



Prepare turf surfaces for play

AHCTRF202

By the end of this topic, you should be able to:

- Prepare the site to be mown
- Prepare equipment for mowing
- Mow playing surface
- Undertake final preparation of playing surface

- Turf is used for a range of high-performance purposes, including:
 - High performance (e.g. ovals, sports fields)
 - Parks and gardens
 - Domestic use (e.g. home gardens)

- When a turf type is chosen, the following factors will have been considered:
 - Main use
 - Considering wear tolerance
 - Climate (i.e. cool season or warm season)
 - Considering drought tolerance
 - Soil profile
 - Aspect
 - Irrigation and drainage
 - Considering available water and quality
 - Considering salt tolerance

Worksheet 1: Research and document a variety of warm season and cool season grasses and identify the circumstances they are best suited to

- Conduct soil tests to determine whether soil amendments are required and arrange these accordingly
 - You should test for:
 - Physical characteristics, such as: Soil structure, texture, compaction, root health
 - Chemical characteristics, such as: pH levels, salinity, nutrition
- Soil testing for sports turf is critical and soil samples should be sent away for analysis

Preparing site to be mown

- To prepare turf surfaces for play, you are required to prepare the site to be mown. This includes familiarising yourself with the task requirements:
 - **Refer to documentation**
 - For example: Site plans will identify site services, features, fixed objects
 - **Speak to your supervisor**
 - Apply active listening when receiving instructions
 - Clarify any unclear instructions with your supervisor
 - **Speak to senior groundskeepers**
 - They can provide advice regarding turf species and cultivars
 - **Apply calculations**
 - Area (m^2): $L \times W$
 - Volume (m^3): $L \times W \times D$
 - Ratios and application rates

Preparing site to be mown

- To prepare turf surfaces for play, you are required to prepare the site to be mown. This includes familiarising yourself with the work area:
 - Identify any WHS hazards and assess risks
 - Underground services (e.g. telephone lines, gas, electricity, water, cable, sewerage, irrigation, drainage)
 - Refer to site plans or contact Dial Before You Dig
 - Permanent obstacles (e.g. walls, paths, buildings)
 - Movable obstacles (e.g. debris, sporting equipment, portable barricades, hoses)
 - Manual handling injuries
 - Identify environmental hazards (e.g. dust, noise, damage to flora/fauna, waste)

Report hazards, abnormal conditions and changes in site appearance to your supervisor
(e.g. heavy moisture, discoloured turf)

Workplace risk assessment

- Risk is measured in terms of the seriousness of the possible **consequences** of the hazard and the **likelihood** that those consequences will occur, as in the matrix shown below:

Likelihood

- 1: Very Likely
- 2: Likely
- 3: Possible
- 4: Unlikely
- 5: Very Unlikely

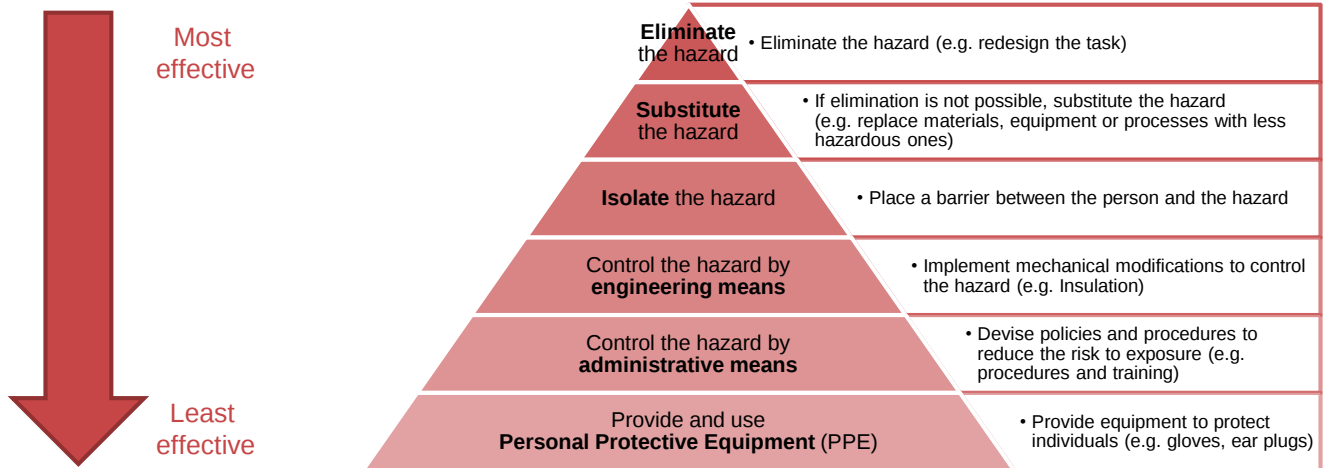
Consequences

- A: Death or Permanent Disability
- B: Serious Injury
- C: Lost Time Injury
- D: Casualty Treatment
- E: First Aid

