

## CHAPTER 3.8 ACID SULFATE SOILS

### 3.8.1 INTRODUCTION

This Chapter applies to all land within the Central Coast Council Local Government Area identified as Classes 1, 2, 3, 4, & 5 on the Acid Sulfate Soils Maps held by Council and referred to in Clause 7.1 of the Central Coast Local Environment Plan (LEP) 2018.

#### 3.8.1.1 Relationship to other Chapters and Policies

This Chapter must be read in conjunction with the relevant development provisions, environmental controls and location specific development controls of the Development Control Plan.

#### 3.8.1.2 Acid Sulfate Soils

The purpose of this Chapter is to provide detailed guidelines for the submission of Acid Sulfate Soils Reports to support Development Applications.

#### OBJECTIVES

- To ensure effective management of areas containing acid sulfate soils
- To provide guidance to landowners, consultants and the general community on the procedures involved in the management of areas containing acid sulfate soils
- To identify when activities are located within an area of acid sulfate risk
- To require a preliminary Acid Sulfate Soil Assessment be undertaken to assess risks
- To require an Acid Sulfate Soil Management Plan when the development poses potential acid sulfate soil risk
- To provide detailed guidelines associated with acid sulfate soils to those provided in Clause 7.1 of the Central Coast LEP 2018.

Acid sulfate soils are the common name given to naturally occurring soil and sediment containing iron sulphides. When natural occurring sulphides are disturbed and exposed to air, oxidation occurs and sulfuric acid is ultimately produced. This sulfuric acid can drain into waterways and cause severe short and long term environmental and socio-economic impacts.

#### REQUIREMENTS

##### 3.8.1.2.1 Acid Sulfate Soil Assessment

- a Check Clause 7.1 of the Central Coast LEP 2018.
- b Identify if the site is affected by the acid sulfate soils using the Acid Sulfate Soils Maps indexed within the Central Coast LEP 2018. These maps establish classes of land based on the probability of acid sulfate soils being present (i.e. high probability, low probability, no known occurrences and disturbed terrain).
- c Determine if the proposal will excavate to soil depths shown in Clause 7.1 of the LEP for the relevant Acid Sulfate Soil Class and the Table below. This table does not provide an indication of actual acid sulphate soils depths.

Class of land (as shown on Acid Sulfate Soils Planning Maps )	Works requiring an Acid Sulfate Soils Management Plan	Examples
Class 1	Any works.	
Class 2	Works below the natural ground surface.	Footings/foundations
Class 3	Works beyond 1m below the natural ground surface. Works by which the water table is likely to be lowered beyond 1m below the natural ground surface.	Swimming pools Basement structures Basement carparks
Class 4	Works beyond 2m below the natural ground surface. Works by which the water table is likely to be lowered beyond 2m below the natural ground surface.	Swimming pools Basement structures Basement carparks
Class 5	Works within 500m of adjacent Class 1, 2, 3 or 4 land which are likely to lower the water table below 1m on adjacent Class 1, 2, 3 or 4.	Basement structures Basement carparks Mining activities

**Table 1**

- d If the works are in an area identified in the Acid Sulfate Soils Maps and the works are likely to disturb/expose these soils or water table as per the above Table, submit with the development application either a Preliminary Soil Assessment or an Acid Sulfate Soil Management Plan.

In the absence of soil testing, the Acid Sulfate Soils Maps may be used to assume that the soils to be excavated contain acid sulfate soils exceeding the action criteria in the Table 4.4 of the *Acid Sulfate Soils Guidelines*. An Acid Sulfate Soil Management Plan must be prepared.

- i The Preliminary Soil Assessment shall:
- Be prepared in accordance with Acid Sulfate Soils Manual and Assessment Guidelines
  - Be prepared by a suitably qualified professional specialised in environmental soil science and experienced in acid sulfate soils management
  - Include investigation tests to assess the likelihood of potential acid sulfate soils
    - (4 samples for sites <1 hectare, 2 samples/hectare for sites <4 hectares or for linear investigations 1 sample every 75m)
    - Sample depths are to exceed 1m beyond the depth of the proposed excavation/disturbance or 2m below existing ground level (whichever is greater).
    - Standard methods for laboratory analysis per AS4969-2008/2009 Analysis of Acid Sulfate Soils
  - Identify if acid sulfate soils will not be disturbed. If so, an Acid Sulfate Soils Management plan is not required
  - Identify if soil disturbance will involve acid sulfate soils with a pH<5 in concentrations exceeding the action criteria in the Table 4.4 of the Acid Sulfate Soils Guidelines. If so, an Acid Sulfate Soil Management Plan must be prepared.
- ii The Acid Sulfate Soils Management Plan shall:

- Be prepared for all works that will or are likely to disturb/expose acid sulfate soils or potential acid sulfate soils exceeding the action criteria in Table 4.4 of the *Acid Sulfate Soils Guidelines*
- Be prepared in accordance with *Acid Sulfate Soils Manual and Assessment Guidelines*.
- Be prepared by a suitably qualified professional specialised in environmental soil science and hydrology and experience in acid sulfate soils management
- Provide framework for the storage, treatment, handling reuse and disposal of acid sulfate soils, on-going management and monitoring of the acid sulfate soil impacts throughout the construction and operation phase of the development
- Be implemented during works. This will be required as a condition of consent.

### 3.8.1.6 Definition / Glossary

The terms used in this Chapter have the same meaning as those terms are defined within the Central Coast Local Environment Plan. The following additional terms are:

- **Acid Sulfate Soils** means naturally occurring sediments and soils containing iron sulphides (principally pyrite) or their precursors or oxidation products, whose exposure to oxygen leads to the generation of sulfuric acid (for example, by drainage or excavation). They occur in low lying coastal areas generally below 5m AHD and can include waterlogged soils and estuarine / marine sediments. They can scald soils which are then difficult to revegetate.
- **Acid Sulfate Soils Guidelines** are components of the *Acid Sulfate Soils Manual* which forms part of the Government's approach to the management of acid sulfate soils in New South Wales and includes planning, assessment, laboratory methods, drainage and management plans guidelines.
- **Acid Sulfate Soils Manual** is the manual by published by the Acid Sulfate Soils Management Advisory Committee that provides guidelines for best practice in assessing and managing the impacts of proposed works in areas likely to contain acid sulfate soils.
- **Water Table** means the level below the natural ground surface where water can be found.