. groups of 5.
- This is just a guide; each trainer who does this session will have their own style of delivery.
- Be aware that not everyone will be completely fluent in or the same standard of English – use visual props and actions, don't just talk.
- There is deliberately very little mention of technology and safety specification on plant, because this session is focused on the right behaviours around plant.
- End of session
- Give out red zone stickers (where provided).
- Thank everyone for their participation.
- Ask for feedback; sometimes there are some important points people raise, especially operatives, either about what things are really like on site or simple improvement measures. Raise these with a Senior General Foreman, Works Manager or H&S Manager.

Acknowledgement

Our thanks go to Rob Lynch (Director of L Lynch) for sharing the original material this content is based upon.





Restricted zone

CFA piling



Operator's line of sight

- Safest zone for approach
- Wait for:
 - Rig Attendant permission
 - Rig Operator "thumbs up"



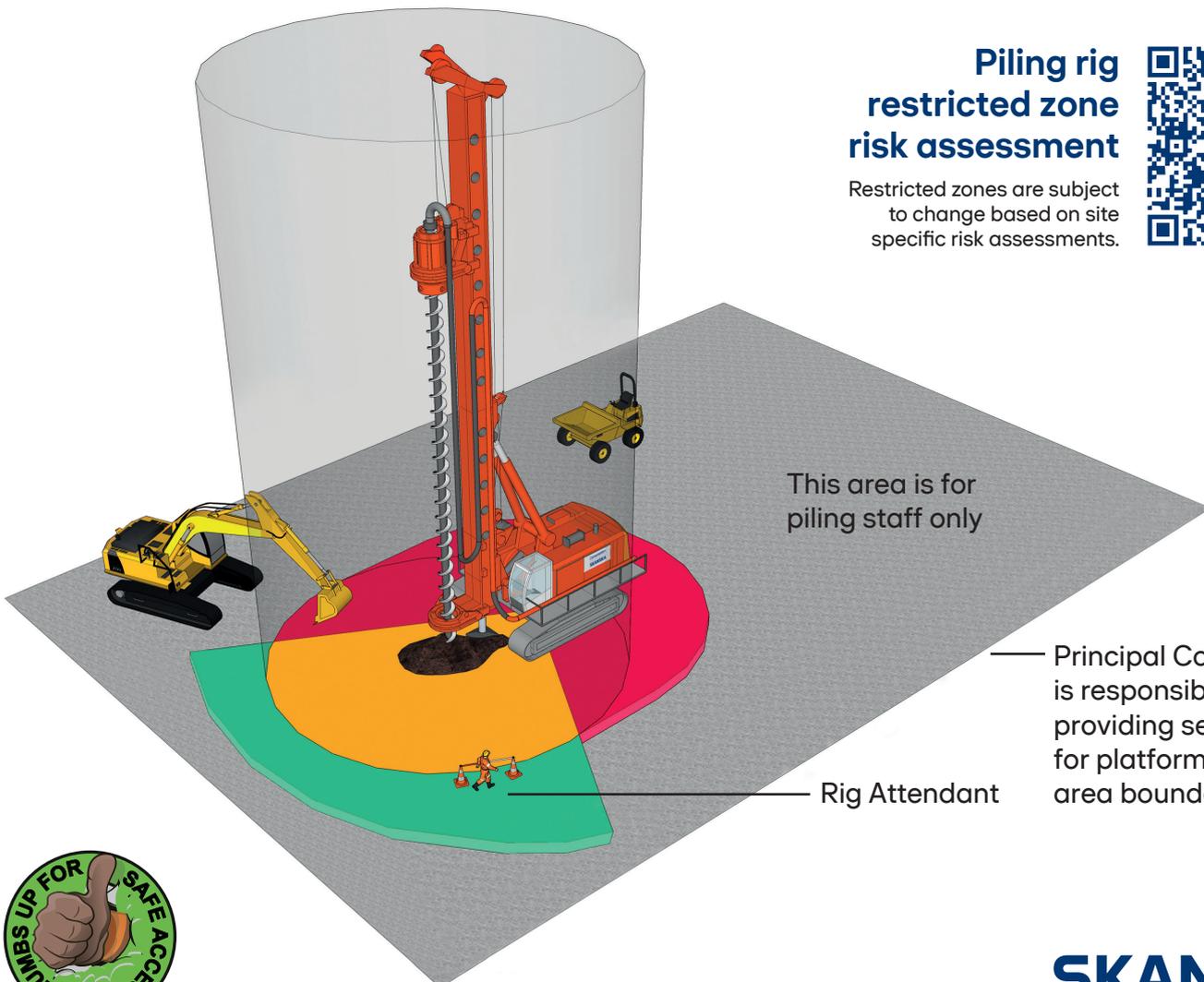
Do not enter Restricted zone

When machine operational



7.5m Restricted zone

Watch out for falling objects 7.5m around auger



Piling rig restricted zone risk assessment

Restricted zones are subject to change based on site specific risk assessments.





