AS 5488.2:2019

Australian STANDARD

# Classification of subsurface utility information

## Part 2: Subsurface utility engineering

STANDARDS Australia

AS 5488.2:2019

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Australian Industry Group
Australian Institute of Mine Surveyors
AUSTROADS
Dial Before You Dig
Energy Networks Australia
Engineers Australia
Geospatial Information & Technology Association
National Utility Locating Contractors Association
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SafeWork NSW
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# Preface

This Standard was prepared by the Standards Australia Committee IT-036, *Subsurface Utility Engineering Information*.

The objective of this Standard is to provide a framework for the consistent engineering management of subsurface utilities. It has been written as an informative Standard, designed to aid in the proper understanding and use of information surrounding such utilities. Engineers may have received or compiled by various means, a mixture of evidence of the existence, type, condition and location of utilities. Such evidence may vary widely as to its credibility, primarily by virtue of disclaimers from the providers of the information. Application of this Standard and the establishment of a credible approach to the management of subsurface utilities will improve the critical items of time, cost, quality and safety, and reduce risk across projects involving subsurface utilities.

This Part 2 of AS 5488 should be read in conjunction with Part 1. Part 1 focuses on the classification of Subsurface Utility Information (SUI), while Part 2 focuses on Subsurface Utility Engineering (SUE).

The terms “normative” and “informative” are used in Standards to define the application of the appendices to which they apply. A “normative” appendix is an integral part of a Standard, whereas an “informative” appendix is only for information and guidance.

# Contents

# Foreword

Due to the age, complexity of the environments in which they operate, and changes in technology and requirements, the information available to (and from) utility owners and operators is often limited. Additional sources of data, including physical checks, can augment the information available from the utility owner, enabling better decision making when working with subsurface utilities.

Any available Dial Before You Dig (DBYD) data should be requested as a first step of interacting with utility authorities.

For reliable information during design and construction, the engineer, owner, and constructor should be certain —

(a) that utilities, whether active, abandoned, or unknown, are identified;

(b) that the utilities are recorded correctly;

(c) that the numbers of actual utility pipes or cables under the ground are known or represented by correctly understood multiple numbers;

(d) that the width of utilities is correct; and

(e) that the depths of utilities are known and utility access needs are understood.

Traditionally, projects where subsurface utilities require amendment encounter issues that are routinely handled through variation orders, insurance payouts, contingency pricing and, especially in the construction sector, after a design has been completed. When problems create significant costs and safety risks, blame is pointed everywhere, including at the design or utility engineer who has documented their designs, regardless of disclaimers. All stakeholders will benefit from improved management of subsurface utilities.

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## Part 2: Subsurface utility engineering

## 1 Scope and general

### 1.1 Scope

This Standard provides a framework for the management of information and decision-making tools for projects that may impact subsurface utilities. It has been written primarily from an engineering perspective, and applies to all existing (including redundant) and under-construction subsurface utility infrastructure and associated surface features. This Standard does not apply to utility infrastructure that is above the surface, such as overhead power and telecommunication lines.

As such, any reference within this standard to above ground utilities is in the context of spatial constraints of plant and machinery to the overhead utility while working on subsurface utilities.

NOTE Although this Standard does not apply to above-surface utilities, the same principles of conflict identification might well be applied to these aerial assets, as their replacement can involve sub-surface activities and solutions.

### 1.2 Application

This Standard is intended for use by all entities or individuals involved in the management of subsurface utilities. This Standard, as a reference or as part of a specification, will assist design or utility engineers, project and utility owners and authorities, and constructors in understanding the management of utility data.

### 1.3 Normative references

There are no normative references in this document.

### 1.4 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

**1.4.1**
**absolute spatial position**
location of a point on the utility shown by reference to a three dimensional coordinate system from which can be derived horizontal Map Grid of Australia (MGA) coordinates in Easting and Northing, and related to the relevant MGA zone and Geocentric datum, and a vertical position referenced to a datum based on mean sea level (such as the Australian Height Datum)

Note 1 to entry: See also “reduced level”.

**1.4.2**
**as-built record**
representation of the utility infrastructure as it exists in the field, showing a relationship to a defined absolute or relative reference system. As-built records can include both hardcopy plans and computer-generated geographic information systems

Note 1 to entry: Also referred to as “work-as-executed” or “as-constructed”.

Note 2 to entry: See also “record”.