

1926.651(i).

(c)(4) *Configurations*. Configurations of sloping and benching systems shall be in accordance with Figure B-1.

**TABLE B-1.
Maximum Allowable Slopes**

SOIL OR ROCK TYPE	MAXIMUM ALLOWABLE SLOPES (H:V) ¹ FOR EXCAVATIONS LESS THAN 20 FEET DEEP ³
STABLE ROCK	VERTICAL (90 Deg.)
TYPE A ²	3/4:1 (53 Deg.)
TYPE B	1:1 (45 Deg.)
TYPE C	1 1/2:1 (34 Deg.)

¹ Numbers shown in parentheses next to maximum allowable slopes are angles expressed in degrees from the horizontal. Angles have been rounded off.

² A short-term maximum allowable slope of 1/2H:1V (63 degrees) is allowed in excavations in Type A soil that are 12 feet (3.67 m) or less in depth. Short-term maximum allowable slopes for excavations greater than 12 feet (3.67 m) in depth shall be 3/4H:1V (53 degrees).

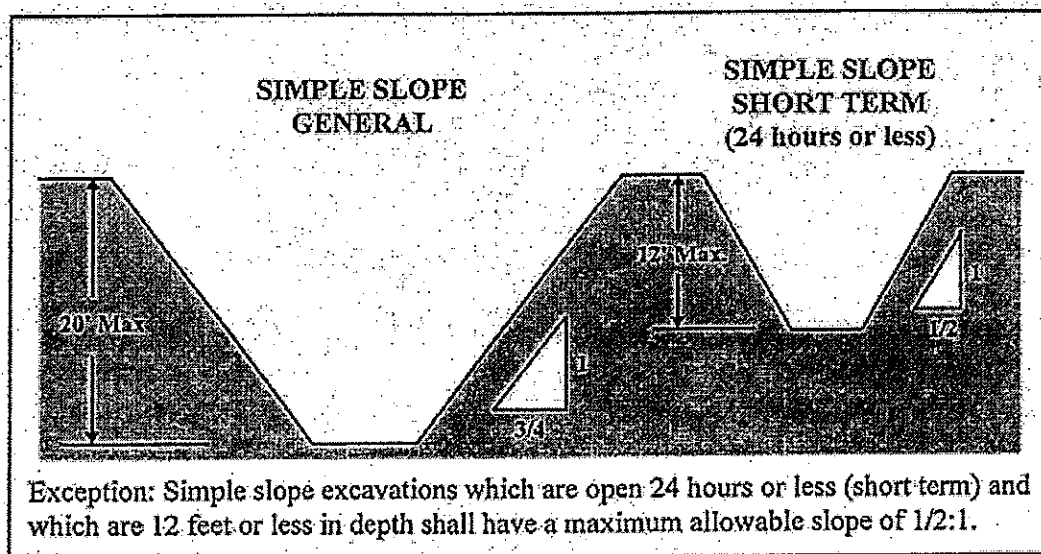
³ Sloping or benching for excavations greater than 20 feet deep shall be designed by a registered professional engineer.

Figure B-1 - Slope Configurations

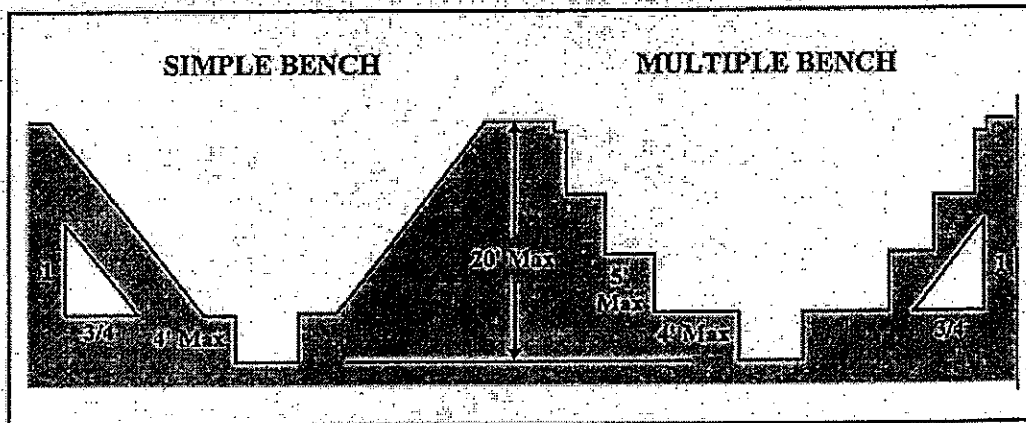
(All slopes stated below are in the horizontal to vertical ratio)

B-1.1 Excavations made in Type A soil.