Matrix	A	B	C	D	E
1	E	E	H	H	M
2	E	H	H	M	M
3	H	H	M	M	L
4	H	M	M	L	L
5	M	M	L	L	L

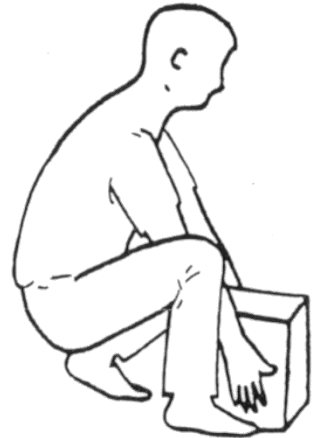
Workplace risk control

- The hierarchy of control gives priority to the order in which hazard and risk controls should be implemented.



Manual handling tasks

- When preparing turf surfaces for play, you will be undertaking manual handling tasks
 - Be sure to follow appropriate procedures to avoid injury
- Ensure the following:
 - Neck is upright
 - Back has natural curve
 - Feet are flat and facing the load
 - Shoulders are level
 - Knees are bent
 - Hands have a good grip around the load



Preparing equipment for mowing

- To prepare turf surfaces for play, you are required to prepare PPE, tools, equipment and machinery:
 - **PPE may include:** Long sleeved shirt and pants, dust mask, ear protection, sunglasses, sunscreen, wide brimmed hat, work boots
 - **Safety equipment may include:** Signage and barricades (e.g. witches' hats)
 - **Tools, equipment and machinery may include:** Hand-operated mowers, ride-on mowers, mower implements (e.g. brush, spreader, sweeper), marking out tools (e.g. tape measure, marking pegs or flags, spray paint, cord and raddle/chalk, line marker, measuring wheel)

Ensure they are appropriately selected, prepared, calibrated and used for the task, following manufacturer's specifications

- Any faulty items should be reported to your supervisor
 - Follow the 'Stop, Tag, Report, Record' (STRR) approach:
 - Stop using the equipment
 - Tag the faulty equipment
 - Report the faulty equipment to your supervisor
 - Record the details of the fault
 - Report issues within a timely fashion to avoid issues/injuries

Mowing the playing surface

- When mowing the playing surface, you should undertake the following:
 - Mow turf to a pattern, as per enterprise guidelines
 - Mow in a regular pattern, making wide turns so not to cause damage
 - Maintain continuous oversight of mowing activities
 - Assess grass appearance against enterprise guidelines
 - Report changes in appearance

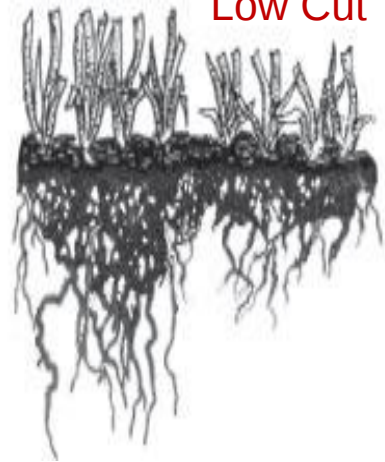
- Tips for mowing:
 - Trim first
 - The mower will chop the trimmings and reduce the need for raking
 - Mow at the correct height
 - Each grass type has its ideal height range
 - Mow when the grass blades are about one-third taller than the recommended height
 - Only removing one-third of the grass height prevents damage and stress to the turf, reducing the need for fertiliser and pesticides
 - Increased mowing frequency will increase turf density, wear tolerance and decrease weed encroachment

Mowing the playing surface

- The picture below depicts the effect of mowing height on root growth
- A lower cut produces shorter roots, less stress tolerance and allows more weed invasion

High Cut

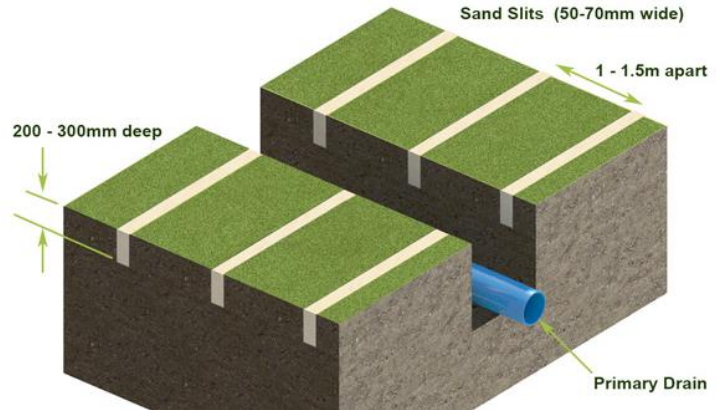
Low Cut



- Tips for mowing:
 - Mow grass when dry
 - Wet grass cuts unevenly and promotes the growth and spread of diseases
 - Alternate mowing directions each time you mow
 - This will help keep grass growing upright and prevents soil compaction
 - Mow at a 45 or 90 degree angle to your last pattern
 - Keep blades sharp
 - Prevent damage to the grass blades
 - Ragged cuts invite disease and make turf look brown