Restricted zone

Rotary piling



Piling rig restricted zone risk assessment

Restricted zones are subject to change based on site specific risk assessments.



Operator's line of sight

- Safest zone for approach
- Wait for:
 - Rig Attendant permission
 - Rig Operator "thumbs up"



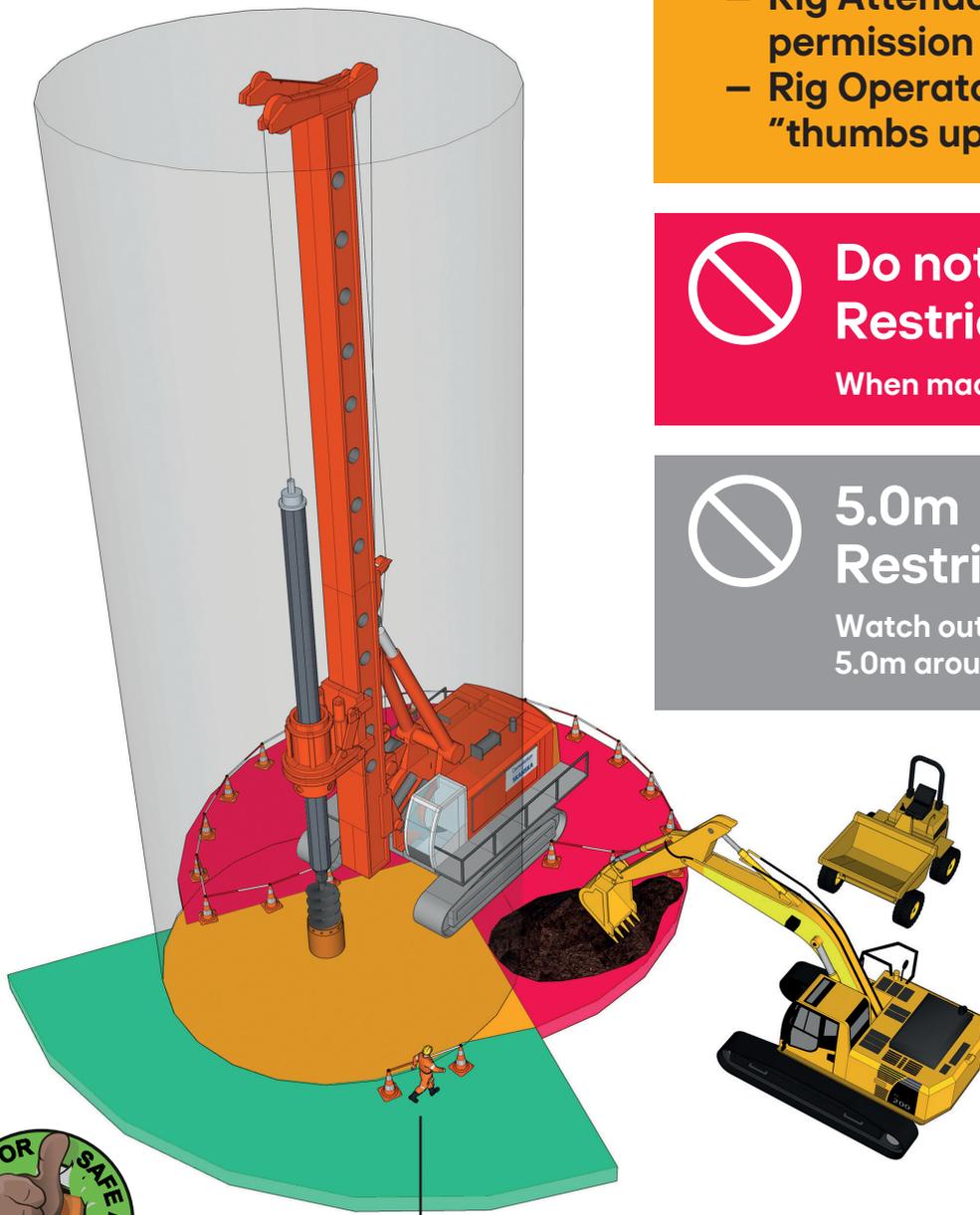

Do not enter Restricted zone

When machine operational



5.0m Restricted zone

Watch out for falling objects 5.0m around auger



