



Conduct site inspections

AHCWRK311

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

- Collect information
- Prepare for a site visit
- Conduct site inspection
- Document information

Collecting information

- Before commencing a site inspection, be sure to determine the site location and relevant details
 - Speak to the client-stakeholder to determine the details for the inspection
 - Source and review site maps and plans
 - Consult with Dial Before You Dig to establish the location of underground services
 - Services may include: Telephone lines, gas, electrical, water, network cable provider

- To make the most of a site inspection, identify applicable laws so you know what to look out for, such as:
 - **Legislation**
 - *Environmental Protection Act 1994* (Qld) which identifies contaminants, harm and nuisances that should be addressed if discovered during a site inspection
 - *Work Health and Safety Act 2011* (Qld) which identifies how safety is to be maintained in the workplace
 - **Codes of Practice**
 - *How to manage work health and safety risks Code of Practice 2011*, which explains the requirements of the legislation (e.g. how to identify hazards/risks)

Collecting information

- To make the most of a site inspection, identify applicable regulations so you know what to look out for, such as:
 - Local tree protection and preservation regulations
 - The Brisbane City Council has regulations for the following types of vegetation:

Type	Description
Council vegetation	Vegetation on land/premises owned/controlled/occupied by Council (e.g. footpaths, parks)
Waterway and wetlands vegetation	Natural or man-made waterways (including fresh and salt water)
Significant native vegetation	Naturally occurring local plant species which are indigenous to Brisbane – from small ground covers and grasses to large trees
Significant urban vegetation	Trees considered rare and of environmental, cultural or historical significance

Collecting information

- To make the most of a site inspection, be aware of regulations relating to the proximity of trees to buildings, services and roads
 - The [Queensland Building and Construction Commission](#) provides recommendations on the distances of trees from houses
 - The Brisbane City Council has certain rules in place for residential street tree planting programs:

Suitable for planting under powerlines	Must have >1.5m clearance from kerb or footpath strips
• Cuban pink trumpet tree (tabebuia pallida) • Golden penda (Xanthostemon chrysanthus) • Ivory curl flower (Buckinghamia celsissima) • Pink bottlebrush (Callistemon 'Eureka') • Poinciana (Delonix regia) • Silver trumpet tree (Tabebuia argentea) • Tulipwood (Harpullia pendula)	• Broad leaved paperbark (Melaleuca quinquinervia) • Jacaranda (Jacaranda mimosifolia) • Poinciana (Delonix regia)

- It is important to take note of and record any covenants in place over the site
- A covenant is a legal restriction on the use of the land. It may cover a wide range of issues, such as:
 - Business that may be conducted on the land
 - Height and size of buildings
 - Materials that may be used in construction
 - Paint colour
 - Decorations that may be used

Collecting information

- Remote sensing systems can provide access to information without needing to physically access the site
 - Methods the information may be collected include aerial photography, weather stations and satellites
- Relevant information that may be collected using remote sensing systems includes:
 - Surveying data (e.g. contours)
 - Climate and weather data

Observe this data over time to identify relevant trends.
This information will assist with decision-making based on site inspection findings (e.g. knowing what plants could be established)

Collecting information

- You may be required to seek formal approval to visit the site
- For example:
 - Where the client-stakeholder requesting the site inspection is not the present owner of the site
 - Where the site is not accessible by the public (e.g. private or government land)
 - Where you are required to access another property in order to gain access the intended site for the inspection

Be sure to seek formal approval (i.e. in writing) to access a site

- To prepare for a site visit, complete the following tasks:
 - Evaluate the scope of proposed work and environmental conditions
 - Identify and prepare all requirements for the inspection
 - PPE may include: Gloves, wide brimmed hat, work boots
 - Traffic management requirements may include: Barricades and signage
 - Tools and equipment may include: Soil auger, Soil core sampler, Shovel, Trowel, Tape measure, Basic surveying equipment (e.g. Automatic/Dumpy level)
 - Prepare paperwork for recording inspection details (including field notes to checklist specific concerns)

- As part of completing a site inspection, orient yourself with the site:
 - Check actual features against plans
 - Verify site boundaries
 - Identify and record existing on-site services and adjacent site features, such as:
 - Irrigation systems and valve boxes
 - Landscape features
 - Identify, estimate and record site dimensions and gradients
 - $\text{Gradient} = \text{Rise} \div \text{Run}$
 - Identify site hazards for a site inspection (e.g. weed infestations), assess risks and implement appropriate control measures

