



EXCAVATION AND TRENCHING POLICY	Procedure Number SAF-1.23
	Issue Date NOVEMBER 09, 2011
SAFETY	Revision Date July 8, 2016
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INTERPRETATION AND PERIODIC REVIEW OF THIS PROCEDURE IS THE RESPONSIBILITY OF: SAFETY MANAGER	
DISTRIBUTION ALL MANAGERS ALL TEAM LEADERS	

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1. PURPOSE

To prevent injury to personnel and/or damage to mill or equipment while performing excavation work by reviewing safety requirements and identifying all underground utilities/obstructions before beginning any excavation work.

2. SCOPE

This policy applies to all Coosa Pines employees and to any contractors or visitors that may be on site.

3. APPLICATION

3.1. This policy applies to all Excavations and addresses the mitigation required to prevent a cave-in and prevent accidental contact with underground utilities/obstructions at depths of 20 feet or less.

3.2. Excavations four (4) feet or more in depth will also be treated as Permit Required Confined Spaces. The Permit Required Confined Space Policy rules must be followed in addition to the Excavation and Trenching Policy.

3.3. Excavations more than four (4) feet in depth are required to have a protective system in place while workers are present in the excavation.

3.3.1. Excavations less than four (4) feet in depth that have been examined by a competent person and determined not to present a cave-in hazard do not require a protective system.

4. DEFINITIONS

4.1. Benching System: A method of protecting employees from cave-ins by excavating the sides of an excavation to form one or more horizontal steps, usually with vertical or near vertical surfaces between levels.

4.2. Competent Person: A person who is capable of identifying hazards in the workplace, or working conditions that are unsafe for employees, and who has the authority to have these hazards corrected.

4.3. Excavation: Any manmade cut, cavity, trench, or depression in the earth's surface formed by earth removal.

4.4. Faces/Sides: The vertical or inclined earth surfaces formed as a result of excavation.

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- 4.5. Hazardous Atmosphere: An atmosphere that is explosive, flammable, poisonous, corrosive, oxidizing, irritating, oxygen deficient, toxic, or otherwise harmful, that may cause death, illness or injury.
- 4.6. Protective System: A method of protecting employees from cave-ins, from material that could fall or roll from an excavation face into an excavation, or from the collapse of adjacent structures. Protective systems include support systems, sloping and benching systems, shield systems, and other systems that provide the necessary protection.
- 4.7. Shield System: A structure used in an excavation to withstand cave-ins and which will protect employees working within the shield system. Shields can be permanent structures or portable units moved along as work progresses. Shields used in trenches are usually referred to as trench boxes or trench shields.
- 4.8. Sloping System: A method of protecting employees from cave-ins by excavating to form sides of an excavation which are inclined away from the excavation so as to prevent cave-ins. The angle of incline required to prevent a cave-in varies with differences in such factors as the soil type, environmental conditions of exposure, and application of surcharge loads.
- 4.9. Trench: A narrow excavation made below the surface of the ground.

5. GENERAL RESPONSIBILITIES

- 5.1. In administering the Excavation Safety Policy, the Coosa Pines Project Manager is responsible for the trenching or excavation job shall:
 - 5.1.1. Monitor the overall effectiveness of the policy.
 - 5.1.2. Assure all underground utilities/obstructions have been identified before trenching or excavating.
 - 5.1.3. Assure that this Policy and the Permit and Daily Check List detailed in this policy (Section 9 and attachments) are used when trenching or excavating.
 - 5.1.4. Assure that the Excavations are treated as Confined Spaces at four (4) feet or more in depth.
 - 5.1.5. Identify/provide personal protective equipment as needed.
 - 5.1.6. Identify/provide protective systems as needed.

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5.1.7. Verify training of contracted personnel and Coosa Pines employees.

- 5.1.8. Provide technical assistance as needed.
- 5.1.9. Record any deviation/exception to the policy.
- 5.1.10. Ensure all required inspections, testing, and record keeping functions have been performed.

6. TRAINING AND DOCUMENTATION

- 6.1. All personnel involved in trenching or excavating shall be trained in the requirements of this policy.
- 6.2. Training shall be provided before employees are assigned duties in trenching or excavating.
- 6.3. Retraining will be performed when work site inspections indicate the employee (s) does not have the knowledge or skills to safely work in or around excavations or when changes are made on this policy or the scope of the job.
- 6.4. Training records shall be maintained in the Learning Management System (LMS) and copies sent to the Safety Department.

7. TRAINING CURRICULUM

- 7.1. The training provided to all personnel who work in trenches or excavations shall include but not be limited to:
 - 7.1.1. The work practices that must be followed during excavation or when working in trenches or excavations.
 - 7.1.2. The use of personal protective equipment (PPE) that will typically be required when working in trenches or excavations.
 - 7.1.3. Procedures to be followed if a hazardous atmosphere exists or could reasonably be expected to develop during work in trenches or excavations.
 - 7.1.4. Emergency and non-entry rescue methods and the procedure (s) for contacting Emergency Response Team (ERT) members.
 - 7.1.5. **OSHA Excavation Standard, 29 CFR 1926 Subpart P.**

8. MITIGATION TECHNIQUES

- 8.1. Acceptable mitigation techniques for excavations 20 feet or less include:



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- 8.1.1. Sloping/Benching (Sloping the walls of the excavation away from the work area at a 1½:1 ratio)
- 8.1.2. Shielding (Use of a steel constructed cage.)
- 8.1.3. If the excavation is deeper than 20 feet a professional engineer must be consulted.

