1. OVERVIEW

The Flinders Ranges Council as part of its commitment under its Hazardous Work Policy, recognises its obligation to manage the health and safety risks associated with excavation and trenching carried out as part of construction work.

This Procedure aims to make sure that:

- Risks to health and safety associated with excavation work are identified and managed before the work commences having regard to all relevant matters including:
  - The nature of the excavation.
  - The nature of the excavation work, including the range of possible methods of carrying out the work.
  - The means of entry into and exit from the excavation (if applicable).

- When there is a need to excavate a trench at least 1.5m deep, The Flinders Ranges Council:
  - Minimises the risk to any person arising from the collapse of the trench by adequately supporting the sides of the trench.
  - Secures the work area from unauthorised access (including inadvertent entry) and does so having regard to all relevant matters including:
    - Risks to health and safety arising from unauthorised access to the work area.
    - The likelihood of unauthorised access occurring.

- Where The Flinders Ranges Council has management or control of the workplace, reasonable steps are taken to obtain current underground essential services information about the areas in and surrounding the excavation before directing or allowing the excavation work to commence.

- Measures are taken to eliminate, minimise or control risks before, during and after the performance of the work.

SIGNED	……	……
	Chief Executive Officer	Chairperson, WHS Committee
	Date: 3 / 9 / 2014	Date: 3 / 9 / 2014

This Procedure relates to excavation work if the work includes a trench, tunnel or shaft.

This Procedure does not apply to the following:
- A mine; or
- A well; or
- A trench for use as a place of interment

Any excavation and trenching activities that involve hazards and risks to workers and others are subject to the Hazard Management Procedure.

This Procedure deals with excavation and trenching, which is part of construction work, as defined in WHS legislation. Users of this Procedure are advised to ensure that all legal requirements for construction work are addressed. This may be assisted by reference to the LGAWCS Model WHS Construction Activities Guidance Checklist.

2. CORE COMPONENTS

The core components of our Excavation and Trenching Procedure aim to make sure:

- Where the cost of any construction work is $250,000 or more, the obligations of a construction project are met.
- Excavation and trenching activities carried out as part of construction works are recorded on the Hazard / Risk Register.
- Risks to health and safety associated with excavation work are managed before the work commences, including the risk of:
  - A person falling into an excavation.
  - A person being trapped by the collapse of an excavation.
  - A person working in an excavation being struck by a falling thing.
  - A person working in an excavation being exposed to an airborne contaminant.
- When trenching, all sides of a trench are adequately supported by through shoring (by shielding or other comparable means), benching or battering unless written advice from a geotechnical engineer that all sides of the trench are safe from collapse.
- A Safe Work Method Statement is prepared for proposed trenching work more than 1.5 metres deep.
- Risk assessment documentation is completed as required.
- Appropriate controls in line with the hierarchy of control are identified, put in place and documented (elimination, identification of services etc).
- Training requirements are identified as part of the Training Needs Analysis (TNA) and a record of any licences is maintained.
- Records are maintained as per the Document Management Procedure.

3. DEFINITIONS

Battering	To form the face or side or wall of an excavation to an angle, usually less than the natural angle of repose, to prevent earth slippage [as defined in the COP: Excavation Work July 2012, p.42].
Benching	The horizontal stepping of the face, side, or wall of an excavation [as defined in the COP: Excavation Work July 2012, p.42]
Competent person:	A person who has acquired through training, qualification or experience and the knowledge and skills to carry out the task [as defined by the WHS Regulations 2012 (5), p. 31-32].
Construction work	Work carried out in connection with the construction, alteration, conversion, fitting-out, commissioning, renovation, repair, maintenance, refurbishment, demolition, decommissioning or dismantling of a structure [as defined by the WHS Regulations 2012 (289)(1)] Construction work does not include: (a) The manufacture of plant. (b) The prefabrication of elements, other than at a place specifically established for the construction work, for use in construction work. (c) The construction or assembly of a structure that once constructed or assembled is intended to be transported to another place; (d) Testing, maintenance or repair work of a minor nature carried out in connection with a structure; (e) Mining or the exploration for or extraction of minerals. [as defined by the WHS Regulations 2012 (289(3)]

Construction project	A project that involves construction work where the cost of the construction work is $250,000 or more [as defined by WHS Regulations, 2012 (292), p.188]
Excavation work	(a) Make an excavation; or (b) Fill or partly fill an excavation [as defined in the WHS Regulations 2012 (5) p. 35].
Geotechnical Engineer	An engineer: (a) Whose qualifications are acceptable for membership of the Institution of Engineers, Australia; and (b) Who has qualifications and experience in soil stability and mechanics and excavation work [as defined in the COP: Excavation Work July 2012, p.42]..
Hierarchy of Control	If it is not reasonably practicable for risks to health and safety to be eliminated, risks must be minimised, so far as is reasonably practicable, by doing 1 or more of the following: (a) Substituting (wholly or partly) the hazard giving rise to the risk with something that gives rise to a lesser risk. (b) Isolating the hazard from any person exposed to it. (c) Implementing engineering controls. If a risk then remains, the duty holder must minimise the remaining risk, so far as is reasonably practicable, by implementing administrative controls. If a risk then remains the duty holder must minimise the remaining risk, so far as is reasonably practicable, by ensuring the provision and use of suitable personal protective equipment. [as defined by the Work Health and Safety Regulations 2012, Regulation 36]
High risk construction work	Construction work that— (a) Involves a risk of a person falling more than 3 metres; or (b) Is carried out on a telecommunication tower; or (c) Involves demolition of an element of a structure that is load-bearing or otherwise related to the physical integrity of the structure; or (d) Involves, or is likely to involve, the disturbance of asbestos; or (e) Involves structural alterations or repairs that require temporary support to prevent collapse; or (f) Is carried out in or near a confined space; or (g) Is carried out in or near— (i) A shaft or trench with an excavated depth greater than 1.5 metres; or (ii) A tunnel; or (h) Involves the use of explosives; or (i) Is carried out on or near pressurised gas distribution mains or piping; or (j) Is carried out on or near chemical, fuel or refrigerant lines; or (k) Is carried out on or near energised electrical installations or services; or (l) Is carried out in an area that may have a contaminated or flammable atmosphere; or (m) Involves tilt-up or precast concrete; or (n) Is carried out on, in or adjacent to a road, railway, shipping lane or other traffic corridor that is in use by traffic other than pedestrians; or (o) Is carried out in an area at a workplace in which there is any movement of powered mobile plant; or (p) Is carried out in an area in which there are artificial extremes of temperature; or (q) Is carried out in or near water or other liquid that involves a risk of drowning; or (r) Involves diving work. [as defined by the Work Health and Safety Regulations 2012(291]
HSR	Health and safety representative
Interment	The burial of a corpse in a grave or tomb
Nominated person	The person who has been nominated to take control of certain activities within the management of construction work and who is responsible for making sure certain actions are managed, monitored and reviewed. Council may need to nominate a number of persons to enable various elements of this procedure to be implemented.
PCBU	Person Conduction a Business or Undertaking [as defined in the WHS Act 2012(5)]

Personal Protective Equipment (PPE)	Anything used or worn by a person to minimize risk to the person's health and safety, including air supplied respiratory equipment [as defined in the WHS Regulations, 2012 (5) p. 44].
Principal contractor	The PCBU that commissions a construction project is the principal contractor, unless the person appoints another PCBU to be the principal contractor and authorises such person to have management or control of the workplace and discharges the duties of the principal contractor. A construction project has only one principal contractor at any specific time [as defined in the WHS Regulations, 2012 (293) p. 188]. [as explained in the COP: Construction Work, July 2012, p.11].
Safe Work Method Statement (SWMS)	A document that records; the steps in an activity, the hazards associated with the activity, the controls required to conduct the activity safely and the method for employing such controls.
Shoring	The use of timber, steel or other structural material to support an excavation in order to prevent collapse so that construction can proceed [as defined in the COP: Excavation Work July 2012, p.43]
Structure	Anything that is constructed, whether fixed or moveable, temporary or permanent, and includes— (a) Buildings, masts, towers, framework, pipelines, transport infrastructure and underground works (shafts or tunnels); and (b) Any component of a structure; and (c) Part of a structure. [as defined in the WHS Act, 2012 –s4.] Examples of structures as documented in the WHS Regulations 2012 (290) include: – A roadway or pathway. – A ship or submarine. – Foundations, earth retention works and other earthworks, including river works and sea defence works. – Formwork, falsework or any other structure designed or used to provide support, access or containment during construction work. – An airfield. – A dock, harbour, channel, bridge, viaduct, lagoon or dam. – A sewer or sewerage or drainage works. [WHS Regulations 2012 (290)]
Trench	A horizontal or inclined way or opening— (a) The length of which is greater than its width and greater than or equal to its depth; and (b) That commences at and extends below the surface of the ground; and (c) That is open to the surface along its length; [as defined in the WHS Regulations 2012 (5) p. 50].
Tunnel	An underground passage or opening that— (a) Is approximately horizontal; and (b) Commences at the surface of the ground or at an excavation; [as defined in the WHS Regulations 2012 (5) p. 50].
Well	• An opening in the ground excavated for ▪ The purpose of obtaining access to underground water ▪ Some other purpose but that gives access to underground water • Natural opening in the ground that gives access to underground water
WHS Management Plan	A document which records the significant (Prescribed) information relating to WHS for a construction project. As required and prescribed under Chapter 6, Part 4 of the WHS Regulations 2012 Note: this regulation commences on 1 January 2014

4. PROCEDURE

4.1. Responsibility for managing excavation or trenching work:

4.1.1. Anyone managing excavation or trenching work as a construction activity must ensure that all legal requirements for construction work are addressed. This may be assisted by reference to the LGAWCS Model WHS Construction Activities Guidance Checklist which will assist to determine whether the work will require the completion of a risk assessment/JSA, a SWMS or a WHS management plan.

4.1.2. Where the value of construction work is $250,000 or more, the construction work is considered a 'construction project' for which additional duties apply to the principal contractor.

The principal contractor may be:

- Council itself, through a Council employee (such as a project manager or contract manager) commissioning construction work for Council. In these instances The Flinders Ranges Council may carry out the functions of the principal contractor for the Council.
- A PCBU appointed by the contract manager to act as the principal contractor for the contracted work.

4.1.3. The department manager will appoint project manager/s to manage any construction work involving excavation and trenching undertaken by Council workers.