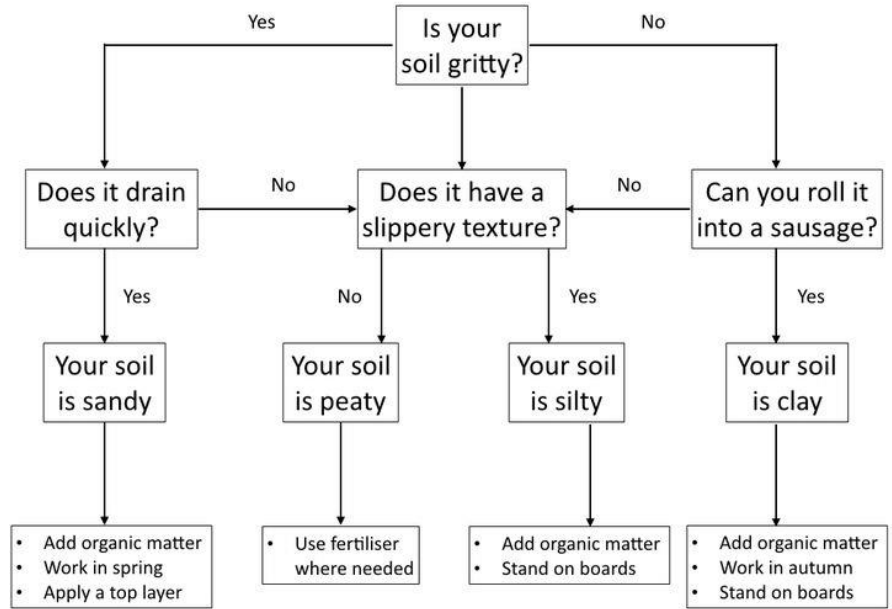
Conducting a site inspection

- There are a range of soil types that you may encounter:

Soil	Definition
Clay soils	Heavy and difficult to work, but hold moisture and nutrients well. Prone to water logging. Holds together well and feels sticky. Neutral or slightly alkaline.
Loam-based compost	A less free-draining type of soil, which is more prone to water-logging. Neutral or slightly alkaline.
Peat-based compost	Soil which tends to be well-aerated and less prone to water-logging. Generally acidic.
Sandy soils	Drains easily, but dries quickly and nutrients are easily washed through the soil. Breaks up easily and has a gritty feel. Generally acidic.
Shale	Soft finely stratified sedimentary rock that formed from consolidated mud or clay and can be split easily into fragile plates.
Silty soils	Relatively light and rise to the soil surface. When dry, they can form a crust on the topsoil which may stop seedling emergence. Has a soapy or silky feel.

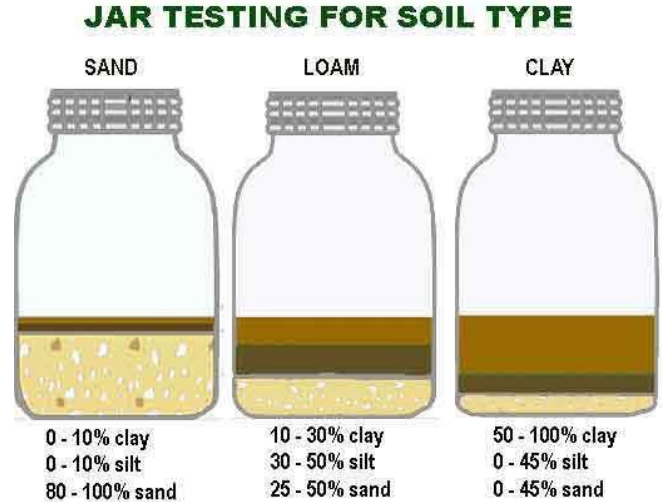
Conducting a site inspection

- To identify soil types, you may refer to a reference chart for guidance
- An example reference chart that looks at soil texture is shown to the right



Conducting a site inspection

- To identify soil types, you may conduct a soil structure test using a jar method
- This will enable you to identify the percentage of the four components:
 - Sand
 - Silt
 - Clay
 - Organic matter



Soil pH

- For further information about soil (e.g. to identify potential problems), you should conduct further soil sample tests in the field
- For example, soil pH is a measure of the acidity or alkalinity in soils
 - You can test soil pH yourself using an over-the-counter kit or meter



- Soil pH affects plant nutrition
 - Having the correct soil pH is important for healthy plant growth
 - Soil pH affects the amount of a particular nutrient that can be taken up by plant roots

Conducting a site inspection

- When taking samples, you should complete the following:
 - Ensure that tools to be used are clean
 - Even a small amount of fertiliser residue on tools can contaminate a soil sample
 - Clear away any weeds and loose organic material to uncover the soil surface
 - Take multiple soil samples at each selected site
 - Ensure that samples are only collected in paper bags if they are lined with plastic
 - Take random samples from the designated area, according to recognised sampling techniques
 - Sample problem areas separately

Conducting a site inspection

- As part of completing a site inspection, identify plants on site
- You should collect the following information about a plant to be able to identify/name it (taking photographs, as necessary):

Site description	Plant description
• Location • Soil type • Drainage • Climate	• Height • Colours • Textures • Stem type • Seed type • Fruit • Growth form

