





















A simple loader is constructed to provide a movable stand that holds a long length of bag. The bottom of the metal bucket is removed, and a cardboard tube fit inside it. The friction fit between the two allows baggers to feed the exact amount of bag required.



The bag is bunched on the cardboard tube and inserted into the bottomless bucket, and is ready for loading.



A crushed stone is often used to supplement site soil or to form the basis of a mix. Mixes range from typical concrete mixes to pure gravelly sub soil to those with custom binders. Small test bags can be made to refine recipes.



Fill is prepared in barrel-style cement mixer. Mixes should be just damp enough to bind together when tamped. The recipe on the right features crushed stone (40 shovels), hydrated lime (2.5-3 shovels) and metakaolin (2.5-3 shovels) plus a small amount of water.

MIX

40 Shovels

4.5 WATER

2.5 LIME

2.5 META-K

5 BAGS OF LIME  
4 BAGS OF META-K

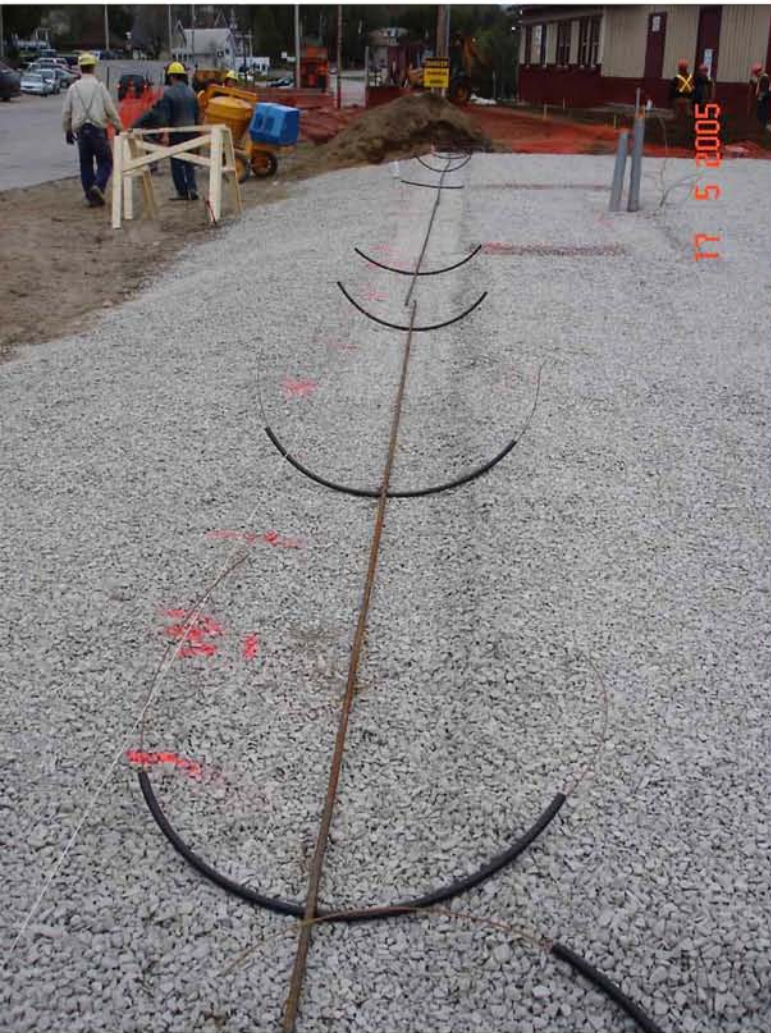
BATCH

FRONT



TUES.





A rubble trench or other stable gravel pad makes an ideal base for an earthbag wall or foundation. The tubes on the left are for compression straps for a load bearing straw bale wall



To begin a course of earthbag, the loader is put in place with a desired length of bag. The end of the tube has been squared and properly placed on the foundation line.



At the start of a course, the desired amount of fill is scooped into the tube via coffee can or bucket. Once filling has proceeded a few feet, the fill is firmly tamped. A height measurement is taken to ensure that each course is the proper thickness.







30"

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0.4  
0.5  
0.6  
0.7  
0.8  
0.9  
1.0  
1.1  
1.2  
1.3  
1.4  
1.5  
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10.0

