# Unit 112: Construction operations and civil engineering operations

# Worksheet 13: Drainage – safe working practices (tutor)

**Task 1**

Read the information carefully and complete the gaps with the words from the bottom of the page.

Underground services are everywhere, under roads, footpaths and many open areas.

Treat ALL cables as LIVE even if damaged.

Ensure you have the PLANS for underground services where you are excavating and more importantly make sure that youUNDERSTANDthem. Check the area you are working in for signs of electrical equipment. (Phone boxes, streetlights, etc)

Use a LOCATING device to check the location of cables & pipework. Mark the position of underground services using paint or waterproof chalk. Hand digTRIAL holes to confirm the position and DEPTH of cables.

Use a locating device even while you dig, you may have missed a cable. Do not use ANY handheld POWER tools to dig within 500 mm of a marked electricity cable and avoid use below surface level. Do not hold on to or stand on exposed services to stabilise yourself or pull yourself out of a hole. Do not handle exposed services. Do not use bricks, flint, concrete or similar materials to backfill a hole; use fine materials, e.g. sand. Report any damage, even if it seems to have had no effect on the cable.

**UNDERSTAND, TRIAL, POWER**

**DEPTH, LOCATING, PLANS, LIVE**

**Task 2**

Detailed below are the NJUG Guidelines for positions of underground apparatus.

Match the correct colour and recommended depths for each of the services.

|  |  |  |  |
| --- | --- | --- | --- |
| Services | | Colour | Depths (mm) |
| 1 | Electricity | Black | 450 |
| 2 | Electricity (High Voltage) | Red | 450–600 |
| 3 | Street Lighting (England & Wales) | Orange | 450 |
| 4 | Water | Blue | 750–900 |
| 5 | Gas | Yellow | 600 |
| 6 | Telecommunications | Grey | 250–350 |
| 7 | Cable Television | Green | 250–350 |

**Depths and colour choices**

|  |  |  |
| --- | --- | --- |
| Colours | | Depths (mm) |
| A | Green | 250–350 |
| B | Orange | 600 |
| C | Yellow | 250–350 |
| D | Grey | 750–900 |
| E | Black | 450 |
| F | Blue | 450–600 |
| G | Red | 450 |