- As part of maintaining turfed surfaces, irrigation systems should be managed:
 - Water deeply, but infrequently, to encourage a deep root system
 - Overwatering reduces root growth, promotes compaction and decreases overall wear tolerance
 - How frequently you irrigate depends on:
 - Soil type
 - Weather conditions
 - Species of grass
 - Mowing height
 - Use of turf

- Sports turf should incorporate slit drainage and sand dressing
 - Sand slits enable surface water to drain into the primary drainage system faster
 - Sand slits are narrow trenches at 1-2m spacings crossing the primary drainage system. The sand slits are backfilled with ~50mm of granular backfill and topped up with a free-draining sand.



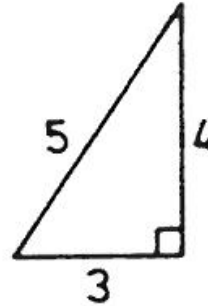
Final preparations of playing surfaces

- As part of the final preparations of playing surfaces, you are required to:
 - Measure lengths and angles to locate markers and match play equipment
 - Complete marking out according to the intended playing surface use
 - Place markers and play equipment where necessary

Final preparations of playing surfaces

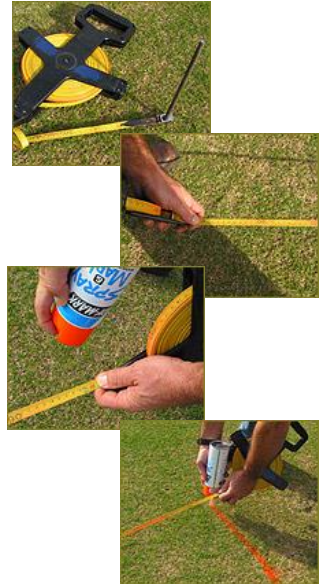
- To mark out a right angled triangle, use one of the following methods:
 - Use a steel square
 - Follow the 3:4:5 rule
 - The triangle's hypotenuse squared will equal the sum of the squares of the other two sides of the triangle

$$3^2 + 4^2 = 5^2$$



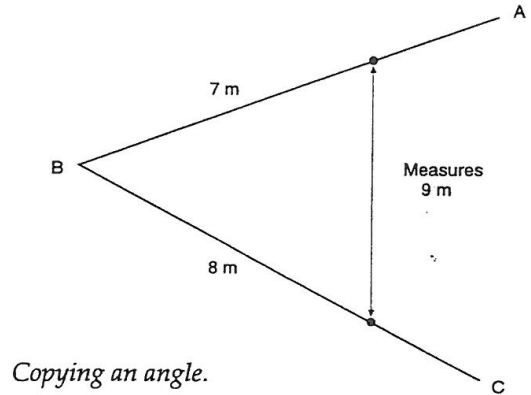
Final preparations of playing surfaces

- To mark out circles or semi-circles, use the following method:
 - Fix a peg or stake through the D-ring of a tape measure in the centre of the area you would like to draw a circle or semi-circle
 - Use the tape measure to measure out the radius of the circle or semi-circle you would like to mark out
 - Hold the nozzle of the spray can at the point of measurement
 - Pull the tape taut, then depress the nozzle and carefully walk around the peg to mark the arc
 - Walk halfway around the peg to mark out a semi-circle
 - Walk fully around the peg to mark out a full circle



Final preparations of playing surfaces

- Where it is necessary to copy an angle, but there is no need to measure the degrees, construct a triangle using the two sides of the angle and measure the distance between the points on each side
 - Measure a convenient distance along BA and BC from B and mark these distances with a peg
 - Measure the distance between the pegs to establish the third side of the triangle
 - The angle ABC can be copied using units of 7, 8 and 9 for the lengths of each side of the triangle



- As part of completing turf establishment, you are required to complete the following practices:
 - Clean up the work area
 - Record and/or report your work outcomes
 - Use appropriate paperwork for reporting to your supervisor
 - Clearly record your feedback, being mindful of people's varying backgrounds and abilities
 - Remove safety equipment to notify the public that work is completed
 - Shut down, maintain, clean and store plant, tools and equipment
 - Keep mowers in good repair – leaking oil, fuel and grease can damage or kill turf
 - Follow manufacturer's specifications
 - Report faults to your supervisor
 - Dispose of materials that cannot be reused or recycled
 - Be environmentally aware and act safely