Colt

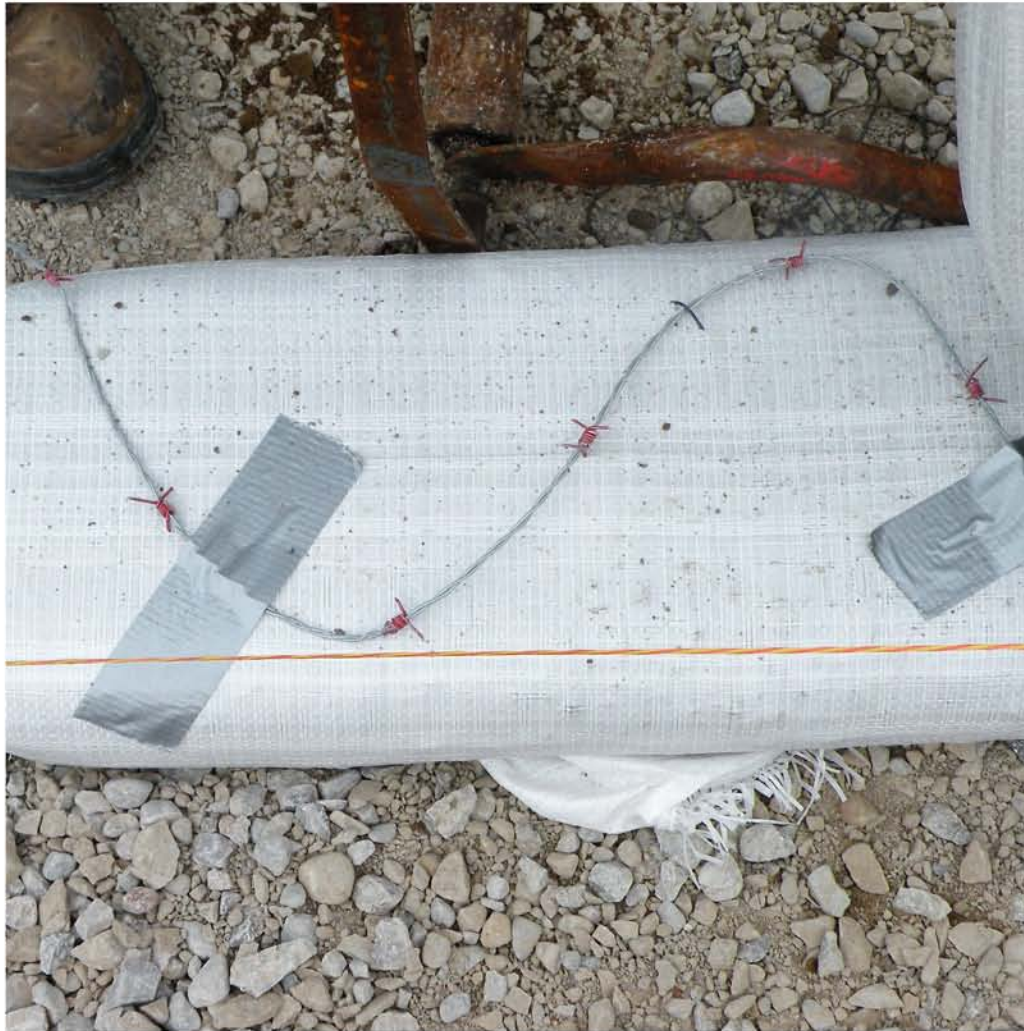
Colt

LADDER BRANFORD  
LIFT IT UP  
LARDERBREW



Once the right amount of fill and tamping have been set, the team progresses forward until the end of the bag length or course. The end of the bag is then twisted off and tucked underneath.





After one course, a string line is snapped to ensure that each course continues on the appropriate centre. Barbed wire is then run on top of the completed course to prevent slippage between rows of bags.



Corners are staggered between courses. The process of checking level is important. Typically, refinements to level are made with each subsequent course until the final course is perfect.



The number of courses can vary from just a few to raise a building's walls above grade or they can be full height basement walls.



A completed earthbag grade beam foundation is ready to accept walls.





Curved shapes are very easy to create with earthbag. The forming process is much simpler than with any other building system.



Double wide courses of narrower earthbag can be used to accommodate wide wall systems, and provide space for thermal insulation within the foundation.



Wooden sill plates are commonly spiked or strapped to earthbag foundation walls to provide attachment for wall systems or floor framing.



Earthbag walls can also be used as interior walls.



This curved interior earthbag wall is used as both a room divider and also the central heating “radiator”. Hydronic tubing is run in the dimples between courses ahead of plastering, and the finished wall provides a steady thermal mass for heating the space.



Any type of building can rest on an earthbag foundation. We've used conventional frame walls, straw bales, hempcrete, straw clay and even round straw bale columns.



Taller walls, especially those being buried and carrying soil pressure, may require buttressing as seen at the mid-span point of these basement walls.



Arched forms are straightforward to achieve with earthbags. Here, an arched form is used to build up successive courses of bags, with a final keystone bag compacted in the centre.







An earthbag arch is strong enough to be buried beneath the ground!



Although it involves some physical labour, we have worked with numerous teams to achieve bag placement rates of 25-30 feet per hour. It compares very favourably with the labour time required to work with concrete at a fraction of the environmental impact and cost.



From the simple act of whacking a bag full of compacting soil, any kind of building can arise!



A wide array of code-approved buildings have been built with earthbag foundation walls, including commercial and residential buildings and sheds.

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Don't let the earthbag man scare you away... earthbag building is simple, cost-effective and durable!





Earthbag building

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