Rig Attendant



Restricted zone

Ground engineering



Operator's line of sight

- Safest zone for approach
- Wait for:
 - Rig Attendant permission
 - Rig Operator "thumbs up"

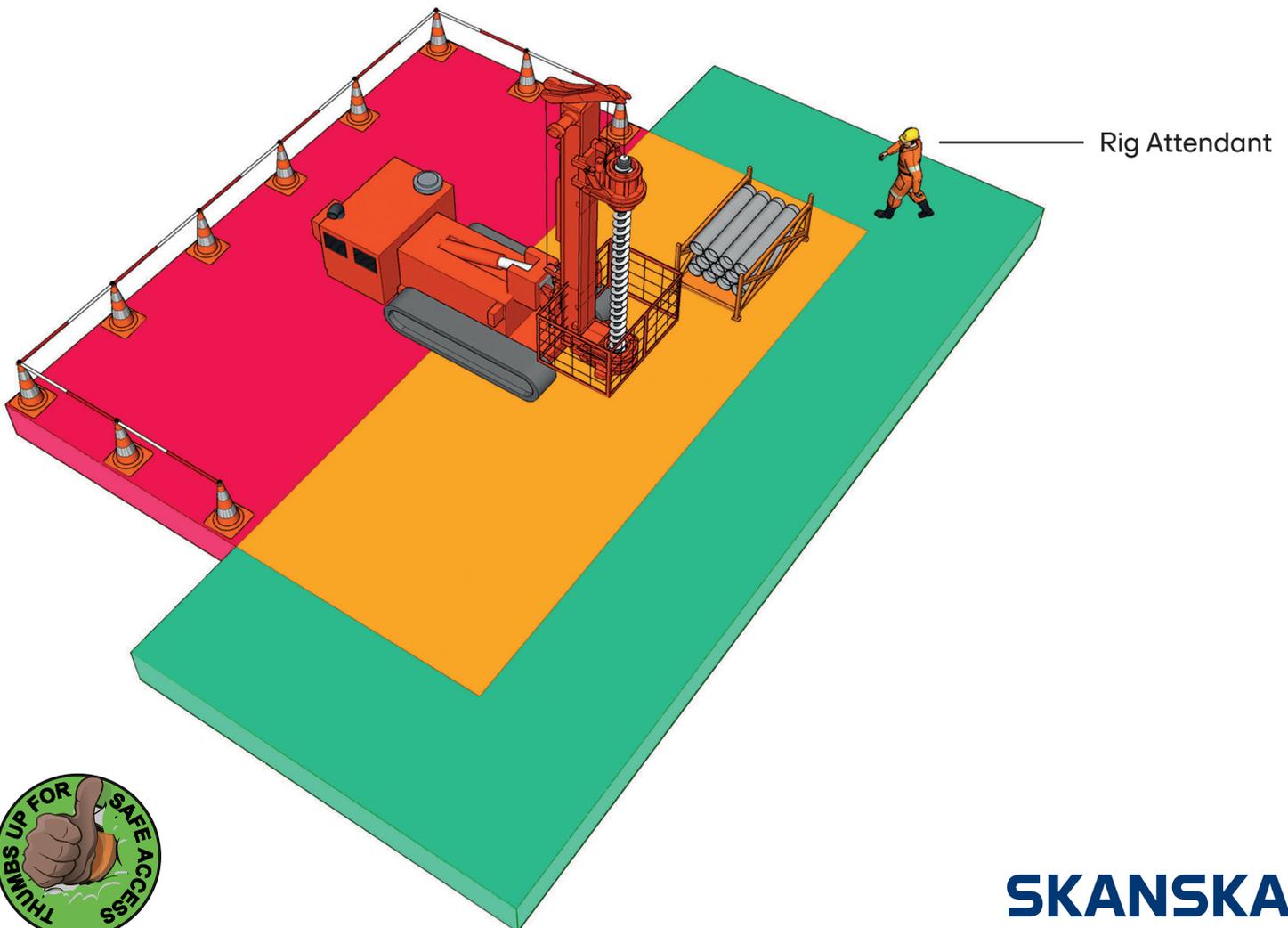


**Do not enter
Restricted zone**

When machine operational

**Piling rig
restricted zone
risk assessment**

Restricted zones are subject to change based on site specific risk assessments.