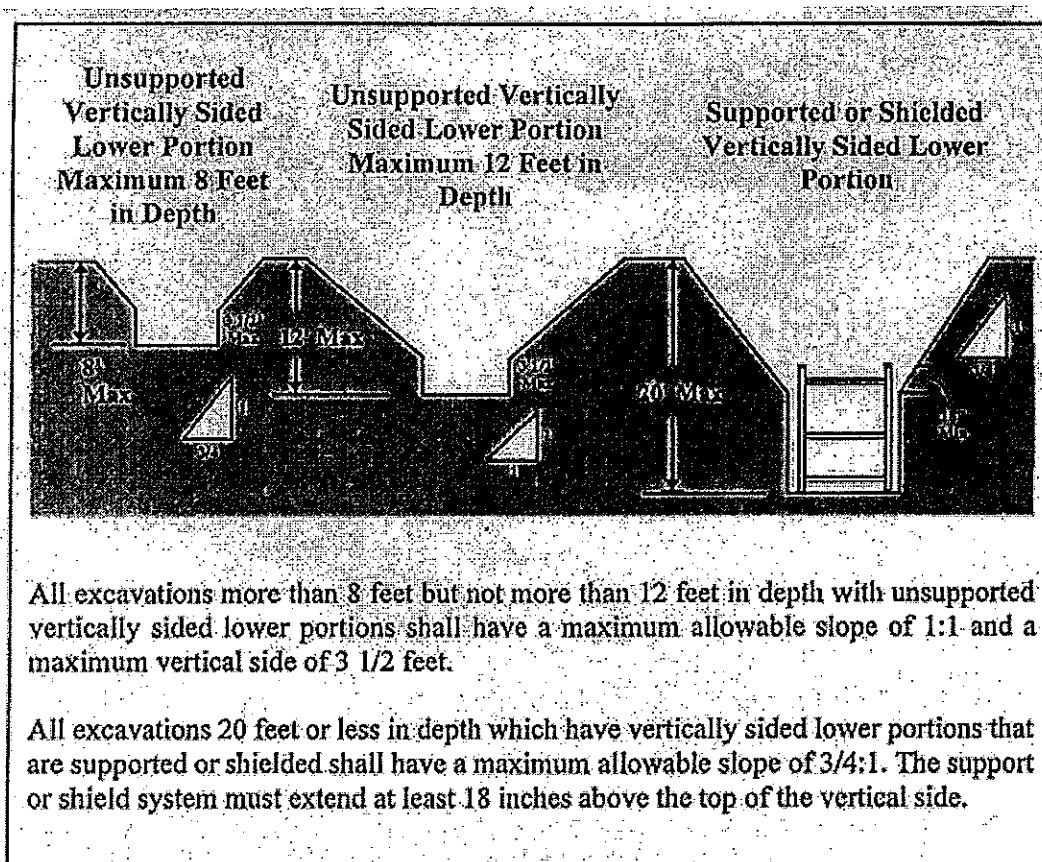
1. All simple slope excavation 20 feet or less in depth shall have a maximum allowable slope of 3/4:1.



2. All benched excavations 20 feet or less in depth shall have a maximum allowable slope of 3/4 to 1 and maximum bench dimensions as follows:



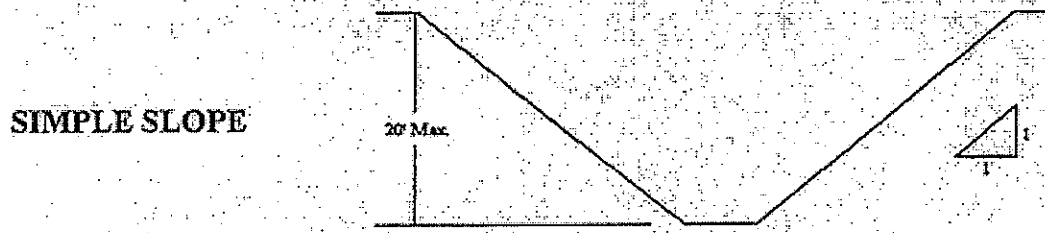
3. All excavations 8 feet or less in depth which have unsupported vertically sided lower portions shall have a maximum vertical side of 3 1/2 feet.