4.1.4. The department manager will appoint contract manager/s in accordance with the Contractor Management Procedure, where construction work involving excavation and trenching is undertaken by other PCBUs. The contract manager/s will manage such work by making sure:

a. Council procurement processes are complied with for the selection of contractors.
b. Contractual documentation specifies which PCBU is the principal contractor and is authorised:
   - As having management or control of the workplace, and
   - To discharge the duties of a principal contractor.
c. PCBUs have been given information Council has in relation to hazards and risks and underground essential services information at or in the vicinity of the workplace where the construction work is to be carried out.
d. PCBUs undertake hazard identification, risk assessment and elimination and control activities and where relevant, supply documentation to verify this has occurred.
e. Processes are implemented to monitor and review contracted work during and at the end of the work in accordance with the contractor management procedure.

4.2. Hazard identification associated with excavation work

4.2.1. Risks to health and safety associated with excavation work are managed before the work commences, including the risk of:

a. A person falling into an excavation.
b. A person being trapped by the collapse of an excavation.
c. A person working in an excavation being struck by a falling thing.
d. A person working in an excavation being exposed to an airborne contaminant.

4.2.2. To manage the risks, all relevant matters must be considered including:
   a. The nature of the excavation.
   b. The nature of the excavation work, including the range of possible methods of carrying out the work.
   c. The means of entry into and exit from the excavation (if applicable).

4.2.3. Examples of excavation specific hazards include:
   a. Underground essential services - including gas, water, sewerage, electricity, telecommunications, chemicals and fuel or refrigerant in pipes or lines.
   b. The fall or dislodgement of earth or rock.
   c. Falls from one level to another.
   d. Falling objects, for example tools, debris and equipment.
   e. Inappropriate placement of excavated materials, plant or other loads.
   f. Instability of any adjoining structure caused by the excavation.
   g. Any previous disturbance of the ground including previous excavation.
   h. The instability of the excavation due to persons or plant working adjacent to the excavation.
   i. The presence of or possible inrush of water or other liquid.
   j. Hazardous manual tasks.
   k. Hazardous chemicals (eg these may be present in the soil where excavation work is to be carried out) or through handling, use, storage, and transport or disposal of hazardous chemicals.
   l. Hazardous atmosphere in an excavation (eg using Methyl Ethyl Ketone (MEK) solvent for PVC pipes in poorly ventilated trenches) including welding fumes, gases and arcs.
   m. Vibration and hazardous noise.
   n. Overhead essential services (powerlines) and ground mounted essential services (transformers, gas and water meters).
   o. The construction workplace itself, including its location, layout, condition and accessibility.
   p. The use of ladders, incorrectly erected equipment, unguarded holes, penetrations and voids, unguarded excavations, trenches, shafts and lift wells, unstable structures such as incomplete scaffolding or mobile platforms, fragile and brittle surfaces such as cement sheet roofs, fibreglass roofs, skylights and unprotected formwork decks.
   q. Collapse of trenches.
   r. Structural collapse.
   s. The presence of asbestos and asbestos-containing materials.
   t. The interface with other works or trade activities.
   u. The physical working environment, for example the potential for electric shock, immersion or engulfment, fire or explosion, slips, trips and falls, people being struck by moving plant, exposure to noise, heat, cold, vibration, radiation, static electricity or a contaminated atmosphere, and the presence of a confined space.

4.2.4. The project/contract manager will make sure consultation occurs in accordance with Council's Consultation Procedures with workers and their representatives and other PCBUs where their duties overlap, during the hazard identification process.

Consultation should include discussions on the following:
- Nature and/or condition of the ground and/or working environment.
- Weather conditions.
- Nature of the work and other activities that may affect health and safety.
- Static and dynamic loads near the excavation.
- Interaction with other trades.
- Site access.

- SWMS.
- Management of surrounding vehicular traffic and ground vibration.
- Type of equipment used for excavation work.
- Public safety.
- Existing services and their location.
- The length of time the excavation is to remain open.
- Provision of adequate facilities.

4.3. Risk assessment

A Pre-Excavation Risk Assessment Worksheet is attached as Appendix 3.

4.3.1. Risk assessment processes shall be conducted in accordance with the following table:

Project value / type	Requirements
Less than $250,000	Risk assessment / JSA
High risk construction work (less than $250,000)	SWMS
$250,000 or more (becomes a construction project)	WHS management plan (includes risk assessments/JSAs or SWMS)
High risk construction work ($250,000 or more – is a construction project)	SWMS + WHS management plan

4.3.2. The project manager should form a team to undertake risk assessment/SWMS/WHS Management Plan. The team should consist of a competent person to lead the risk assessment / JSA process, workers who are involved in the activity to be assessed, a HSR (where one exists), the manager or supervisor and other stakeholders or experts, where relevant.

4.3.3. The assessment should consider all foreseeable hazards and risks including the following associated with excavation work:

a. Local site conditions, including access, ground slope, adjacent buildings and structures, water courses (including underground), underground cables and other services and trees.
b. Depth of the excavation.
c. Soil properties, including variable soil types, stability, shear strength, cohesion, presence of ground water, effect of exposure to the elements.
d. Fractures or faults in rocks, including joints, bedding planes, dip and strike directions and angles, clay seams.
e. Any specialised plant or work methods required (eg ground support).
f. The method(s) of transport, haul routes and disposal.
g. What exposures might occur, such as to noise, ultra violet rays or hazardous chemicals.
h. The number of people involved.
i. The possibility of unauthorised access to the work area.
j. Local weather conditions.
k. The length of time that the excavation will be open.

4.3.4. The contract manager should make sure that the relevant risk assessment (risk assessment/JSA, SWMS, WHS management plan) has been provided by a PCBU undertaking excavation or trenching work for Council before work commences.

4.4. Risk control

4.4.1. Controls should be implemented to eliminate, so far as is reasonably practicable, identified risks to health and safety.
In all instances, an attempt should be made to eliminate the need for persons to enter an excavation or trench.

4.4.2. If it is not reasonably practicable to eliminate risks, risk controls should be selected in descending order from the Hierarchy of Control, and in accordance with the WHS Hazard Management Procedure.

Examples of risk controls subsequent to elimination include, but are not limited to:

Substitution	Using an excavator with a rock breaker rather than manual method
Isolation	Using concrete barriers to separate pedestrians and powered mobile plant to reduce the risk of collision
Engineering	Benching, battering or shoring the sides of the excavation to reduce the risk of ground collapse
Administrative	By installing warning signs near the excavation
Personal Protective Equipment	Providing workers with hard hats, hearing protectors and high visibility vests

4.4.3. Factors that should be considered when choosing suitable control measures include:

a. Excavating plant - when quantities are large, it may be effective to use different types of plant for the various materials to be excavated.
b. Stockpiling arrangements - another site may need to be found for temporary stockpiling of materials.
c. Material placement - the methods and plant used for excavating, transporting and compacting the material should be evaluated
d. Dewatering equipment, if required, and the system to be used.
e. Transport of the excavated material - the type of plant used, the length of haul, the nature of the haul route, and the conditions of tipping and/or spreading.
f. The need for any remote or isolated work.

4.4.4. The risk assessment, SWMS or WHS Management Plan must be documented and clearly indicate what control measures are to be used.

4.4.5. Any plant or equipment, work practice or personal protective equipment used in excavation and trenching must comply with any relevant legislative and Australian Standards requirements.

4.4.6. The controls identified by the risk assessment /SWMS/WHS Management Plan must be in place before work commences. This may be facilitated through the use of :

a. A pre-start checklist
b. Procedures to deal with emergencies
c. Making sure ‘Dial Before You Dig’ has been contacted on 1100 or via their website http://www.1100.com.au/# for details of underground cables.

4.4.7. Specific controls for risks in excavation work

a. This section provides example information around controls for excavation work. However the project/contract manager needs to ensure in the risk management process that competent workers have considered the tasks associated with the work.

b. The following table lists common hazards associated with excavation work and examples of control measures

Potential hazards	Examples of control measures
Ground collapse	The use of benching or the installation of ground support (eg shoring)
Water inrush	Pumps or other dewatering systems to remove water and prevent build-up
Falls	Ramps, steps or other appropriate access into the excavation
Hazardous manual tasks	Rotating tasks between workers
Airborne contaminants	Mechanical ventilation to remove airborne contaminants
Buried contaminants (eg asbestos)	Training to identify buried contaminants and what action to take
Underground services	Obtain information from the relevant authorities on the location of underground services.

4.4.8. Any hazards that are unable to be immediately controlled within the risk assessment process should be transferred to the Hazard Register or project hazard register for further action and management.

4.4.9. Each worker involved in the job will sign their acknowledgement of the risk assessment/JSA or SWMS and where relevant be made aware of the content WHS Management Plan, prior to work commencing.

4.4.10. When identified as a requirement in the risk assessment process, a Permit for Work must be issued by a person competent to issue such permits, prior to work commencing eg Work at Height Permit, Confined Space Entry permit, etc.

4.4.11. The project manager will inform relevant persons about the control measures selected or corrective actions that have been implemented as a result of the hazard identification and risk assessment process. Toolbox, site or project meeting minutes and / or JSAs (where relevant) should demonstrate that this has occurred.

4.4.12. The project manager should confirm that any new hazards that may have been introduced by the selected controls methods are identified by:

a. Regular monitoring and evaluating of the controls for effectiveness (refer to Appendix 4 Excavation Daily Inspection Sheet).
b. Recommencing the risk assessment process, outlined at section 4.3 above, if:
   - New hazards are identified.
   - The measure is not effective in controlling the risk it was implemented to control so far as is reasonably practicable.
   - Before a change at the workplace that is likely to give rise to a new or different risk to health or safety that the measure may not effectively control.
   - The results of consultation indicate that a review is necessary.
   - If a HSR requests a review.
c. Communicating the outcomes of the risk assessment process within the department or work group and to the WHS committee, as required.

4.4.13. The project/contract manager should consult and coordinate activities with other PCBUs who are undertaking excavation and trenching work, so far as is reasonably practicable, if their duty of care overlaps. The outcomes of this process should be communicated to affected Council workers.

4.4.14. The contract manager should make sure all required risk assessment documentation has been provided before work commences.

4.5. Planning and managing the excavation work

4.5.1. Designers (in house or external)

a. Must give the PCBU who commissioned the design a written report that specifies the hazards associated with the design of the structure that, so far as the designer is reasonably aware
   - Create a risk to the health or safety of persons who are to carry out construction work on the structure or part, and
   - Are associated only with the particular design and not with other designs of the same type of structure.

b. Consider possible excavation work methods and health and safety control measures when producing any final design documents and the safety report for the structure.

4.6. Project/contract managers must:

a. Consult, so far as is reasonably practicable, with the designer of the whole or any part of the structure about eliminating and controlling risks.

b. Take all reasonable steps to obtain the designer's safety report, if the Council is commissioning the construction work but did not commission the design of the construction project (as per 4.6.1.a below).