9. PROCEDURE

- 9.1. Complete the Excavation and Trenching Permit Form. (See Attachment 12.1)
- 9.2. If excavation depth is four (4) feet or more it must be treated as a Permit Required Confined Space in addition to complying with the Excavation and Trenching Policy.
- 9.3. The Excavation and Trenching Daily Checklist must be completed and posted daily at the Excavation Site. (See Attachment 12.2)
- 9.4. Permit and Checklist steps must be followed.
- 9.5. Work procedures and equipment used shall be in accordance with 29 CFR, 1926.651 and Appendixes A, B, C, D, E.

10. REFERENCES

- 4.1. 29 CFR, 1926. 650, Scope, Applications, and Definitions applicable to this subpart.
- 4.2. 29 CFR, 1926. 651, Specific Excavation Requirements.
- 4.3. 29 CFR, 1926. 652, Requirements for Protective Systems.
- 4.4. 29 CFR, 1926, Subpart P, Appendix A.
- 4.5. 29 CFR, 1926, Subpart P, Appendix B.
- 4.6. 29 CFR, 1926, Subpart P, Appendix C.
- 4.7. 29 CFR, 1926, Subpart P, Appendix D.
- 4.8. 29 CFR, 1926, Subpart P, Appendix E.
- 4.9. 29 CFR, 1926, Subpart P, Appendix F.
- 4.10. OSHA Excavation and Trenching Standards: OSHA 2226, Revised 2002



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11. RECORD OF REVISIONS

RECORD OF REVISIONS

Section	Revision Number	Effective Date	Description Of Changes
ALL	1	03-19-13	Name change to Resolute
Att 12.1	2	03-21-16	Updated to include most current Excavation and Trenching Permit. Changed Procedure Number.
6.4, Att 12.1	3	04-22-16	Updated Daily Checklist and training documentation requirements.
Title Page	4	07-08-16	New management signature.

12. ATTACHMENTS

- 12.1. Excavation and Trenching Daily Checklist
- 12.2. Excavation and Trenching Permit Form



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EXCAVATION DAILY CHECKLIST

COMPANY PERFORMING WORK: _____

LOCATION OF EXCAVATION: _____

TRENCH SIZE: Depth: _____ Length: _____ Width: _____

YES	NO	NA	
			If greater than 4 feet deep, a confined space permit is required for entry.
			Excavation and protective systems inspected by competent person before work begins.
			Surface encumbrances supported or removed.
			Employees protected from loose rock or soil.
			Necessary PPE worn by all employees.
			Materials and equipment set back a safe distance from the edge of excavation (3 feet minimum).
			Barricade tape procedures followed.
			A means of egress provided for all trenches 4 feet deep or greater.
			A means of safe egress must be within 25 feet of all employees.
			Walkways and bridges over excavations 4 feet deep or greater must have guardrails.
			High-visibility warning vests provided and worn by employees exposed to vehicular traffic.
			Employees prohibited from working or walking under suspended loads or equipment.
			Employees prohibited from working on faces of sloped or benched excavations above other employees.
			Warning system established and used when mobile equipment is operating near edge of excavation.
			Precautions taken to protect employees from accumulation of water. Employees not allowed to work in water.
			Surface water controlled or diverted.
			Inspection made after each rainstorm by competent person.
			Utility company contacted or utilities located.
			Location of utilities marked.
			Atmosphere tested when there is a possibility of oxygen deficiency or buildup of hazardous gases.

Competent Person: _____
(Print Name) (Signature)

_____ am / pm
(Date) (Time)



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04-24-13 Revision 2

**COOSA PINES OPERATIONS
EXCAVATION PERMIT FORM**

DATE: _____
 REQUESTED BY: _____
 DEPARTMENT: _____

Check all that will be affected in conjunction with work:

- | | |
|---|---|
| <input type="checkbox"/> - Fire Water lines | <input type="checkbox"/> - Air lines |
| <input type="checkbox"/> - Sewage lines | <input type="checkbox"/> - Gas lines |
| <input type="checkbox"/> - Storm drainage lines | <input type="checkbox"/> - Electrical / Instrumentation |
| <input type="checkbox"/> - Process lines | <input type="checkbox"/> - Railroad |
| <input type="checkbox"/> - Filtered Water Lines | <input type="checkbox"/> - Potable water lines |
| <input type="checkbox"/> - PSM area | <input type="checkbox"/> - Other |

Location of excavation: _____

Purpose of excavation: _____

Approximate depth of excavation: _____

At four (4) feet or deeper an excavation must be treated as a Confined Space. This does not remove the excavation requirements.

Have engineering drawings of the location been reviewed? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Signature of Project Manager / Originator: _____	
Prior to any excavation work beginning, notify the following individuals:	Check When Notification Completed
Engineering (Project Engineer or Manager) - _____	<input type="checkbox"/>
Area Operational Supervision (Coordinator or Manager) - _____	<input type="checkbox"/>
Area Maint. Supervision (Coordinator, Planner or Manager) - _____	<input type="checkbox"/>

- Requirements:
1. This permit must be completed and posted at the job site for the duration of the job.
 2. It is mandatory to barricade area with red danger tape when excavation is left unattended.
 3. All work must be inspected and approved by the Project Manager / Originator before back filling has begun.
 4. The Project Manager / Originator must inspect and approve of excavation after work has been completed.
 5. Project Manager / Originator sends Permit to Safety for records.

Print Name of Project Originator at completion: _____

Date of completion: _____