



FPST 2023 Industrial and Occupation Safety

Job Hazard Analysis (JHA)
AKA: Job Safety Analysis (JSA)

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29 USC 654 Section 5(a)(1)



- General Duty Clause
- The Employer shall furnish each employee ...a place of employment which are free from **recognized hazards** that are causing or are likely to cause death or serious physical harm to his employees.

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OSHA Standard 29 CFR 1910.132 Personal Protective Equipment




- 1910.132 (d) Hazard assessment and equipment selection.
- 1910.132(d)(2) The employer shall verify that the required workplace hazard assessment has been performed through a written certification that identifies the workplace evaluated; the person certifying that the evaluation has been performed; the date(s) of the hazard assessment; and, which identifies the document as a certification of hazard assessment.



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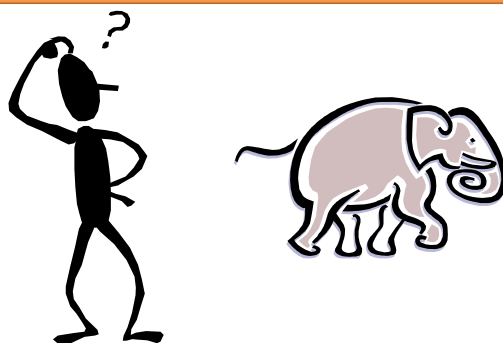
How many hazards in a typical worksite? 



4



How do you eat an Elephant? 



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JOB HAZARD ANALYSIS

- A method for studying a job to:
 - Identify hazards and potential injuries associated with each task
 - Develop solutions that will eliminate, minimize, and prevent hazards



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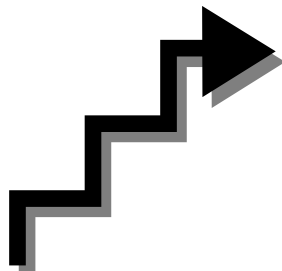


JOB HAZARD ANALYSIS



Four Key Components

1. Determine which job to analyze
2. Break the job into tasks
3. Identify the hazards
4. Identify mitigating controls



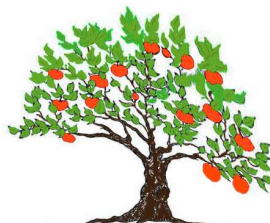
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Where do you start with JHA?



- Jobs resulting in Incidents/Injuries
- Critical jobs
- High risk potential jobs
- New jobs
- Non-routine jobs
- Complicated jobs
- Eventually – all jobs



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JSA Form



JOB TITLE (and number if applicable)		PAUSE	OF	JSA NO.	DATE	IS NEW
Planting a Tree				0002	5-1-01	REVISOR
INSTRUCTIONS ON REVERSE SIDE		TITLE OF PERSON WHO DOES JOB		SUPERVISOR		ANALYST BY
Allwood Sports Company		Landscape		Larry Lander		Chris Crash
PLANT LOCATION		DEPARTMENT		REVIEWED BY		
Winglessville		Facilities		Jim Wap		
REQUIRED AND/OR RECOMMENDED PERSONAL PROTECTIVE EQUIPMENT		Dust filter mask, leather gloves, safety glasses, protective footwear		APPROVED BY		
SEQUENCE OF BASIC JOB STEPS		POTENTIAL HAZARDS		RECOMMENDED ACTION OR PROCEDURE		
1. Select a job.	1. Above and below ground obstacles such as future growth and location of house.	2. Call local authorities plan for future growth.				
2. Collect and inspect tools.	2. Condition of tools.	2. Check all equipment for damage and then repair replace.				
3. Dig the hole.	3. Back strain, blisters, slip on.	3. Get help, dig hole with small shovel full of dirt, move smoothly & slowly, wear gloves, safety glasses & shoes, get help, select & clear route.				
4. Transport tree to location.	4. Back strain, obstacles to tree location, load too heavy.	3. Get help or knaps, use mechanical devices, wear safety glasses.				
5. Place and position tree under branch into eye.	5. Back strain, load too heavy.	3. Get help or knaps, use mechanical devices, wear safety glasses.				
6. Cut branching on root ball.	6. Foreign object on eye, possible possible cut to hand.	6. Wear safety glasses, wear gloves, kneel while cutting, kneeling.				
7. Back fill the hole.	7. Back strain, blisters.	7. Back fill with small shovel full of dirt, wear gloves.				
8. Stake the tree.	8. Strike finger/hand with rope burn.	8. Wear gloves, keep hands off stakes.				
9. Water and fertilize the tree.	9. Slippery areas, fertilizer dust.	9. Wear non skid shoes, wear dust filter mask.				
10. Clean up.	10. Damaged tool edges, slippery conditions.	10. Wear gloves & safety glasses.				