4.6.1. Principal Contractor

a. If project/contract managers did not commission the design of the construction project, they must take all reasonable steps to obtain the designer's safety report.

b. The LGAWCS Model WHS Construction Activities Guidance Checklist may assist in determining and recording who the principal contractor is for the work

c. Where significant excavation work is being carried out and building works have not commenced, an excavation contractor may be appointed as the principal contractor for the site preparation phase of the project and then be replaced with a building expert after this phase is completed.

4.6.2. Safe Work Method Statements

a. A SWMS is prepared before the high risk construction work starts, if the excavation work is or involves high risk construction work. The SWMS must:
   - Identify the type of high risk construction work being done.
   - Specify the health and safety hazards and risks arising from that work.
   - Describe how the risks will be controlled.
   - Describe how the control measures will be implemented, monitored and reviewed.
   - Be developed in consultation with workers and their representatives who are carrying out the high risk construction work.

b. In some circumstances one SWMS can be prepared to cover more than one high risk construction work activity being carried out by contractors and/or subcontractors. For example, where there is:
   - A risk of a person falling more than 3 metres.
   - A trench with an excavated depth greater than 1.5 metres.

c. In this case, checks should be made to ensure that all SWMS are consistent and they are not creating unintended additional risks at the workplace. The responsibility for this will need to be assigned and documented. LGAWCS Model WHS Construction Activities Guidance Checklist may assist in identifying and recording this responsibility.
d. Further guidance on SWMS and an example SWMS template is available in the Code of Practice: Construction Work.

4.6.3. Adjacent buildings or structures

a. Excavation work does not commence until steps are taken to prevent the collapse or partial collapse of any potentially affected building or structure.
b. The following should be taken into account:
   - Any excavation that is below the level of the footing of any structure including retaining walls that could affect the stability of the structure must be assessed by a competent person and secured by a suitable ground support system which has been designed by a competent person.
   - Using a competent person to identify whether suitable supports to brace the structure may be required.
   - Evaluating whether other buildings in and around the excavation site could be adversely affected by vibration or concussion during the excavation work.
   - Making sure that excavation work is carried out in a way that does not cause flooding or water penetration to any adjacent building.

4.6.4. Essential Services

a. The principal contractor/project manager must manage the risks associated with essential services at the workplace during excavation activities, including:
   - Implementing specific control measures before using excavators or other earthmoving machinery near overhead electric lines.
   - Consulting with the relevant authority regarding approach distances and appropriate control measures implemented to prevent any part of the plant or any load carried on it from coming too close or contacting overhead electric lines.
   - Obtaining underground service plans and information on current underground essential services about the areas at the workplace where the excavation work is to be carried out and providing these to the principal contractor and/or the excavation contractor.
     Information on the location of underground services may be obtained by contacting the 'Dial Before You Dig' service (see section 4.4.6 for contact details)
   - Providing other relevant parties including any subcontractors and plant operators carrying out the excavation work with information about essential services and other plans so the information is considered when planning all work in the area.
b. Project/contract managers must make sure that underground essential services information is:
   - Made available to workers, principal contractors and subcontractors.
   - Readily available for inspection, and
   - Retained until the excavation work is completed or, if there is a notifiable incident relating to the excavation work, 2 years after the incident occurs.
c. It is important that excavation methods include an initial examination of the area to be excavated, for example, sampling the area by exposing a short section of underground services usually using water pressure and a vacuum system to excavate or 'pothole' the area.
d. Further guidance on underground essential services and how to locate them is available in the Code of Practice: Construction Work.

4.6.5. Securing the work area.

a. Secure from unauthorised access (including inadvertent entry), so far as is reasonably practicable, the work area in which an excavation of a trench of at least 1.5 m deep is proposed.

b. In securing the trench or excavation, consider:
   - Risks to health and safety arising from unauthorised access to the work area, and
   - The likelihood of unauthorised access occurring.

c. This requirement is specific to the excavation or trench and is in addition to general security requirements for construction sites.
   Examples of methods to meet this requirement include: Fencing the excavation and only allowing authorised workers into the area, providing supervision to prevent unauthorised persons in the vicinity of the excavation and covering the excavation when work is not occurring.

4.7. Additional controls – trenches

4.7.1. If a worker is required to enter a trench and there is a risk of engulfment, control measures should be implemented regardless of the depth of the trench.

a. A report from a geotechnical engineer may be required to provide information on the stability and safety of a trench excavation.
   The report should include details of the soil conditions, any shoring or trench support requirements, dewatering requirements and any longer term effects on stability and safety of the excavation.

b. A competent person (eg an engineer) should design any support systems or be involved in the selection of other ground collapse control measures, such as trench shields.

c. Shoring, benching and/or battering may not be required if written advice is received from a geotechnical engineer that all sides of the trench are safe from collapse.

d. Any advice should state the period of time to which it applies and may be subject to a condition that specified natural occurrences may create a risk of collapse.

4.7.2. The project /contract manager or principal contractor who proposes to excavate a trench at least 1.5m deep, must minimise the risk to any person arising from the collapse of the trench by ensuring that all sides of the trench are adequately supported by one or more of the following :

a. Shoring by shielding or other comparable means (for example, boxing).

b. Benching.

c. Battering.

4.7.3. A combination of these control measures may be the most effective depending on the work environment and characteristics of the excavated material. In built up areas or streets the excavation may have to be fully or partly sheeted or supported to prevent collapse due to localised vehicle movement.

4.7.4. The soil condition and the state of shoring, battering and trench walls should be frequently checked by a competent person for signs of earth fretting, slipping, slumping or ground swelling. Where necessary, the excavation should be repaired or the shoring system strengthened from above before allowing work below ground to continue. The frequency of inspections should be determined and documented as part of the hazard management process.

The LGAWCS have engaged a geotechnical engineer to develop guidelines for the excavation activities involved in 'rubble raising' or 'borrow pits'. If this guidance note is followed it will meet the requirements of a Geotechnical engineers report, as required in 4.7.1 c above. (Refer to Appendix 1)

4.8. Additional controls – tunnelling

4.8.1. Safe tunnel construction depends on adequate pre-construction engineering investigation of the ground and site and accurate interpretation of the information obtained. Designers should:

a. Obtain or be provided with all available relevant information.
b. Be advised of any gaps in the information for planning and construction.
c. Undertake or be involved in data acquisition for the site investigation program.
d. Have on-site involvement during the engineering investigation.

4.8.2. The information obtained from the engineering investigation and the anticipated excavation methods should be considered in preparing a tunnel design. The design should include:

a. Details on the tunnel dimensions and allowable excavation tolerances.
b. Temporary and final support and lining requirements for each location within the tunnel.
c. Details of expected tunnel drive lengths and location of shafts.
d. Any other requirements for the finished tunnel.

4.8.3. The design should also include information on the excavation methods and ground conditions considered in the design. This will allow the design to be reviewed if another excavation method is chosen or the ground conditions differ from that expected as the excavation proceeds.

4.8.4. The design also needs to take into account the construction methods that may be used to construct the tunnel so that a safe design for construction purposes is achieved.
Further details on hazards, risk and relevant control measures can be found in the Code of Practice: Excavation Work.

4.8.5. Using ground support designed for the unique circumstances of the work is essential to control the risk of a collapse or tunnel support failure. All excavation for tunnelling should be supported.

4.9. Additional controls - preventing ground collapse

4.9.1. When undertaking excavation work, ground collapse is one of the primary risks to be controlled.

4.9.2. The project/contract manager or principal contractor should check that appropriate excavation methods and control measures have been selected for the specific work, including that consideration has been given to:

a. The type and strength of the material to be excavated (eg whether the ground is natural and self-supporting or has been previously backfilled)
b. The moisture content of the soil.
c. If the ground is level or sloping.
d. If groundwater is present.
e. If there are any discontinuities or faults in the strata.
f. If there are any other nearby water courses, drains or run-off that might affect the stability of the excavation.
g. The work area and any access or operational limitations.
h. The planned height of the excavated face.
i. If vehicular traffic and/or powered mobile plant will operate near the excavation.

j. If there will be other construction activity nearby that may cause vibration.
k. Any other loads adjacent to the planned excavation. (e.g. buildings, tanks, retaining walls, trees)
l. If the need for persons to enter the excavation can be eliminated.
m. Any underground essential services.

4.10. Emergency and rescue procedures

4.10.1. The project/contract manager must make sure:

a. An emergency plan has been prepared that considers emergency and rescue scenarios that might arise from excavation and trenching activities, in consultation with workers and their representatives, such as:
   - Falls from one level to another.
   - Ground slip.
   - Flooding.
   - Gas leaks, and
   - The rescue of workers from an excavation.
b. A register of all persons who are at the construction workplace on a particular day is kept so that in the case of any emergency everyone can be accounted for.
c. When establishing emergency procedures, the following should be taken into account:
   - Location of the work area i.e. remote, isolated, accessible, distance from medical facilities etc.
   - Communications ie how will workers communicate in an emergency?
   - Rescue equipment ie relevant to the nature of the task, proximity of such equipment.
   - Capabilities of rescuers i.e. are they trained in specific rescue requirements, have emergency procedures been tested?
   - First aid i.e. appropriate first aid kits and trained first aiders?
   - Local emergency services i.e. how will they be contacted and time for response if they are to be relied on for rescue?
d. If a fall arrest system is used as a control measure in any work activity where there is a risk of fall, emergency procedures should include suspension intolerance as a potential hazard and the appropriate controls developed to manage the hazard in accordance with the requirements of the prevention of falls procedure.
e. Access is available to first aid equipment, facilities for the administration of first aid, and workers trained to administer first aid, in accordance with the First Aid Procedure.
f. Emergency procedures are tested regularly with workers who undertake the work in accordance with the Emergency Management Procedure.

4.10.2. The project/contract manager in consultation with the WHS Coordinator with WHS responsibility should make sure that:

a. The emergency procedures and first aid response have been incorporated into the Council Emergency Plan.
b. Relevant workers are provided with suitable and adequate information, training and instruction in relation to the relevant emergency procedures, including:
   - Making sure any emergency rescue process starts immediately (when safe to do so)
   - Making sure workers do not put themselves at risk during a rescue.
c. Training frequency takes into account the worker's competence and their ability to retain competence through regular exposure to the equipment and skills needed to perform a rescue.

4.10.3. Contract managers must make sure that PCBUs prepare and supply an emergency plan before work commences.

4.11. Incidents or accidents related to excavation and trenching

4.11.1. Any Council worker involved in an incident involving excavation or trenching activities should report the incident to their project manager as soon as reasonably practicable. Contractors should immediately notify their contract manager or direct supervisor.

4.11.2. The relevant manager should immediately notify the *WHS Coordinator* with WHS responsibility, who will ascertain whether statutory reporting to SafeWork SA or the Office of the Technical Regulator is required.