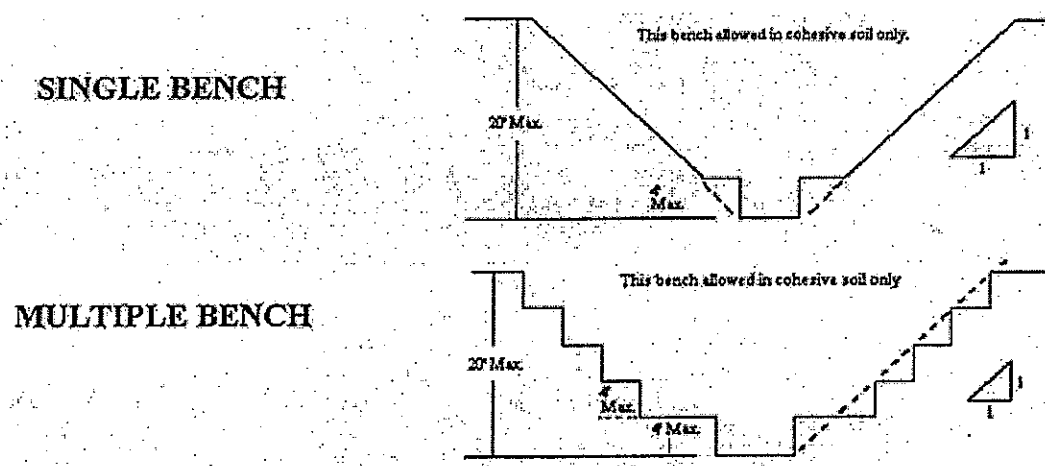
4. All other simple slope, compound slope, and vertically sided lower portion excavations shall be in accordance with the other options permitted under 1926.652(b).

B-1.2 Excavations made in Type B soil.

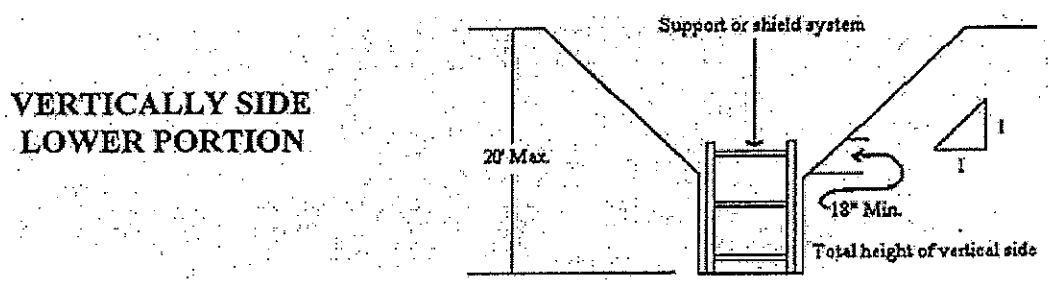
1. All simple slope excavations 20 feet or less in depth shall have a maximum allowable slope of 1:1.



2. All benched excavations 20 feet or less in depth shall have a maximum allowable slope of 1:1 and maximum bench dimensions as follows:



3. All excavations 20 feet or less in depth which have vertically sided lower portions shall be shielded or supported to a height at least 18 inches above the top of the vertical side. All such excavations shall have a maximum allowable slope of 1:1.

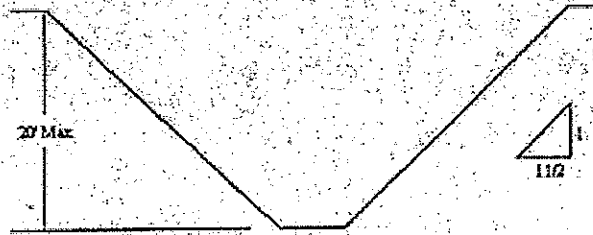


4. All other sloped excavations shall be in accordance with the other options permitted in 1926.652(b).

B-1.3 Excavations made in Type C soil.

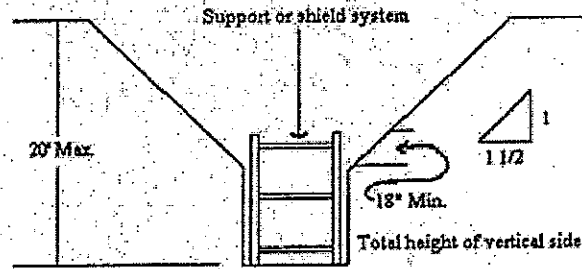
1. All simple slope excavations 20 feet or less in depth shall have a maximum allowable slope of 1 1/2:1.