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Step 1 – Outline the Job Tasks

- Observe the employee performing the job and list each task as the worker performs it.
- Be sure to record enough information to describe each task action without getting overly detailed.
- Avoid making the breakdown of tasks to detailed
 - Muddies the water

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Step 1 – Outline the Job Tasks

JOB TITLE (and number if applicable)		PAGE	OF	JSA NO.	DATE	REVIEW
Planting a Tree		1	1	002	3-1-03	RE NEW (2 REVISED)
TITLE OF PERSON WHO DOES JOB		SUPERVISOR		ANALYSIS BY:		
Landscaper		Larry Lander		Chris Crash		
COMPANY/ORGANIZATION:		PLANT LOCATION:		DEPARTMENT:		
Albion Sports Company		Vingleyville		Facilities		
REQUIRED SAFETY EQUIPMENT:		PERSONAL PROTECTIVE EQUIPMENT:		APPROVED BY:		
		Dust filter mask, leather gloves, safety glasses, protective footwear		Joe Strong		
SEQUENCE OF BASIC JOB STEPS		POTENTIAL HAZARDS		RECOMMENDED ACTION OR PROCEDURE		
1. Select a site.	1. Above and below ground obstacles such as future growth and location of house.	1. Call local authorities plan for future growth.				
2. Collect and inspect tools.	2. Condition of tools.	2. Check all equipment for damage and then repair or replace.				
3. Dig the hole.	3. Back strains, blisters, slip on.	3. Get help, dig hole with small shovel full of dirt, wear smoothie & plastic, wear gloves, safety glasses & shoes.				
4. Transport tree to location.	4. Back strains, obstructions to tree, branches, load too heavy.	4. Get help, assist & clear route.				
5. Place and position tree under.	5. Back strains, head too heavy.	5. Get help or kneel, use mechanical devices, wear safety glasses.				
6. Cut binding on root ball.	6. Foreign object in eye, possible possible cut to hand.	6. Wear safety glasses, wear gloves, kneel while cutting binding.				
7. Back fill the hole.	7. Back strains, blisters.	7. Back fill with small shovel full of dirt, wear gloves.				
8. Stabilize tree.	8. Strike finger/hand with rope burn.	8. Strike finger/hand with rope burn.				
9. Water and fertilize the tree.	9. Clipping grass, fertilizer dust.	9. Wear non-slip shoes, wear dust filter mask.				
10. Clean up.	10. Damaged tool edges, slippery conditions.	10. Wear gloves & safety glasses.				

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Step 1 – Outline the Job Tasks

- Write down everything the employee does
- Number each task as you write it down
- Use action verbs
- Watch for a change of activity, direction, or movement
- Describe each step completely, but concisely
- Use approximately 10-15 sequential steps
- Reach consensus with the employee/team




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Identifying Job Tasks


Example - Planting a Tree




1. Select a site
2. Collect and inspect Tools
3. Dig the Hole
4. Transport Tree to location
5. Place and Position Tree into hole
6. Cut binding on root ball
7. Back-fill the hole
8. Stabilize tree
9. Water and fertilize the tree
10. Clean up work area



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Common Errors in Breaking the Task into Steps




- Identifying a Job with many tasks (electrician)
- Too many tasks
 - May need to be broken into 2 jobs
- The job is too broad (not enough detail)
- There is too much detail (too complicated)
- Telling how something is done
 - It is not a procedure
 - Should focus on worker movement, interaction with tools, equipment, environment, etc.

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Step 2 – Identify the Hazards



- A job hazard analysis is an exercise in detective work. Your goal is to discover the following:
 - What can go wrong?
 - What are the consequences?
 - How could it arise?
 - What are other contributing factors?
 - How likely is it that the hazard will occur?