- Using the information collected, you may refer to the following sources to assist with the plant identification process:
 - Plant reference books
 - Guides
 - Internet
 - Picture books
 - Plant key
 - Supervisors / Work colleagues
 - Herbarium experts at the local botanical garden

Conducting a site inspection

- As part of completing a site inspection, inspect plants to determine their health and condition
- Plants can be affected by a number of pests. For example:



Borers



Cowpea aphids



Citrus gall wasp



Leaf miners



Mealybugs

Some pests are of such concern that you are legally required to report sightings to the Government

Conducting a site inspection

- Diseases in plants can be caused by micro-organisms, such as:

Bacteria	Fungi	Viruses	Nematodes
Causing: • Blights: Chlorosis, browning and death of plant tissues (e.g. leaves, branches, twigs or flowers) • Canker: Appearance of dead tissue • Galls: Swollen masses of abnormal tissue • Wilting: Loss of rigidity of non-woody parts of plants	Causing: • Canker: Appearance of dead tissue • Galls: Swollen masses of abnormal tissue • Ink spot: Causes blackening of leaves and flower stems • Mould/Mildew: White powdery spots • Rot: Decay roots, stems, wood flowers, and fruit • Rust: Brown pustules on the underside of leaves with yellow speckling on the upper leaf • Wilting: Loss of rigidity of non-woody parts of plants	Causing: • Canker: Appearance of dead tissue • Distortion • Scaling • Yellowing	May transmit and acquire viruses by feeding on infected roots

- The major and trace plant nutrients

Major	Trace
Nitrogen (N)	Copper (Cu)
Phosphorus (P)	Zinc (Zn)
Potassium (K)	Boron (B)
Sulfur (S)	Manganese (Mn)
Calcium (Ca)	Iron (Fe)
Magnesium (Mg)	Chlorine (Cl)
	Molybdenum (Mo)
	Sodium (Na)
	Cobalt (Co)
	Vanadium (V)
	Silicon (Si)

- Many plant nutrient issues can be visually identified. For example:

Nutrient	Deficiency
Nitrogen	- General chlorosis of older leaves (i.e. entire leaf changing from green to yellow) - Plant is stunted and wilts in normal weather
Magnesium	- Interveinal chlorosis, veins remain green - Dropping of old leaves - Smaller, woodier fruits of poor colour



- Many plant nutrient issues can be visually identified. For example:

Nutrient	Deficiency
Potassium (Potash)	- Deformed, stunted leaves - Weak stems - Fruits drop prematurely - Poorly developed roots - Older leaves become a lighter green colour with scorched edges - Young leaves show interveinal chlorosis (i.e. yellowing between veins)
Iron	Leaves may turn pale yellow or white



Conducting a site inspection

- As part of completing a site inspection, investigate observable signs of fauna
- It is important to recognise:
 - Animals which may be classified as endangered
 - Animals which are considered to be pests
 - Potentially dangerous or poisonous animals which may restrict your site inspection
- Take photographs to include in your inspection/site inventory report

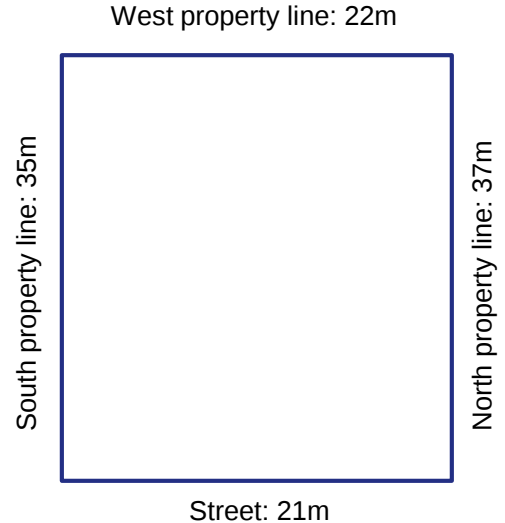
- During inspections you will likely be working with and around other people, including colleagues and members of the public
 - When receiving instructions:
 - Apply active listening
 - Question and ask for clarification, as necessary
 - Be sure to act in a positive and professional manner
 - Be mindful of people's varying backgrounds and abilities

Documenting findings

- As part of documenting your findings from the site inspection, you will be required to:
 - Prepare a base plan of the site
 - Document site inspection information in an inspection or site inventory report (or on the base plan if required)
- Completed documents should be forwarded to the client, supervisor and/or manager

Documenting findings

- The first step to drawing a base plan is the measure each property line and record the measurements
- If a plan of the lot is available, use the dimensions shown on it



- When drawing a base plan, include all major features, such as:
 - Site orientation (North point)
 - Property lines/boundaries/angles
 - Gradient/slope of the land
 - Existing pathways/driveways
 - Utilities
 - Trees
 - Shrubs
 - Anything else prominent on the site or adjacent sites (e.g. septic tank)

SUGGESTED SYMBOLS