SIMPLE SLOPE



2. All excavations 20 feet or less in depth which have vertically sided lower portions shall be shielded or supported to a height at least 18 inches above the top of the vertical side. All such excavations shall have a maximum allowable slope of 1 1/2:1.

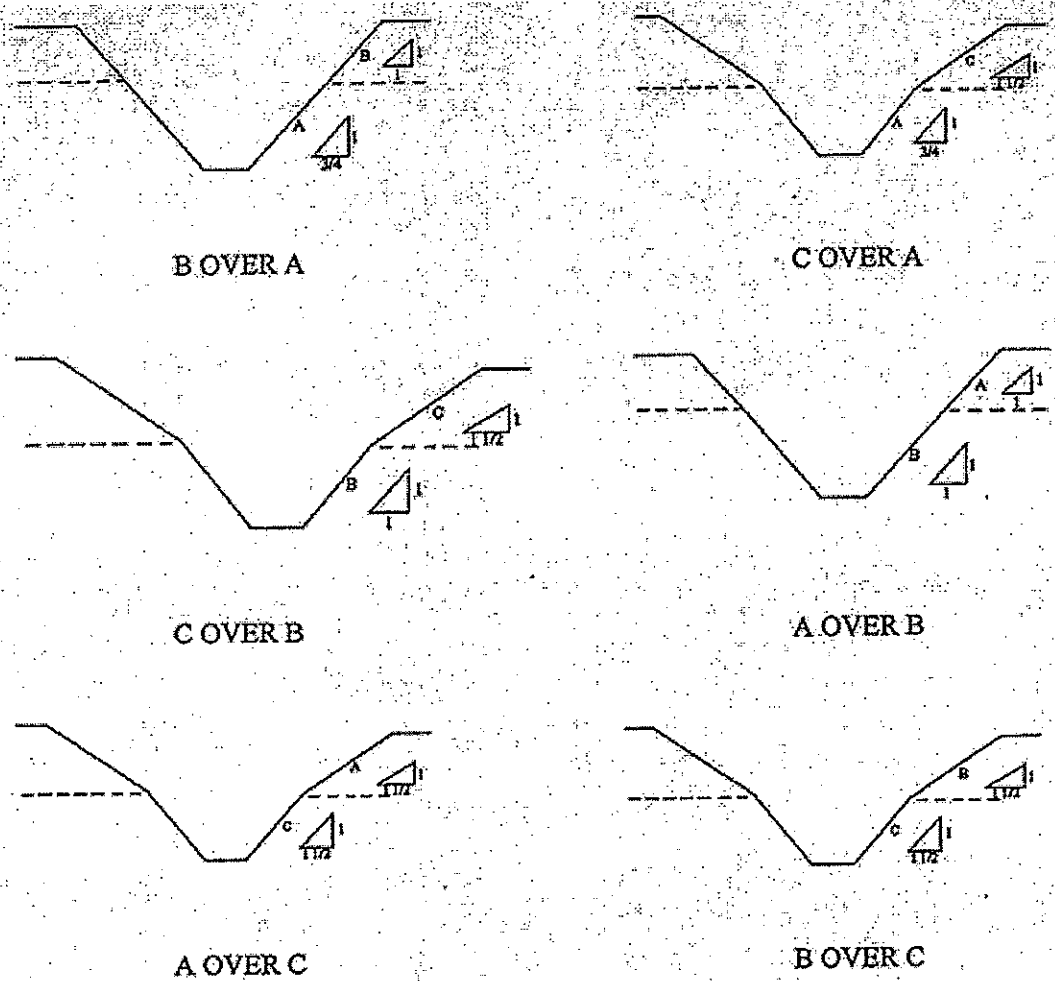
VERTICAL SIDED LOWER PORTION



3. All other sloped excavations shall be in accordance with the other options permitted in 1926.652(b).

B-1.4 Excavations made in Layered Soils

1. All excavations 20 feet or less in depth made in layered soils shall have a maximum allowable slope for each layer as set forth below.



2. All other sloped excavations shall be in accordance with the other options permitted in 1926.652(b).

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