4.11.3. If an a notifiable incident occurs that involves an excavation or trenching, namely

- The death or a person; or
- A serious injury or illness of a person; or
- A dangerous incident

A report must be made by the *WHS Coordinator* as follows:

a. SafeWork SA:
   - Report by the fastest available means. The report can be made by phone or in writing (such as by fax, email or other electronic means).
   - If the notification is by phone this must be followed up in writing within 48 hours if SafeWork SA requests it.
   - The 24 hour Emergency Telephone number is 1800 777 209.

b. Office of the Technical Regulator
   - All incidents involving electricity must be reported to the Office of the Technical Regulator by the electrical worker or the occupier of the premises where the incident occurs
   - Death must be reported immediately via telephone. Phone: 8226 5500 - Business Hours (1800 558 811 After Hours)
   - Any accident where a person requires medical assistance must be reported within one working day.
   - All other accidents involving electricity must be reported to the Office of the Technical Regulator within 10 working days of the day of the accident.

4.11.4. The Accident and Incident Reporting and Investigation Procedure should be complied with, including the requirement that the site where the incident occurred is not disturbed until an inspector arrives at the site or any earlier time that an inspector directs.

4.12. Monitoring and evaluation

4.12.1. Project/contract managers should review and revise any existing risk control measures related to excavation and trenching during project coordination or site meetings, using the same methods as the initial hazard identification process:

a. When the control measure does not minimise the risk so far as is reasonably practicable.
b. Before a change at the workplace that is likely to give rise to a new or different health and safety risk that the control measure may not effectively control.
c. If a new hazard or risk is identified.
d. If the results of consultation indicate that a review is necessary.
e. If a HSR requests a review.

4.12.2. When reviewing control measures, a SWMS must be reviewed and revised where necessary.

4.12.3. During the course of contracted work, the contract manager or delegate should monitor the contract in accordance with the requirements of the Contractor Management procedure and contractual arrangements.
   a. The monitoring may be conducted against the Risk Assessment/JSA, SWMS or WHS Management Plan provided by the Contractor.
   b. The contract manager should verify that any corrective actions identified have been effectively closed out within the designated timeframes.

4.12.4. The WHS Committee should monitor the CAPA Register (including any issues related to excavation or trenching or contracted work) during its meetings. A report should be presented to the Senior Leadership Team listing outstanding items requiring their direction or enforcement.

4.12.5. The Senior Leadership Team should:
   a. Review statistics, audit results, legislative changes and other information relating to excavation and trenching and direct action when required. Minutes should record outcomes of discussion and actions undertaken.
   b. Include the excavation and trenching procedure as part of the ongoing management review process and report the findings of internal audits, as relevant.
   c. Set, monitor and review objectives, targets and performance indicators for any construction work program as relevant.

5. TRAINING

5.1. The Flinders Ranges Council training needs analysis should identify the training needs for those persons required to:
   5.1.1. Carry out excavation and trenching work; or
   5.1.2. Undertake a risk assessment/SWMS for excavation and trenching work; or
   5.1.3. Prepare a WHS management plan; or
   5.1.4. Manage or supervise persons working in or with excavations and trenches; or
   5.1.5. Maintain equipment used for or during work in excavation and trenching; or
   5.1.6. Purchase, distribute or maintain personal protective equipment for use in excavation and trenching; or
   5.1.7. Potentially be involved in a rescue or first-aid procedure resulting from excavation or trenching work.

5.2. The training needs analysis should have regard to:
   5.2.1. The nature of the work carried out by the worker.
   5.2.2. The nature of the risks associated with the work at the time of the information, training and instruction.
   5.2.3. The control measures implemented.

5.3. Workplace specific training should be conducted by the project manager or by the principal contractor for the construction project.
   5.3.1. Training should be provided by a competent person that is specific to the excavation work and to the site.
   5.3.2. Training requirements include:
      a. Each worker undertaking excavation or trenching activities holding a general construction induction training card.
      b. Workers operating certain types of plant at the workplace possessing a valid licence to operate that plant.
      c. Workers in a supervisory role (eg leading hands or team leaders) being experienced and trained in excavation or trenching work to make sure the work is carried out in accordance with The Flinders Ranges Council documented requirements.

d. Other training insofar as is relevant to the performance of the particular work and the worker's duties, may cover:
   - Safety documents, policies and plans, including the WHS management plan and SWMS that cover:
     - Planning and preparation of work.
     - Setting out excavation and erecting safety equipment.
     - Assisting machine excavation operations.
     - Installation of excavation support.
     - Clean up.
   - Supervisory, consultation and reporting arrangements.
   - Workplace safety rules, including first aid provisions and emergency procedures.
   - Workplace facilities, including their location, use and maintenance.
   - Emergency procedures, including after-hours emergency contacts.
   - Health monitoring requirements and procedures.
   - Access, egress and security.
   - Workplace specific hazards and control measures.
   - The selection, use, fit and maintenance of PPE.
   - How safety issues are resolved, including HSR arrangements.
   - How to report hazards and unsafe work practices.
   - How to report accidents, incidents and dangerous occurrences.
   - What to do if a person is injured, including first aid provisions.

5.4. Such training may be competency based and should be in accordance with the WHS Regulations, relevant Codes of Practice, or Australian Standards. Training should be documented and relevant information forwarded to the Executive Assistant with WHS responsibility for inclusion to the training records.

5.5. The project/contract manager should check that the findings of the risk assessment/JSA or SWMS is explained to those persons involved in the activity and is signed by each person before any work commences.

6. RECORDS

The following records should be maintained:

6.1. Contract documentation
6.2. Permit processes
6.3. Plant and equipment inspection, testing and maintenance records
6.4. Plant and equipment registration and certification records
6.5. Plant and equipment registers
6.6. Purchase or hire documentation, including operation manuals
6.7. Risk assessments/JSAs, SWMS, WHS management plans
6.8. Statutory notifications.
6.9. Training records, licences and other competency records
6.10. Underground essential services information

All records must be retained in line with the current version of GDS20

7. RESPONSIBILITIES

7.1. The *Senior Leadership Team* is accountable for:

7.1.1. Monitoring compliance to the Council's legislative responsibilities for excavation and trenching.
7.1.2. Budgetary expenditure for construction work.
7.1.3. Setting objectives, targets and performance indicators for any construction work program, as relevant.
7.1.4. Checking that managers and supervisors have been provided with training to ensure, so far as is reasonably practicable, they understand and can:

a. Apply the requirements of the construction work legislation, codes of practice and this procedure to the areas and activities under their control.
b. Apply the requirements of procurement and contract management procedures, as relevant.
c. Provide adequate training and supervision to the persons under their management.

7.1.5. Consulting with other PCBUs, so far as is reasonably practicable, if their duty of care overlaps.
7.1.6. Checking, so far as is reasonably practicable, that reasonably foreseeable hazards are identified, assessed and controlled when elimination is not practicable.
7.1.7. Monitoring the Hazard Register and enforcing close out of items when required.
7.1.8. Reviewing the effectiveness of the excavation and trenching processes.
7.1.9. Including excavation and trenching management within the management review process.

7.2. The *department manager* is accountable for:
7.2.1. Appointing project managers and contract managers to manage excavation and trenching work.
7.2.2. Checking that persons required to manage excavation and trenching work have been trained and assessed as competent where relevant, in accordance with legislative requirements.
7.2.3. Checking that all plant and PPE used in excavation and trenching work is fit for purpose, inspected prior to use and maintained by competent persons, in accordance with legislative requirements.
7.2.4. Checking that Council workers required to undertake excavation and trenching work have been trained and assessed as competent as relevant, in accordance with legislative requirements.

7.3. The *contract manager* is accountable for:
7.3.1. Complying with Council procurement processes.
7.3.2. Checking contractual documentation specifies which party is the principal contractor and has control of the workplace.
7.3.3. Making sure PCBUs have been given any information Council has in relation to hazards and risks at or in the vicinity of the workplace where the construction work is to be carried out.
7.3.4. Checking PCBUs undertake hazard identification, risk assessment and control activities and where relevant, have supplied documentation to verify this has occurred.
7.3.5. Assigning responsibility to check that all SWMS are consistent and they are not creating unintended additional risks at the workplace.
7.3.6. Making sure processes are implemented to monitor and review contracted work during and at the end of the work in accordance with the contractor management procedure.

7.4. The *project / contract manager* is accountable for:
7.4.1. Making sure that risks to health and safety associated with excavation work are managed before the work commences.
7.4.2. Consulting with workers and their representatives and other PCBUs where their duties overlap during the hazard identification process.
7.4.3. Consulting, so far as is reasonably practicable, with the designer of the whole or any part of the structure about eliminating and controlling risks and taking all reasonable steps to obtain the designers safety report.
7.4.4. Making sure each excavation activity has a documented risk assessment/JSA, SWMS or WHS management plan (as required by this Procedure), that clearly indicates what control measures are to be used.

7.4.5. Checking that all plant and PPE used in excavation and trenching work is fit for purpose, inspected prior to use and maintained by competent persons, in accordance with legislative requirements.
7.4.6. Making sure that any hazards that are unable to be immediately controlled within the risk assessment process are transferred to the Hazard/Risk Register or project hazard register for further action and management.
7.4.7. Informing relevant persons about the control measures selected or corrective actions that have been implemented as a result of the hazard identification and risk assessment process.
7.4.8. Making sure that an emergency response plan has been developed, implemented and documented before any work which involves entry into excavation and trenching work areas is commenced for the first time.
7.4.9. Making available information about essential services to any worker, principal contractor and subcontractors and making that information available for inspection as required under the WHS Act.
7.4.10. Making sure that excavation work does not commence until steps are taken to prevent the collapse or partial collapse of any potentially affected building or structure.
7.4.11. Checking that written reports have been obtained from a geotechnical engineer when required.
7.4.12. Checking that the frequency of inspections of soil condition and the state of shoring, battering and trench walls have been determined and documented as part of the risk assessment process.
7.4.13. Checking that appropriate excavation methods and control measures have been selected for the specific work.
7.4.14. Making sure that any permits for work have been issued.
7.4.15. Checking that any excavation and trenching signage is maintained.
7.4.16. Checking that excavation and trenching work areas are secured against unauthorized entry.
7.4.17. Implementing control measures in line with this procedure to make sure, so far as is reasonably practicable, the safety of workers when undertaking excavation and trenching work.
7.4.18. Checking that persons required to undertake excavation and trenching work have been trained and assessed as competent, where relevant, in accordance with legislative requirements.
7.4.19. Checking that any person who works in an excavation is given information about the hazards that are present in the work location, prior to the work being undertaken.
7.4.20. Undertaking inspections, to monitor compliance with requirements.
7.4.21. Consulting and coordinating activities with other PCBUs who are undertaking excavation and trenching work, so far as is reasonably practicable, if their duty of care overlaps.
7.4.22. Checking that all persons working in an excavation have returned from their tasks at the end of the day.
7.4.23. Checking that hazards identified or incidents that occur when undertaking excavation and trenching work, are reported, investigated and control measures are implemented in accordance with The Flinders Ranges Council WHS Hazard Management Procedure.
7.4.24. Implementing any corrective or preventative actions required for excavation and trenching work.
7.4.25. Maintaining documented records for excavation and trenching activities.

