

Cut and Fill Problem



- Compute the total cut-and-fill for the following site
- The original elevations are:

	1	2	3	4	5
1	105	104	104	103	102
2	104	104	103	102	101
3	103	103	102	101	100
4	103	102	101	100	99
5	101	100	99	98	97

- The size of each cell is 25 ft. by 25 ft.
- The proposed site is at an elevation of 103 ft.
- To compute the cut-and-fill compute the change in elevations (original elevations minus proposed elevations gives).

	1	2	3	4	5
1					
2					
3					
4					
5					

- Positive values indicate cut and negative values indicate fill.
- The resulting cut-and-fill volumes for each cell in the entire grid system is:

	1	2	3	4
1				
2				
3				
4				

- A sited model with a 5 x 5 grid system contains 4 x 4 cells

$$\text{On site} = \left(\frac{\$5}{\text{yd.}^3} \right) (\text{cut} - \text{fill})$$

$$\text{Off site} = \left(\frac{\$25}{\text{yd.}^3} \right) |\text{fill}|$$

$$\text{Off site} = \left(\frac{\$15}{\text{yd.}^3} \right) \text{cut}$$