Restricted zone

CSP piling



Operator's line of sight

- Safest zone for approach
- Wait for:
 - Rig Attendant permission
 - Rig Operator "thumbs up"



Do not enter Restricted zone

When machine operational

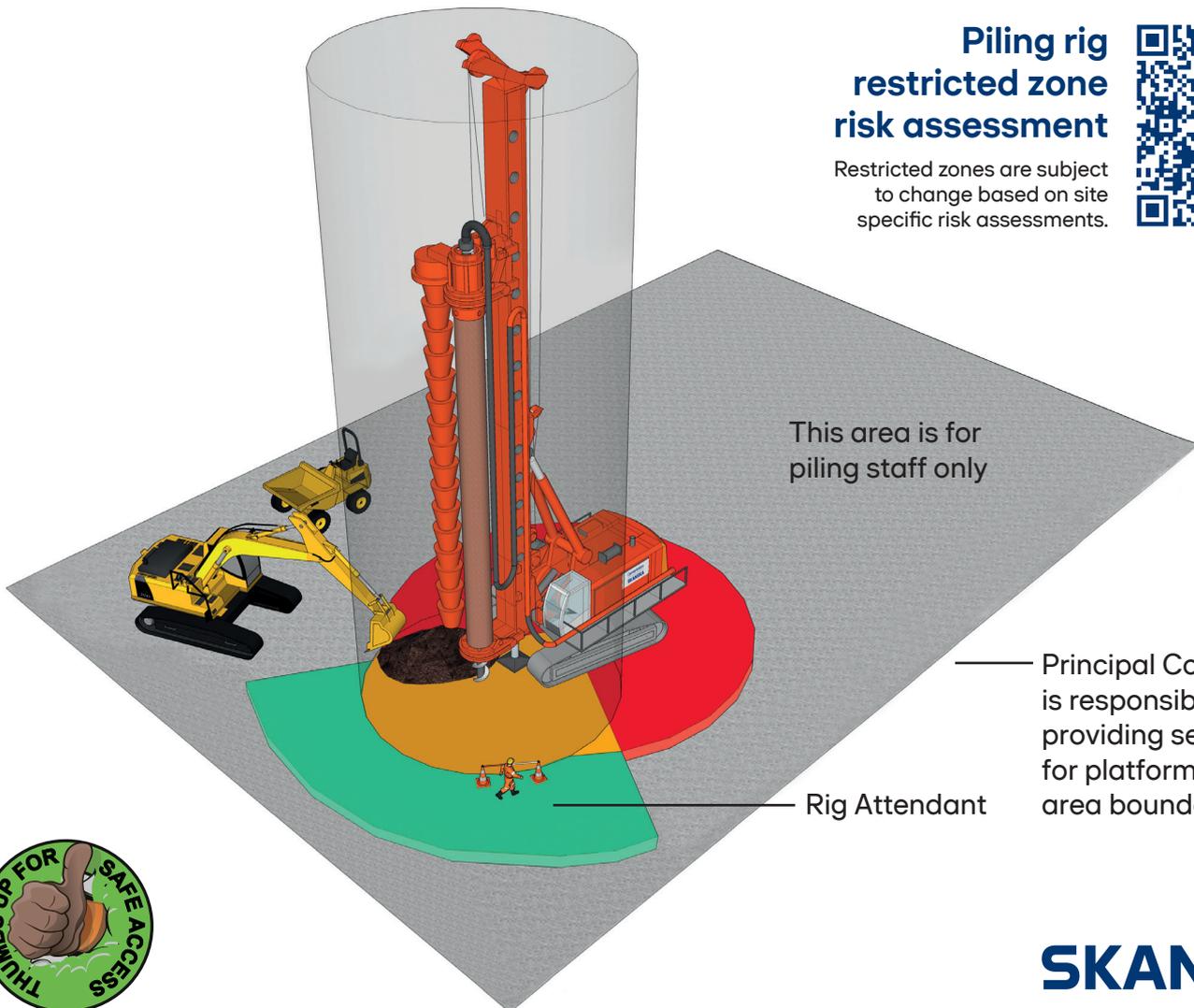


7.5m Restricted zone

Watch out for falling objects
7.5m around auger

Piling rig restricted zone risk assessment

Restricted zones are subject to change based on site specific risk assessments.