7.5. The *WHS Coordinator* is accountable for:
- 7.5.1. Maintaining the Hazard / Risk Register and CAPA Register
- 7.5.2. Making sure training for workers undertaking excavation and trenching activities, is identified and delivered and the training register in relation to this training, is kept up to date.
- 7.5.3. Initiating the development and the testing of the Council Emergency Plan for excavation or trenching related emergencies.
- 7.5.4. Undertaking statutory reporting when required.
- 7.5.5. Ensuring the LGAWCS has been notified when any statutory reporting has occurred.
- 7.5.6. Maintaining legislative currency of procedures and systems in relation to excavation and trenching.
- 7.5.7. Initiating audit and review activities as required.

7.6. The *designer* is accountable for:
- 7.6.1. Making sure, so far as is reasonably practicable, that the structure is designed without risks to the health and safety of persons who construct the structure at a workplace.
- 7.6.2. Considering possible excavation work methods and health and safety control measures when producing any final design documents for a structure.
- 7.6.3. Producing a written report that specifies the hazards associated with the design of the structure, that so far as the designer is reasonably aware:
  a. Create a risk to the health or safety of persons who are to carry out construction work on the structure or part, and
  b. Are associated only with the particular design and not with other designs of the same type of structure.

7.7. The *principal contractor* has a range of duties in relation to a construction project that should be complied with, including:
- 7.7.1. Preparing and reviewing a WHS Management Plan.
- 7.7.2. Confirming Hazards and risks are managed before excavation work begins.
- 7.7.3. Obtaining SWMS before any high risk construction work commences.
- 7.7.4. Putting in place arrangements to manage the work environment including falls, facilities, first aid, an emergency plan and traffic management.
- 7.7.5. Installing signs showing the principal contractor's name, contact details and location of any site office.
- 7.7.6. Securing the construction workplace.

7.8. *Any person* required to undertake work associated with excavation or trenching is accountable for:
- 7.8.1. Complying with the requirements of risk assessment/JSA, SWMS and WHS management plan as relevant, any permits for work and relevant WHS policies and procedures whilst undertaking their tasks.
- 7.8.2. Attending training when required.
- 7.8.3. Only undertaking tasks they are competent to undertake (or are in training to undertake with appropriate supervision)
- 7.8.4. Demonstrating and maintaining competency in accordance legislative requirements.
- 7.8.5. Keeping their general construction induction training card available for inspection.
- 7.8.6. Following reasonable instructions related to work associated with excavations or trenching.
- 7.8.7. Using personal protective equipment and safety equipment provided.
- 7.8.8. Assisting in assessing risk, implementing control measures and evaluating them for effectiveness as required.
- 7.8.9. Seeking assistance to manage identified hazards when required.

7.9. The *WHS Committee* is accountable for:
- 7.9.1. Facilitating co-operation between management and workers in matters relating to excavation and trenching activities.
- 7.9.2. Monitoring the Hazard / Risk Register and referring issues to The Flinders Ranges Council Senior Leadership Team that require management direction or enforcement.

7.10. *Health and safety representatives* may:
- 7.10.1. Facilitate consultation between department managers and workers in relation to any excavation and trenching activities that affect the workgroup they represent.
- 7.10.2. Request and assist in the review and revision, where necessary, of risk control measures related to excavation and trenching activities.

8. REVIEW

8.1. The Excavation and Trenching Procedure should be reviewed by the WHS Committee, in consultation with workers or their representatives, every three years or more frequently if legislation or The Flinders Ranges Council needs change. The review may include a review of:
- 8.1.1. Legislative compliance issues.
- 8.1.2. Audit findings relating to excavation and trenching management or contractor management.
- 8.1.3. Changes in the products, operations or activities of the organization.
- 8.1.4. Incident and hazard reports, claims costs and trends related to excavation and trenching management.
- 8.1.5. Feedback from managers, workers or other stakeholders.
- 8.1.6. Other relevant information.

8.2. Results of reviews may result in preventative and/or corrective actions being implemented and revision of this document.

9. REFERENCES

Work Health and Safety Act 2012
Work Health and Safety Regulations 2012
General Disposal Schedule for Local Government
WorkCover*SA* Performance Standards for Self-Insurers
Code of Practice: How to Manage Work Health and Safety Risks
Code of Practice: Excavation Work, July 2012
Code of Practice: Construction Work, July 2012
Code of Practice: Safe Design of Structures, July 2012
Code of Practice: Managing the Risk of Falls at Workplaces, December 2012
Code of Practice: Managing Electrical Risks in the Workplace
Office of the Technical Regulator: Working Safely Near Overhead Powerlines pamphlet

10. RELATED DOCUMENTS

LGAWCS Model WHS Construction Activities Guidance Checklist
WHS guidelines for rubble raising pit excavations
Risk assessments/JSAs, SWMS, WHS Management Plan
Emergency Management Plan
Contractor Management Procedure
Electrical Safety Procedure
Emergency Management Procedure
First Aid Procedure
Incident Reporting & Investigation Procedure
Plant Procedure
Remote & Isolated Work Procedure
WHS Hazard Management Procedure
Hazard / Risk Register
CAPA Register
Project Register

11. DOCUMENT HISTORY:

Version No:	Issue Date:	Description of Change:
1.0	March 2003	New document
2.0	May 2007	Unknown
3.0	June 2010	New Document
4.0	Sept 2014	Terminology changes to reflect 2012 WHS Act, Regulations and Codes of Practice. Examples of changes include; OHS to WHS and employee to worker where appropriate Expansion of Definitions section. Expansion of Hazard identification and Risk control sections to include specific information from appropriate COP's. Inclusion of considerations for Construction work

12. APPENDICES

Appendix 1: Work Health & Safety Guidelines for Rubble Raising Pit Excavations (as supplied by LGAWCS & Golder Associates)
Appendix 2: LGAWCS Model WHS Construction Activities Guidance Checklist
Appendix 3: Pre-Excavation Risk Assessment Worksheet
Appendix 4: Excavation Daily Inspection Sheet

Appendix 1: Work Health & Safety Guidelines for Rubble Raising Pit Excavations (as supplied by LGAWCS & Golder Associates)

Introduction

This guideline aims to assist with the management of health and safety in respect of rubble raising pit (RRP) excavation works, by addressing general stability-related safety concerns during excavation works and providing a framework for rubble pits to be safely operated without the need for a site specific geotechnical report. A selection of long term considerations for the remediation of the site has also been identified.

For the purpose of this guideline, RRP excavation works include those activities involved in the removal of road fill material from an incidental site close to the worksite (i.e. not a quarry, open cut mine or any other formal permanent mineral extraction site).

Some materials and conditions (e.g. saturated soil strength materials, presence of shallow groundwater, highly organic soils) will exhibit characteristics that cannot be managed within the framework of this guideline. In those circumstances and if in doubt as to whether this guideline can be used to manage a specific site, then the advice of a suitably experienced and qualified geotechnical practitioner must be sought.

This guideline is to be used in conjunction with the Council's hazard management procedure and Council's excavation and trenching procedure.

Planning and Preparation

The proposed RRP site must be planned and prepared prior to the commencement of excavation.

Each Council site is likely to have its own specific requirements, which are to be read in conjunction with this guideline.

The following items are the minimum standard for planning and preparation works:

- Obtain any required permits and/or authorisation.
- Give consideration to relevant legislation, codes and social and environmental issues.
- The RRP site must be located a suitable distance away from any road. A number of factors including, but not limited to, the following will require assessment:
  - Road usage.
  - Speed limits.
  - Road geometry.
  - Road surface and construction details.
  - Final geometry and isolation (i.e. barrier, etc.) requirements.
- Define the limits and depth of the RRP to establish and delineate work area.
- Additional procedures apply for excavations carried out on or in ground that is, or could be, contaminated. If any contamination is known or suspected then excavation must not proceed until an environmental assessment is undertaken to ascertain any risk and management required.
- Undertake an assessment of underground services at the defined RRP location
- Plan and implement appropriate stormwater management.
- Develop a management plan for both the operation and rehabilitation of the RRP.
- Training specific to the excavation work and to site be provided to workers by a competent person.
- Workers operating plant hold a valid licence to operate that plant if required.

Excavation Stability (During RRP Operations)

- Maintain batter slopes no steeper than 1 vertical to 2 horizontal (1V:2H).
- Ensure that the spoil stockpile is far enough removed from the pit such that spoil cannot slump into the pit. Do not place loads including spoil stockpiles and plant closer to the excavation crest than a distance equal to the total depth of the excavation (refer to Figure 1).

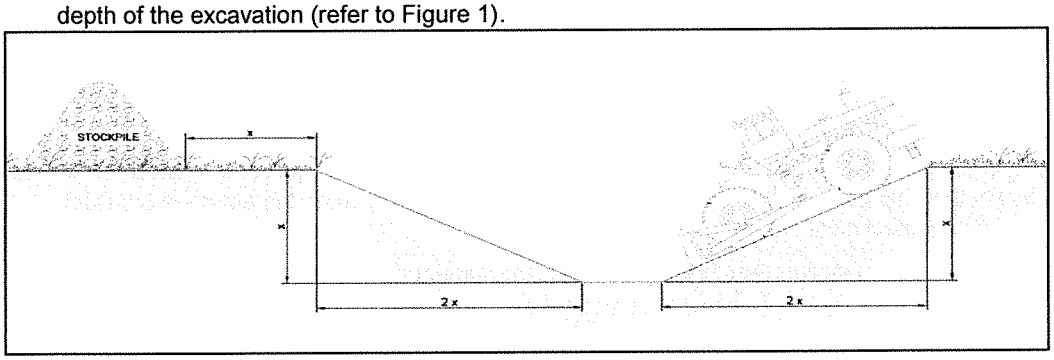

Figure1: Operational Excavation Conditions

- Excavation stability is decreased by erosion or accumulation of water in the soil. Effective management of stormwater will be critical in order to maintain the integrity of the excavation. To reduce the risk of instability control measures must be implemented where they are reasonably practicable, for example provision of storm water drainage around the excavation. Control measures will be identified by the risk assessment.
- Regularly monitor the site for
  - Tension cracks adjacent to and within the pit;
  - Material slumping from the sides; and
  - Significant groundwater inflow.
- If any of the above are evident or suspected, remedial works will need to be undertaken to address the issue. In particular:
  - If cracking at or near the crest is observed the loose material must be excavated from the crest/wall and a shallower batter slope shall be implemented.
  - If slumping is observed from the sides of the excavation a shallower batter slope shall be implemented.
- If tension cracking or slumping are observed subsequent to flattening batter slopes in response to an observation of instability, works are to be stopped and a site inspection be undertaken by a suitably experienced and qualified geotechnical practitioner.