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Step 2 – Identify the Hazards



JOB TITLE (and number if applicable) Planting a Tree		PAGE 1 OF 2	JSA NO. 002	DATE: 5-1-03	IS NEW <input type="checkbox"/> REVISOR
JOB SAFETY ANALYSIS INSTRUCTIONS ON REVERSE SIDE		TITLE OF PERSON WHO DOES JOB Landscape		SUPERVISOR Larry Lander	
COMPANY/ORGANIZATION Allied Sports Company		PLANT LOCATION Hingleyville		DEPARTMENT Facilities	
REQUIRED AND/OR RECOMMENDED PERSONAL PROTECTIVE EQUIPMENT: Dust filter mask, leather gloves, safety glasses, protective footwear		ANALYSIS BY: Chris Crish		REVIEWED BY: Jim Wieg	
APPROVED BY: Joe Strang					
SEQUENCE OF BASIC JOB STEPS					
POTENTIAL HAZARDS					
RECOMMENDED ACTION OR PREVENTION					
1. Select a site	2. Above and below ground obstacles such as future grass and location of house	3. Condition of tools	4. Back strain, blisters, slip on	5. Get help or loaned use mechanical devices, wear safety glasses	6. Get help, select to clear route
2. Collect and inspect tools	3. Back strain, blisters, slip on	4. Condition of tools	5. Get help or loaned use mechanical devices, wear safety glasses	6. Get help, select to clear route	7. Get help, select to clear route
3. Dig the hole	4. Back strain, blisters, slip on	5. Get help or loaned use mechanical devices, wear safety glasses	6. Get help, select to clear route	7. Get help, select to clear route	8. Get help, select to clear route
4. Transport tree to location	5. Back strain, blisters, slip on	6. Get help or loaned use mechanical devices, wear safety glasses	7. Get help, select to clear route	8. Get help, select to clear route	9. Get help, select to clear route
5. Place and position tree into hole	6. Back strain, blisters, slip on	7. Get help or loaned use mechanical devices, wear safety glasses	8. Get help, select to clear route	9. Get help, select to clear route	10. Get help, select to clear route
6. Cut binding on root ball	7. Back strain, blisters, slip on	8. Get help or loaned use mechanical devices, wear safety glasses	9. Get help, select to clear route	10. Get help, select to clear route	11. Get help, select to clear route
7. Back fill the hole	8. Back strain, blisters, slip on	9. Get help or loaned use mechanical devices, wear safety glasses	10. Get help, select to clear route	11. Get help, select to clear route	12. Get help, select to clear route
8. Stabilize tree	9. Back strain, blisters, slip on	10. Get help or loaned use mechanical devices, wear safety glasses	11. Get help, select to clear route	12. Get help, select to clear route	13. Get help, select to clear route
9. Water and fertilize the tree	10. Back strain, blisters, slip on	11. Get help or loaned use mechanical devices, wear safety glasses	12. Get help, select to clear route	13. Get help, select to clear route	14. Get help, select to clear route
10. Clean up	11. Back strain, blisters, slip on	12. Get help or loaned use mechanical devices, wear safety glasses	13. Get help, select to clear route	14. Get help, select to clear route	15. Get help, select to clear route

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Identifying Hazards Example - Planting a Tree



Task Steps	Hazards
1. Select Site	Above/below ground obstacles/utilities
2. Collect and Inspect Tools	Condition of tools
3. Dig the Hole	Back strain, blisters, slips/trip/fall
4. Transport Tree to location	Back strain, obstacles, tree too heavy
5. Place and Position Tree into hole	Back strain, obstacles, eye injury
6. Cut binding on root ball	Foreign body in eye, cuts/scrapes,
7. Back fill the hole	Back strain, blisters
8. Stabilize tree	Striking hand/fingers, rope burn
9. Water and fertilize the tree	Slip wet surface, chemical exposure
10. Clean up work area	Slip/trip, damaged tools

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Common Errors in Identifying Hazards



- Jumping to solutions before hazards are analyzed
- Using "Common Sense"
- Being Unrealistic
- Making assumptions

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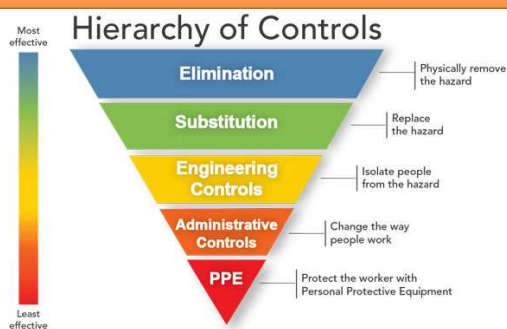


Step 3 – Control the Hazard



- A control is a measure or an action that is taken to eliminate or mitigate current hazards and to prevent future hazards
- What image do you think is on the next slide?

