

Wall Type	Perm.	Temp.	Cost Effective Height Range (m)	Wall Face Cost (\$/m ²) ⁽¹⁾	Required R / W ⁽²⁾	Lateral Movements	Water Tightness	Advantages	Disadvantages
Sheet Piles	X	X	0 - 5	1.50 – 13.00	None	Large	Fair	<ul style="list-style-type: none"> ● Rapid Construction ● Readily available 	<ul style="list-style-type: none"> ● Difficult to construct in hard ground or through obstructions
Soldier Piles / Lagging	X	X	0 - 5	1.00 – 3.50	None	Medium	Poor	<ul style="list-style-type: none"> ● Rapid Construction ● Soldier beams can be drilled or driven 	<ul style="list-style-type: none"> ● Difficult to maintain vertical tolerances in hard ground ● Potential for ground loss at excavated face
Anchored	X	X	5 – 20 ⁽³⁾	1.50 – 7.50	0.6H + anchor bond lgth.	Small to medium	N / A	<ul style="list-style-type: none"> ● Can resist large horizontal pressures ● Adaptable to varying site conditions 	<ul style="list-style-type: none"> ● Requires skilled labor and specialized equipment ● Anchors may require permanent easements
Soil Nailed	X	X	3 – 20	1.50 – 5.50	0.6 – 1.0H	Small to medium	N / A	<ul style="list-style-type: none"> ● Rapid construction ● Adaptable to irregular wall alignment 	<ul style="list-style-type: none"> ● Nails may require permanent easements ● Difficult to design and construct below water table

Notes: (1) Total installed cost in 1998 U.S. dollars.

(2) R/W requirements expressed as distance, as fraction of wall height H, behind the wall face where wall anchorage components (i.e., ground anchors and soil nails) are installed.

(3) For soldier pile and lagging wall only.

CUT-SECTION WALL SYSTEM SELECTION CHART

Figure 68-2C