Do not enter any excavation, regardless of depth, if you are not certain that it is safe to do so.

Long Term Management of RRP Excavations

Development and implementation of a documented long term management plan will be required for each RRP excavation. Consideration must be given to pre-existing and future land use in conjunction with social and environmental issues.

- In general, the excavation should be shaped to form batter slopes no steeper than 1V:3H.
- Assess the risk of erosion due to water and wind (i.e. will revegetation help mitigate erosion?).
- Does the site require further rehabilitation? (i.e. backfilling, replacement of organic topsoil, revegetation).

Tom Hills (BE (Civil), MIEAust, CPEng, RPEQ)
Associate, Principal Geotechnical Engineer
Golder Associates Pty Ltd

Appendix 2: LGAWCS Model WHS Construction Activities Guidance Checklist

OVERVIEW

The purpose of this checklist is to provide guidance and a tool, to confirm that the appropriate WHS legislative considerations relating specifically to construction, have been made for current and planned construction activities.

User notes

This Guidance Checklist is comprised of various parts and sub-checklists.

1. Complete **Part 'A'** first.
2. Complete **Part B only** after the checklists (1-3) have been completed. Part B is a tool for recording additional requirements and actions.
2. Complete **Checklist '1**' to determine if the current or planned construction activity **is, or is likely to be, construction work**:
   - **If the activity is construction work**, complete **Checklist '2'** to identify if the construction work is **high risk construction work**.
   - **If the activity is construction work, but not high risk construction work**, complete **Checklist '1a'** to confirm which parts of the WHS legislative framework apply to that activity.
   - **If the activity is high risk construction work,** complete **Checklist '2a'** to confirm which parts of the WHS legislative framework apply to that activity.
   - **If the activity is a construction project with a value of more than $250,000** complete **checklist 3** to confirm which parts of the WHS legislative framework apply to that activity (in conjunction with checklists 1, 1a, 2 and 2a as appropriate)

Principal contractors

When Council commissions a **construction project,** Council will be the *principal contractor* for the project unless:

1. Council appoints another person to be the principal contractor and
2. Authorises such person to have management or control of the workplace and discharges the duties of the principal contractor.

Principal contractors should have regard to the WHS Management Plan Guidance at **Part 'C'.**

A construction project has only one principal contractor at any specific time.

NOTE:

This guidance checklist is provided as a template support tool. As an example method for Council to confirm that appropriate considerations regarding the proposed activities and their status as construction work have been made. Council may already do this through other processes, and as such this template is provided for guidance only, and it remains Councils obligation to ensure all WHS considerations have been identified and addressed.

DEFINITIONS

Competent Person	***Competent person*** means – (a) For electrical work on energised electrical equipment or energised electrical installations (other than testing (R150 and 165) – a person registered to undertake work under the *Plumbers, Gas Fitters and Electricians Act 1995;* (b) For general diving work – (R174 and 177) (c) For a major inspection and testing of mobile cranes and tower cranes (R235) (d) For inspection of amusement devices and passenger ropeways (R241) (e) For design verification – a person who has the skills, qualifications, competence and experience to design the plant or verify the design (R252) (f) For a clearance inspection (R473) – a person who has acquired through training or experience the knowledge and skills of relevant asbestos removal industry practice and holds (i) A certification in relation to the specified VET course for asbestos assessor work; or (ii) A tertiary qualification in occupational health and safety, occupational hygiene, science, building, construction or environmental health (g) For any other case – a person who has acquired through training, qualification or experience, the knowledge and skills to carry out the task
Construction work	Means any work carried out in connection with the construction, alteration, conversion, fitting-out, commissioning, renovation, repair, maintenance, refurbishment, demolition, decommissioning or dismantling of a structure [as defined by the WHS Regulations 2012 (289)(1)] But does not include the following: (a) The manufacture of plant; (b) The prefabrication of elements, other than at a place specifically established for the construction work, for use in construction work; (c) The construction or assembly of a structure that once constructed or assembled is intended to be transported to another place; (d) Testing, maintenance or repair work of a minor nature carried out in connection with a structure; (e) Mining or the exploration for or extraction of minerals. [as defined by the WHS Regulations 2012 (289(3)] **'In connection with'** means related to or associated with construction. Contracts covering a project are a good guide to what activities are done in connection with construction. Examples may include: • Work by architects or engineers in on-site offices or conducting on-site inspections, but not architects or engineers working in offices away from the construction site. • Work by a mechanic on an excavator on-site and not in an isolated service area. • Delivering building materials to different points on the site, but not making deliveries to a single designated delivery area. • Excavating for a basement garage. • Testing fire equipment on the construction site. • Supervisors and manager moving around the site to monitor work. • Surveying a site after construction has started, but not surveying a Greenfield site before construction has started. • Traffic control on a construction site. Source: COP: Construction Work July 2012, p 6

Construction project	Is a project that involves construction work where the cost of the construction work is $250,000 or more [as defined by WHS Regulations, 2012 (292), p.188]
Designers	Means a PCBU that designs a structure that is to be used as, or could reasonably be expected to be used as or at, a workplace. There may be multiple designers who are involved in the design of a structure and have the same duties, for example architects, civil engineers, electrical engineers, mechanical engineers, structural engineers and hydraulic engineers. A builder could also be considered to be a designer if they are involved in altering the design for a building, even after construction work has commenced [as defined by WHS Act 2012 (22) and explained in the COP: Construction Work July 2012, p.10]
General construction induction training	Means training delivered in Australia by an RTO for the specified VET course for general induction training.
General construction induction training card	(a) In Division 2 of Chapter 6 Part 5 – a general construction induction training card issued under that Division; (b) In any other case – a general construction induction training card issued- (i) under Division 2 of Chapter 6 part 5 or under a corresponding WHS law; or (ii) by an RTO under an agreement between the regulator and an RTO or a corresponding regulator and an RTO. Note: The SA Construction Industry Occupational Health and Safety Committee and the Construction Industry have expressed a strong view that online training for this course is not acceptable to the industry in South Australia. The Code states that the course *has a nominal duration of 6 hours face-to-face delivery and it is expected that the construction industry will comply with the Code*. Construction site managers in South Australia may choose to refuse entry to a person, or require a person to be re-trained if they decide that there is a need for re-training.
High risk construction work	Means construction work that: (a) Involves a risk of a person falling more than 3 metres; or (b) Is carried out on a telecommunication tower; or (c) Involves demolition of an element of a structure that is load-bearing or otherwise related to the physical integrity of the structure; or (d) Involves, or is likely to involve, the disturbance of asbestos; or (e) Involves structural alterations or repairs that require temporary support to prevent collapse; or (f) Is carried out in or near a confined space; or (g) Is carried out in or near: (i) A shaft or trench with an excavated depth greater than 1.5 metres; or (ii) A tunnel; or (h) Involves the use of explosives; or (i) Is carried out on or near pressurised gas distribution mains or piping; or (j) Is carried out on or near chemical, fuel or refrigerant lines; or (k) Is carried out on or near energised electrical installations or services; or (l) Is carried out in an area that may have a contaminated or flammable atmosphere; or (m) Involves tilt-up or precast concrete; or (n) Is carried out on, in or adjacent to a road, railway, shipping lane or other traffic corridor that is in use by traffic other than pedestrians; or (o) Is carried out in an area at a workplace in which there is any movement of powered mobile plant; or (p) Is carried out in an area in which there are artificial extremes of temperature; or (q) Is carried out in or near water or other liquid that involves a risk of drowning; or (r) Involves diving work.

	[as defined by the Work Health and Safety Regulations 2012(291]
Principal contractor	A PCBU that commissions a construction project is the principal contractor for the project [as defined in the WHS Regulations, 2012 (293) p. 188]. The person conducting a business or undertaking that commissions a construction project is the principal contractor, unless that PCBU engages another PCBU to be the principal contractor and authorises such person to have management or control of the workplace and discharge the duties of the principal contractor the person so engaged [as explained in the COP: Construction Work, July 2012, p.11].
Safe Work Method Statement (SWMS)	A document that records; the steps in an activity, the hazards associated with the activity, the controls required to conduct the activity safely and the method for employing such controls. (See Council's Contractor Management Procedure for an example template SWMS) In relation to high risk construction work - a safe work method statement as referred to in Regulation 299 (as revised under regulation 302)
Structure	means anything that is constructed, whether fixed or moveable, temporary or permanent, and includes— (a) Buildings, masts, towers, framework, pipelines, transport infrastructure and underground works (shafts or tunnels); and (b) Any component of a structure; and (c) Part of a structure. [as defined in the WHS Act, 2012 –s4.] Examples of structures include: – A roadway or pathway. – A ship or submarine. – Foundations, earth retention works and other earthworks, including river works and sea defence works. – Formwork, falsework or any other structure designed or used to provide support, access or containment during construction work. – An airfield. – A dock, harbour, channel, bridge, viaduct, lagoon or dam. – A sewer or sewerage or drainage works.
WHS management plan	A document which records the significant (Prescribed) information relating to WHS for a construction project. (See part C of this document for guidance on a WHS management plan) As required and prescribed under Chapter 6, Part 4 of the WHS Regulations 2012 Note: this regulation commences on 1 January 2014

Part A

Council Name	
Department initiating activity	
Person/s responsible for activity Internal: External (This may be the nominated principal contractor):	
Descriptor of activity being reviewed (Include project name if applicable)	Location of activity
Value of activity (or project)	Proposed dates for activity
Person completing this review	Date of review
Location of reference documents (Insert file name and path or physical locations of any documents (Such as project files etc) that are used as reference in completing this checklist)	

Part B

Complete **Part B only** after the checklists (1-3) have been completed

Outcome of review

(Provide the key information here that has come out of the review i.e. whether the activity is construction work, high risk construction work or construction project)

Identify the major safety risks & corresponding control measures

Identify additional training needs, licences & competent training personnel

Summary of next steps and person responsible.

(Document here the actions identified from completion of the appropriate checklists in this document that need to be completed in order to safely manage the activity, who is responsible for the action and when it needs to be completed by). (Actions may be included in the organisations corrective and preventative action registers).