Restricted zone

Slurry walls



Operator's line of sight

- Safest zone for approach
- Wait for:
 - Machine Attendant permission
 - Rig Operator "thumbs up"

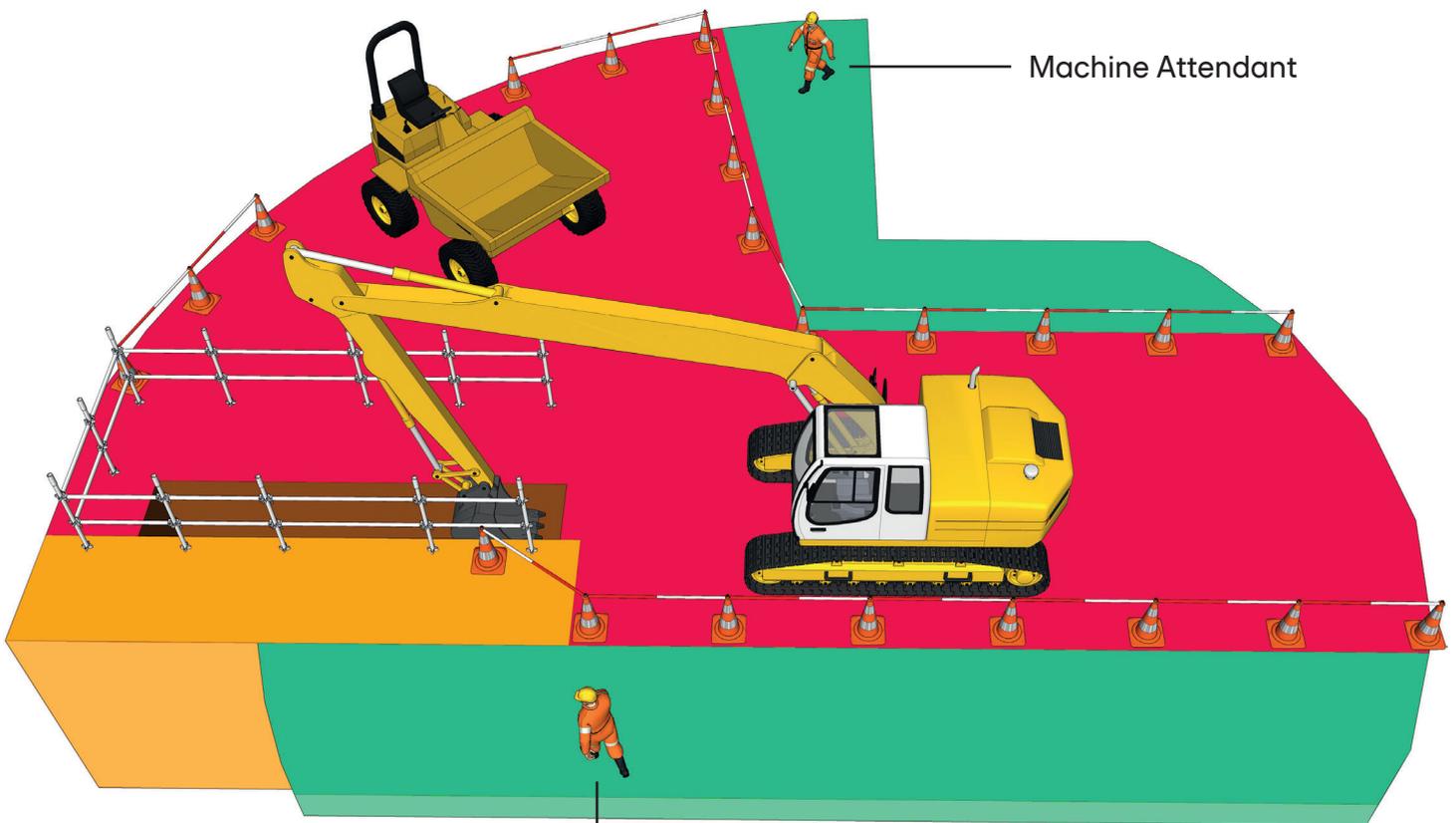


Do not enter Restricted zone

When machine operational

Piling rig restricted zone risk assessment

Restricted zones are subject to change based on site specific risk assessments.