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Step 3 – Control the Hazard



 JOB SAFETY ANALYSIS INSTRUCTIONS ON REVERSE SIDE	JOB TITLE (and number if applicable) Planting a Tree		DATE 5-1-03		# NEW <input type="checkbox"/> # REVISED <input type="checkbox"/>
	ANALYSIS BY Chris Crank		REVIEWED BY Jim Wap		
COMPANY/ORGANIZATION Allwood Sports Company		SUPERVISOR Larry Lander		ANALYSIS BY Chris Crank	
PLANT/LOCATION Waplesville		DEPARTMENT Facilities		REVIEWED BY Jim Wap	
REQUIRED AND/OR RECOMMENDED PERSONAL PROTECTIVE EQUIPMENT Dust filter mask, leather gloves, safety glasses, protective footwear					
SEQUENCE OF BASIC JOB STEPS		POTENTIAL HAZARDS		RECOMMENDED ACTION OR PROTECTIVE EQUIPMENT	
1. Select a job.	1. Above and below ground obstacles such as future growth and location of house.	2. Check all equipment for damage and then repair or replace.	3. Call local authorities plan for future growth.		
2. Collect and inspect tools.	3. Back strains, blisters, slip on.	3. Get help, dig hole with small shovel full of dirt, wear smooth sole shoes, wear gloves, safety glasses & shoes.			
3. Dig the hole.	4. Back strains, blisters, slip on.	4. Get help or kneel, use mechanical devices, wear safety glasses.			
4. Transport tree to location.	5. Back strains, twist low back, strain eye.	5. Wear safety glasses, wear gloves, kneel while cutting branches into eye.			
5. Place and position tree under branch into eye.	6. Foreign object on eye, possible possible cut to hand.	6. Back fill with small shovel full of dirt, wear gloves.			
6. Cut branch on root ball.	7. Back strains, blisters.	7. Wear gloves, keep hands off blades.			
7. Back fill the hole.	8. Strain finger/hand with rope burn.	8. Wear sun shield, shoes, wear dust filter mask.			
8. Stake tree.	9. Strain arm, fertilizer dust.	9. Wear gloves & safety glasses.			
9. Water and fertilize the tree.	10. Damaged tool edges, slippery conditions.				
10. Clean up.					

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Identifying Hazards Example - Planting a Tree		
Task Steps	Potential Hazards	Recommended Controls
1. Select Site	Above/below ground obstacles/utilities	Call One-Ok, check plans, consider future growth
2. Collect and Inspect Tools	Condition of tools	Inspect all equipment, do not use if defective.
3. Dig the Hole	Back strain, blisters, slips/trip/fall	Get help, dig with small shovel of dirt, move smoothly, wear gloves, and slip resistant shoes
4. Transport Tree to location	Back strain, obstacles, tree too heavy	Use mechanical device,
5. Place and Position Tree into hole	Back strain, obstacles, eye injury	Get help, use mechanical device, wear safety glasses
6. Cut binding on root ball	Foreign body in eye, cuts/scrapes,	Wear safety glasses and gloves, cut away from body. Watch for recoil of binding
7. Back fill the hole	Back strain, blisters	See number 2
8. Stabilize tree	Striking hand/fingers, rope burn	Wear gloves, keep hands off stakes
9. Water and fertilize the tree	Slip wet surface, chemical exposure	Slip resistant shoes, check MSDS and follow mfg precautions
10. Clean up work area	Slip/trip, damaged tools	Discard/repair damaged tools, avoid water mud accumulations.

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Common Errors in Specifying Controls	
<ul style="list-style-type: none">• Overlooking how a control might affect other tasks• Inappropriately recommending PPE when a more effective control is more desirable<ul style="list-style-type: none">• PPE is last resort• Focusing only on easy controls• Neglecting interim controls	

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MOST COMMON Error in Specifying Controls	
<ul style="list-style-type: none">• Giving general recommendations<ul style="list-style-type: none">• Safe• Proper• Adequate• Appropriate• Sufficient• Correct• Suitable• Applicable• Acceptable• "Be Careful"	

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Periodic Review



- Reviewing job hazard analysis ensures that it remains current and continues to prevent accidents and injuries.
 - It is possible that during the review process you will identify hazards that were not identified in the initial analysis.
 - Review the JHA after accidents, you may determine that you need to change the job procedure to prevent similar incidents.
 - Review after all close calls and discuss the situation with all employees that do the job.