Action required	Person responsible	Completion date

PART C: WHS Management Plan

All construction projects must have a written WHS Management Plan prepared by the principal contractor.

The WHS Management Plan must include:

- The names, positions and health and safety responsibilities of all persons at the workplace whose positions or roles involve specific health and safety responsibilities in connection with the construction project.
- The arrangements in place between any persons conducting a business or undertaking at the workplace for consultation, cooperation and coordination of activities in relation to compliance with their duties under the WHS Act and Regulations.
- The arrangements in place for managing any work health and safety incidents that occur.
- Any site-specific health and safety rules and the arrangements for ensuring that all persons at the workplace are informed of these rules, and
- The arrangements to collect and assess, monitor and review the SWMS.

The WHS Management Plan may include the following information:

- Details of the person commissioning the construction work, for example their name, ABN (if available) and address.
- Details of the principal contractor.
- Details of the construction project, for example address of the workplace, anticipated start and end date and a brief description of the type of construction work that the WHS management plan will cover.
- Details on how contractors and subcontractors will be managed and monitored, including how the principal contractor intends to implement and ensure compliance with the WHS management plan such as checking on the performance of contractors and subcontractors and how non-compliance will be handled.
- Details on how the risks associated with falls, falling objects and any high risk construction work that will take place on a construction project will be managed.

It may also include information on:

- The provision and maintenance of a hazardous chemicals register, safety data sheets and hazardous chemicals storage.
- The safe use and storage of plant.
- The development of a construction project traffic management plan.
- Obtaining and providing essential services information
- Workplace security and public safety.
- Ensuring workers have appropriate licences and training to undertake the construction work.

Source: COP: Construction Work July 2012, pp.24-25

CHECKLIST 1: CONSTRUCTION WORK

Do any of the following apply to this activity? Check box if undertaking any of the activities listed below and complete details.

Is there any installation or testing carried out in connection with the construction, alteration, conversion, fitting-out, commissioning, renovation, repair, maintenance, refurbishment, demolition, decommissioning or dismantling of a structure?	☐
(Insert detail of intended activity that meets above requirement)	
Will there be removal from the workplace of any product or waste resulting from demolition?	☐
(Insert details of waste from demolition)	
Will the prefabrication or testing of elements, at a place specifically established for the construction work, for use in construction work, be done? (Note this only applies if, as part of your project, an area has been set up to prefabricate or test elements to be used in the project)	☐
(insert details)	
Is there the assembly of prefabricated elements to form a structure, or the disassembly of prefabricated elements forming part of a structure?	☐
(insert details)	
Is there installation, testing or maintenance of an essential service in relation to a structure?	☐
(insert details)	
Is there any work connected with an excavation? (See excavation and trenching procedure for specifics on managing this type of work)	☐
(insert details)	
Is there any work connected with any preparatory work or site preparation (including landscaping as part of site preparation) carried out in connection with any construction, alteration, conversion, fitting-out, commissioning, renovation, repair, maintenance, refurbishment, demolition, decommissioning or dismantling of a structure?	☐
(insert details)	
Will any construction, alteration, conversion, fitting-out, commissioning, renovation, repair, maintenance, refurbishment, demolition, decommissioning or dismantling of a structure be carried out on, under or near water, including work on buoys and obstructions to navigation?	☐
(insert details)	
Is there any other activity being undertaken in connection with any construction, alteration, conversion, fitting-out, commissioning, renovation, repair, maintenance, refurbishment, demolition, decommissioning or dismantling of a structure that has not been covered by the above?	☐
(Insert Details)	

If any box has been checked, the work is construction work and you should assess if it is high risk construction work by completing checklist 2.

If the activity is not high risk construction work, confirm that all appropriate considerations for construction work have been made by completing checklist 1a

CHECKLIST 2: HIGH RISK CONSTRUCTION WORK

Do any of the following apply to this activity? Check box if undertaking any of the activities listed below and complete details.

Does the work involve a risk of a person falling more than 3 metres? (See Prevention of falls procedure for specifics on managing this type of work)	☐
Is the work carried out on a telecommunication tower?	☐
Does it involve demolition of an element of a structure that is load-bearing or otherwise related to the physical integrity of the structure?	☐
Does it involve, or is it likely to involve, the disturbance of asbestos?	☐
Does it involve structural alterations or repairs that require temporary support to prevent collapse?	☐
Is it carried out in or near a confined space? (See Confined Space procedure for specifics on managing this type of work)	☐
Is it carried out in or near— (i) a shaft or trench with an excavated depth greater than 1.5 metres; or (ii) a tunnel? (See Excavation and Trenching procedure for specifics on managing this type of work)	☐
Does it involve the use of explosives?	☐
Is it carried out on or near pressurised gas distribution mains or piping?	☐
Is it carried out on or near chemical, fuel or refrigerant lines?	☐
Is it carried out on or near energised electrical installations or services? (See Electrical Safety procedure for specifics on managing this type of work)	☐
Is it carried out in an area that may have a contaminated or flammable atmosphere?	☐
Does it involve tilt-up or precast concrete?	☐
Is it carried out on, in or adjacent to a road, railway, shipping lane or other traffic corridor that is in use by traffic other than pedestrians? (See Work Zone Traffic Management procedure for specifics on managing this type of work)	☐
Is it carried out in an area at a workplace in which there is any movement of powered mobile plant? (See Plant procedure for specifics on managing plant)	☐
Is it carried out in an area in which there are artificial extremes of temperature?	☐
Is it carried out in or near water or other liquid that involves a risk of drowning?	☐
Does it involve diving work?	☐

If any box has been checked, the work is High risk construction work and you should confirm that all appropriate considerations have been made by completing checklist 2a

CHECKLIST 1a: CONSTRUCTION WORK

Considerations and controls where there is no high risk construction work

Who has management control of the workplace? Council project manager or contract manager External PCBU	☐ ☐		
Who is the designer for this project? (insert name and details – this could be internal or external) Regulation 294 of the SA WHS Regulations 2012 requires the person who commissions construction work to consult with the designer about how to ensure that risks to health and safety arising from the design, during construction work are eliminated so far as is reasonably practicable or if that is not reasonably practicable, to minimise the risks so far as is reasonably practicable).	☐		
Who is responsible to consult with designer and provide any information Council has in relation to the hazards and risk where the construction work is to be carried out? (insert name and details) (Regulation 295 of the SA WHS Regulations 2012 requires the designer of the structure or any part of a structure that is to be constructed to provide the PCBU who commissioned the design, a written (safety) report that specifies the hazards relating to the design of the structure. If the PCBU who commissions a construction project did not commission the design of the construction project, the person must take all reasonable steps to obtain the written (safety) report in relation to that design. Regulation 296 of the SA WHS Regulations 2012 also requires any information the person who commissions the project has in relation to hazards and risks at or in the vicinity of the workplace where the construction work is being undertaken to be provided to the principal contractor). Designers safety report received Date	☐		
	Yes	**No**	**N/A**
Competent workers selected	☐	☐	☐
Licences current and available including general construction induction training card **(white card)**	☐	☐	☐
Risk assessments /JSAs completed, or **Risk assessments /JSAs obtained from contractor**	☐ ☐	☐ ☐	☐ ☐
Risk assessments /JSAs obtained have been checked	☐	☐	☐
First aid provisions in place	☐	☐	☐
Emergency plan developed and tested	☐	☐	☐
Processes for consultation, cooperation and coordinating of activities with other duty holders is in place and agreed	☐	☐	☐
Processes for consultation with workers and their representatives in place	☐	☐	☐
Site secured from unauthorised access	☐	☐	☐
Work zone traffic management requirements determined	☐	☐	☐
	Yes	**No**	**N/A**
Public safety issues managed	☐	☐	☐

CHECKLIST 1a: CONSTRUCTION WORK

Considerations and controls where there is no high risk construction work

Information available re underground essential services and provided to workers, principal contractor and subcontractors	☐	☐	☐
Information available re underground essential services available for inspection	☐	☐	☐
Written reports from geotechnical engineers or other competent persons obtained	☐	☐	☐
Permits for work required? (List permits here) Responsibility for obtaining permits (insert name and details)	**Yes** ☐	**No** ☐ ☐	
Electrical equipment and installations comply with Australian Standard AS/NZS 3012:2010 *Electrical installations - Construction and demolition sites*.	**Yes** ☐	**No** ☐	**N/A** ☐
Relevant signage is in place	☐	☐	☐
Responsibility allocated for checking that all persons have returned from their tasks at the end of the day	☐	☐	☐
Processes in place for monitoring and review of work	☐	☐	☐
Other free text insertion	☐		

If any of the above considerations have not been addressed or documented appropriately, insert an action in part B

CHECKLIST 2a: HIGH RISK CONSTRUCTION WORK

Considerations and controls where there is High risk construction work

What aspect of this construction work poses a high risk? **What control measures are in place in respect of this risk?**			
Who has management control of the workplace? Council project manager or contract manager External PCBU	☐ ☐		
Who is the designer for this project? (insert name and details – this could be internal or external) (Regulation 294 of the SA WHS Regulations 2012 requires the person who commissions construction work to consult with the designer about how to ensure that risks to health and safety arising from the design, during construction work are eliminated so far as is reasonably practicable or if that is not reasonably practicable, to minimise the risks so far as is reasonably practicable).	☐		
Who is responsible to consult with designer and provide any information Council has in relation to the hazards and risk where the construction work is to be carried out? (insert name and details) (Regulation 295 of the SA WHS Regulations 2012 requires the designer of the structure or any part of a structure that is to be constructed to provide the PCBU who commissioned the design, a written (safety) report that specifies the hazards relating to the design of the structure. If the PCBU who commissions a construction project did not commission the design of the construction project, the person must take all reasonable steps to obtain the written (safety) report in relation to that design. Regulation 296 of the SA WHS Regulations 2012 also requires any information the person who commissions the project has in relation to hazards and risks at or in the vicinity of the workplace where the construction work is being undertaken to be provided to the principal contractor). Designers safety report received Date	☐ ☐		
Competent workers selected	**Yes** ☐	**No** ☐	**N/A** ☐
Licences current and available including general construction induction training card **(white card)**	☐	☐	☐