Machine Attendant



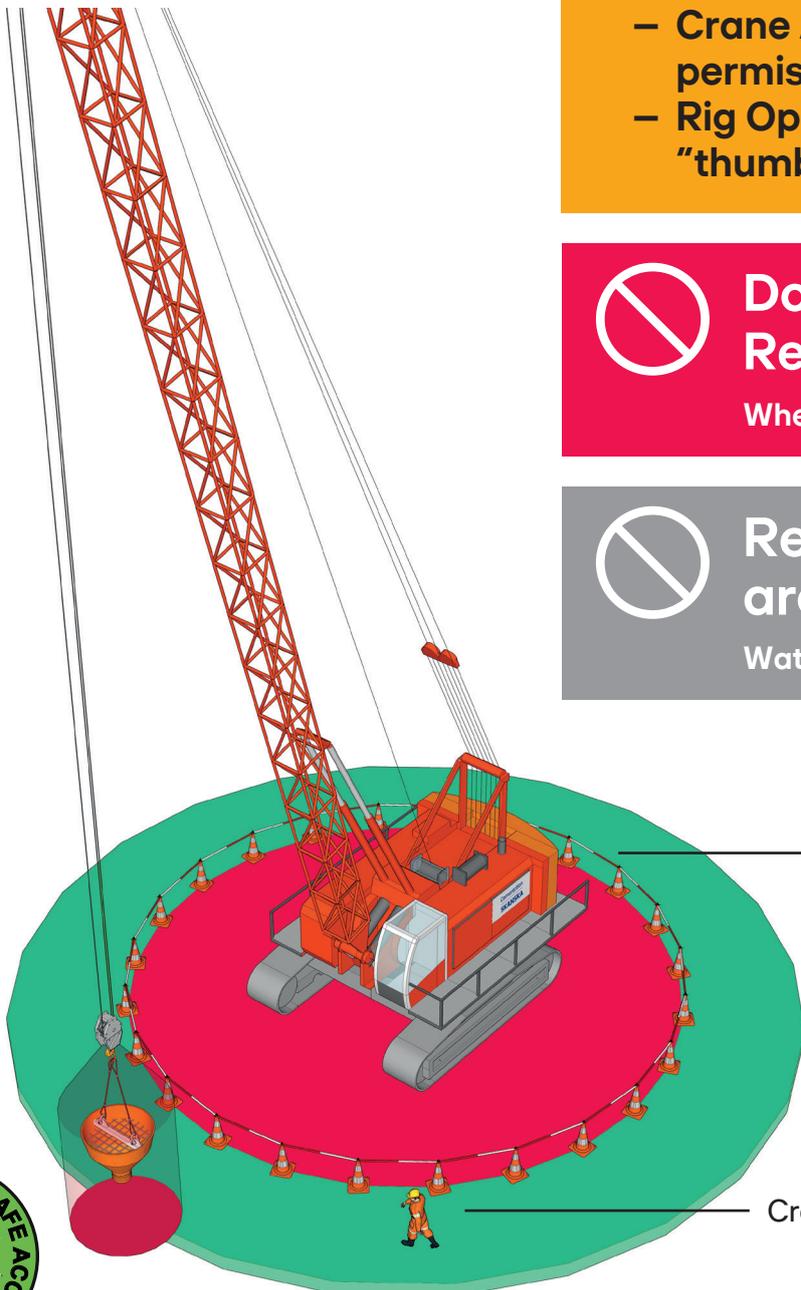
Restricted zone

Static crane



Piling rig restricted zone risk assessment

Restricted zones are subject to change based on site specific risk assessments.



Operator's line of sight

- Safest zone for approach
- Wait for:
 - Crane Attendant permission
 - Rig Operator "thumbs up"



Do not enter Restricted zone

When machine operational



Restricted zone around the load

Watch out

For clarity, exact shape of restricted zone can be adjusted to suit site and operation of the crane. The crane must be fully enclosed. The crane can move within the restricted zone but the slew zone must be protected at all times.

Crane Attendant