	Yes	No	N/A
SWMS prepared, or	☐	☐	☐
SWMS obtained from contractor	☐	☐	☐
Responsibility allocated for making sure all SWMS' for high risk construction work developed by contractors are consistent with each other and appropriate	☐	☐	☐
Workers trained in SWMS	☐	☐	☐
SWMS available to all persons carrying out high risk construction work	☐	☐	☐
If the SWMS is revised:			
Responsibility allocated to make sure all previous versions are retained	☐		
All person advised that revision made to SWMS and how they can access the revised SWMS	☐	☐	☐
Copy given to principal contractor	☐	☐	☐
All workers provided with relevant information and instruction to enable them to understand and implement SWMS	☐	☐	☐
SWMS easily accessible at workplace where work is being carried out or able to be promptly delivered	☐	☐	☐
First aid provisions in place	☐	☐	☐
Emergency plan developed and tested	☐	☐	☐
Processes for consultation, cooperation and coordinating of activities with other duty holders in place	☐	☐	☐
Processes for consultation with workers and their representatives in place	☐	☐	☐
Site secured from unauthorised access	☐	☐	☐
Work zone traffic management requirements determined	☐	☐	☐
Public safety issues managed	☐	☐	☐
Information available re underground essential services and provided to workers, principal contractor and subcontractors	☐	☐	☐
Information available re underground essential services available for inspection	☐	☐	☐
Written reports from geotechnical engineers or other competent persons obtained	☐	☐	☐
Permits for work required?	☐	☐	☐
(List permits here)			
Responsibility for obtaining permits assigned	☐		
(insert name and details)			

	Yes	No	N/A
When excavation work is being undertaken, the frequency of inspections of soil condition and the state of shoring, battering and trench walls have been determined and documented as part of the risk assessment process	☐	☐	☐
Electrical equipment and installations comply with Australian Standard AS/NZS 3012:2010 *Electrical installations - Construction and demolition sites*.	☐	☐	☐
Relevant signage is in place	☐	☐	☐
Responsibility allocated for checking that all persons have returned from their tasks at the end of the day	☐	☐	☐
Processes in place for monitoring and review of work including making sure SWMS is complied with	☐	☐	☐
Other free text insertion	☐		

If any of the above considerations have not been addressed or documented appropriately, insert an action in part B.

CHECKLIST 3: CONSTRUCTION PROJECT:

Value $250,000 or more , may or may not include high risk construction work

Does anything in this project qualify as high risk construction work? YES / NO (if no, ensure Checklist 1a has been completed. If yes, include details and ensure checklist 2a has been completed)	**1a** ☐ **2a** ☐
Who is the principal contractor? Council project manager or contract manager (insert name) External PCBU (insert name and details) If external PCBU – contract specifies who is principal contractor Information has been given to principal contractor in relation to hazards and risks at or in the vicinity of the workplace?	☐ ☐ ☐ ☐
Who has management control of the workplace? Council project manager or contract manager External PCBU	☐ ☐
Who is the designer for this project? (insert name and details – this could be internal or external) (Regulation 294 of the SA WHS Regulations 2012 requires the person who commissions construction work to consult with the designer about how to ensure that risks to health and safety arising from the design, during construction work are eliminated so far as is reasonably practicable or if that is not reasonably practicable, to minimise the risks so far as is reasonably practicable).	☐
Who is responsible to consult with designer and provide any information Council has in relation to the hazards and risk where the construction work is to be carried out? (insert name and details) (Regulation 295 of the SA WHS Regulations 2012 requires the designer of the structure or any part of a structure that is to be constructed to provide the PCBU who commissioned the design, a written (safety) report that specifies the hazards relating to the design of the structure. If the PCBU who commissions a construction project did not commission the design of the construction project, the person must take all reasonable steps to obtain the written (safety) report in relation to that design. Regulation 296 of the SA WHS Regulations 2012 also requires any information the person who commissions the project has in relation to hazards and risks at or in the vicinity of the workplace where the construction work is being undertaken to be provided to the principal contractor). Designers Safety report received Date	☐ ☐

WHS Management plan prepared, or (see page 6 for details of what is required within a WHS management plan) **WHS Management plan prepared and/or obtained from contractor**	☐ ☐	☐ ☐	☐ ☐
Responsibility allocated for checking that all persons have returned from their tasks at the end of the day	☐	☐	☐

Other free text insertion	☐

If any of the above considerations have not been addressed or documented appropriately, insert an action in part B.

Appendix 3: Pre-Excavation Risk Assessment Worksheet

The Flinders Ranges Council	**PRE-EXCAVATION RISK ASSESSMENT WORKSHEET**	Version Number 2 Adopted XX 2014 Next Review XX 2017 GDS Reference 12.16.6.1

THIS DOCUMENT IS TO BE HELD IN THE FRONT OF THE WORKING FILE AND HANDED TO THE OPERATIONAL STAFF PRIOR TO COMMENCEMENT OF WORK

PART A – Assessment Summary

Risk Assessment Number: _____ **Assessment Date:** _____

Assessment Title (Excavation Task): _____

Site:	
Department:	
Location of work activity:	
Other:	

RISK ASSESSMENT TEAM

POSITION	NAME	SIGNED	DATE

What is the purpose of this task?

Incident History (Incident Numbers):

DEPARTMENT MANAGER:

Name:	
Proposed Verification Date(s):	
Signed:	**Date:**

OHS REPRESENTATIVE (HSR):

Name:	
Signed:	**Date:**

INSERT PHOTO / DIAGRAM

PART B – Hazard Identification and Action Plan

Risk Assessment Number: _____

To identify potential hazards at the worksite to enable planning of control measures before work commences.

	Yes	No	N/A	Current Controls	Risk Rating	Proposed Additional Controls	Risk Rating	Responsible Person	Date
Has a Geotechnical engineer's report been obtained for excavations over 1.5 metres.									
ETSA power lines Telecom lines Service infrastructure supports (Poles etc)									
Nature of ground Soil or rock Moisture content Water table level Faults or bedding planes									
Possibility of flooding Stormwater drains Surface run off after heavy rain Swamp, dam, reservoir, lake or river									
Underground services (Dial Before You Dig 1100) High pressure gas lines Electrical cables Sewer Water mains Telephone lines Previous trenching work									
Hazards – natural or artificial Intersecting old trenches Manholes and other shafts Bends in an excavation line Leaking services Trees Ground contamination – Industrial/waste Location of Industry Pedestrian ways									

	Yes	No	N/A	Current Controls	Risk Rating	Proposed Additional Controls	Risk Rating	Responsible Person	Date
Static loads Spoil pile Buildings inc garage and outbuildings Fence lines Water tanks/towers Brick or stone walls Earth embankment									
Dynamic loads Traffic (highway/rail) Excavation equipment and other plant WorkZone Traffic Management (AS 1742.3)									
Facilities Lunch Toilet and hygiene Inclement weather									
Excavation Plant Storage Access Pre-start checklist completed									
Staff Plant operator competency requirements Personal protective equipment requirements Training for task Competent person to inspect site									
Trench support requirements Equipment (shoring, etc) Staff training									
Prevention of falls (ladders, fall arrestors, platforms, signage, pedestrian safety, PPE)									
Any other issues identified affecting the design or work. Eg Confined Space requirements									

Risk Assessment Number: _____

RISK RATING MATRIX (Ref: AS 4360:1999 Risk Management)

LIKELIHOOD	CONSEQUENCES				
	Insignificant No injuries, low financial loss **1**	**Minor** First aid treatment, on-site release immediately contained, medium financial loss **2**	**Moderate** Medical treatment required, on site release contained with outside assistance, high financial loss **3**	**Major** Extensive injuries, loss of production capability, off-site release with no detrimental effects, major financial loss **4**	**Catastrophic** Death, toxic release off-site with detrimental effect, huge financial loss **5**
A – Almost certain -is expected to occur in most circumstances	**High (H)**	**High (H)**	**Extreme (E)**	**Extreme (E)**	**Extreme (E)**
B – Likely -will probably occur in most circumstances	**Medium (M)**	**High (H)**	**High (H)**	**Extreme (E)**	**Extreme (E)**
C – Possible -might occur at some time	**Low (L)**	**Medium (M)**	**High (H)**	**Extreme (E)**	**Extreme (E)**
D – Unlikely **-**could occur at some time	**Low (L)**	**Low (L)**	**Medium (M)**	**High (H)**	**Extreme (E)**
E – Rare **-**may occur only in exceptional circumstances	**Low (L)**	**Low (L)**	**Medium (M)**	**High (H)**	**High (H)**

Hierarchy of Controls

1. **Eliminate:** remove the hazard completely
2. **Substitute:** replace a hazardous process/substance with one which is less hazardous
3. **Isolation:** remove the person from the hazardous environment or the hazardous environment form the person
4. **Engineering:** provide a physical barrier or other engineered modifications to manage the hazard
5. **Administrative:** establish policies, procedures & work practices, provide training
6. **Personal Protective Equipment:** use equipment that provides protection to all individual persons against the hazard

Appendix 4: Excavation Daily Inspection Sheet

The Flinders Ranges Council	**EXCAVATION DAILY INSPECTION SHEET**	**Version No**	2.0
		Issued	Xx 2014
		Next Review	X 2017
		GDS	12.16.6

WORKSITE _____

NOTES FROM PREVIOUS WEEK _____

Check that the following are satisfactory Mark N/A where not applicable		Week Commencing Mon ___ / ___ / ____													
	DATE	M		T		W		T		F		S		S	
		Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N
1	Effective barricades (access control & fall prevention), Traffic control, to plan signs and records														
2	Open excavation/trench														
	• Angle of repose														
	• Depth of cut														
	• Material excavated														
	• Undercutting														
	• Climatic conditions														
	• Traffic –Vehicular/pedestrian														
3	Flammable liquid, gasses, potential Monoxide fumes in close proximity to trench/excavation														
4	Excavation area clear of:-														
	• Spoil														
	• Tools														
	• Pipes/supplies														
	• Equipment/machinery not in use														
	• Other materials (rubbish, off-cuts of timber, containers etc)														
5	Adequate surface water control (reduce erosion/flooding)														
6	Appropriate Protective Equipment being worn														
	• Safety helmet in excavation or near plant														
	• Gloves, high visibility clothing, footwear														
7	Shoring where used, securely fixed														
	• Toms, Struts, Whalers, Props, Wedges, sheeting														
	Mechanical Ground support systems														
	• Screw hydraulic spreaders														
	• Wall plates														
	• Tools & equipment														
8	Warning signs of collapse														
	• Timber/supports creaking/becoming tight/loose														
	• Water entering excavation														
	• Tension cracks along top of trench														
	• Subsidence, fretting or sag under plant weight														
	• Previous excavation in immediate area														
9	Efficient means of Access/Egress														
	• Ladders installed within immediate work area														
10	First aid														
	• First aid kit available on site														
	• First aider on site as required														
	• Emergency procedure known														
11	Communication system														
	• An operating radio or phone on site														
	Name of Person(s) Inspecting Site Signature of person(s) inspecting site	_____ _____ p													

MAKE APPROPRIATE COMMENTS ON REVERSE SIDE OF THIS FORM

THIS DOCUMENT MUST BE HELD AT THE WORKSITE AT ALL TIMES