SB DRAIN

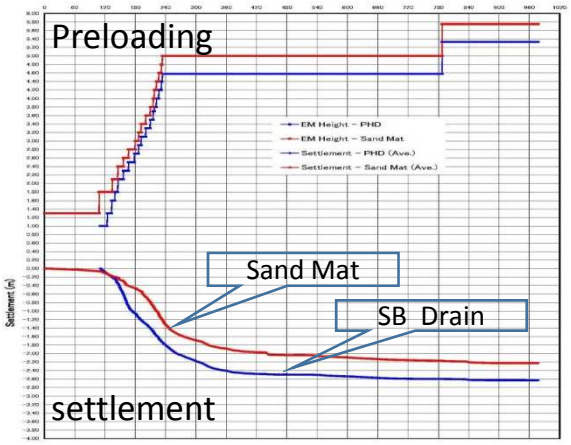
SB DRAIN（Super Board Drain）

- Greater Discharge Capacity
- Reduce period of coherence
- Products are well managed
- EasyHandlingandTransportation
- LowerCostthan Conventional Sand Fill

SUPER BOARD DRAIN

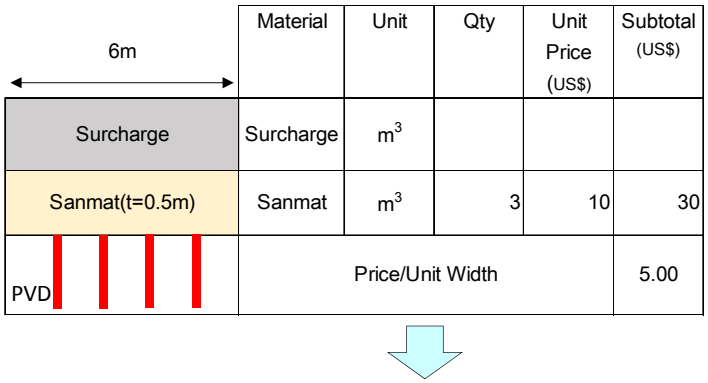
◎ Comparison of consolidation ratio

■ Compare with the sand mat, using the SB Drain reach faster consolidation.

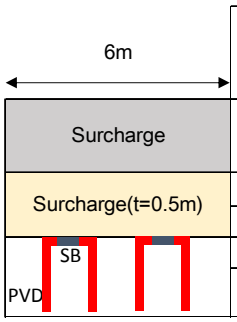


(Picture shows experimental comparison between sand mat and SB Drain in the East-West highway Vietnam project.)

◎ Cost



Material	Unit	Qty	Unit Price (US$)	Subtotal (US$)
Surcharge	m^3			
Sanmat	m^3	3	10	30
Price/Unit Width				5.00



Material	Unit	Qty	Unit Price (US$)	Subtotal (US$)
Surcharge				
Surcharge	m^3	3	3.5	10.5
SB T-200	m	2	2	4.0
PVD	m	3	0.35	1.1
Price/Unit Width				2.59

■ Examples of comparative costs :

Cost comparison when applying PVD with 1,5m spacing, SB with 3m spacing.

■ In fact, depending on specific projects that change the price from the example below.

Price difference in 1㎡

$2.41/㎡

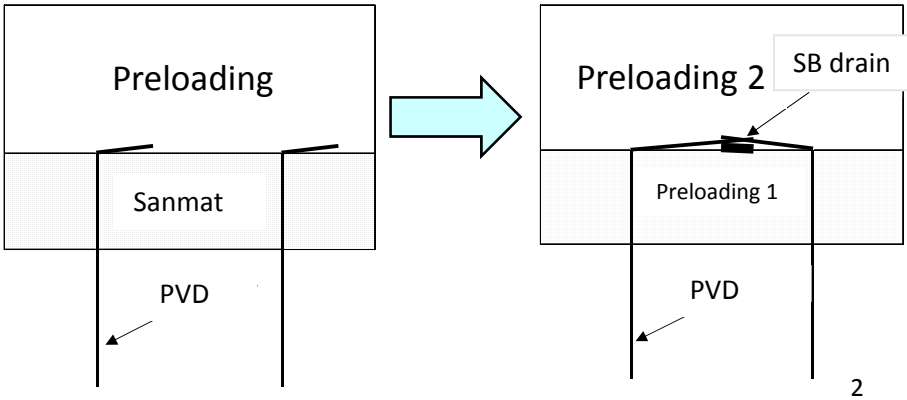
Footnotes unit price:

SanMat : 10$/$m^3$

Surcharge : 3.5$/$m^3$

SB Drain : 2$/m

PVD : 0.35$/m

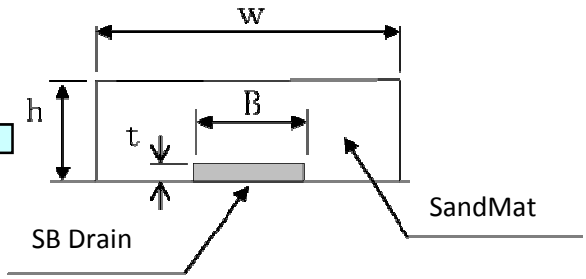


SB DRAIN

◎ Method of Design

Calculating for the width of Sand Mat equivalent to Discharge Capacity of a horizontal Drain.

$$w = \frac{B \cdot t \cdot k_d}{h \cdot k_s}$$



■Example：

Calculating for the width of Sand Mat equivalent to a SB (T-200) with the terms below:

Sand Mat: h=0.5m、ks=0.0001m/s

SB Drain：B=0.2m、 t=0.008m、 kd=0.20m/s

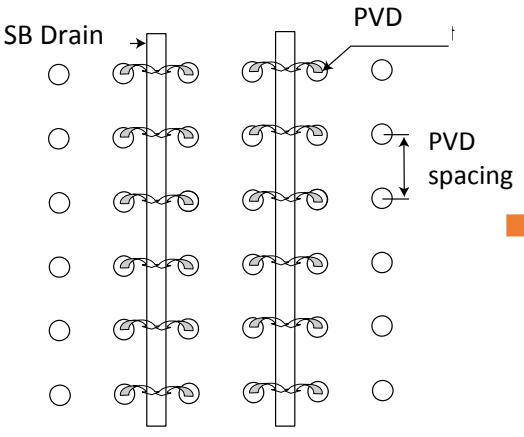
$$W = \frac{0.2 \times 0.008 \times 0.2}{0.5 \times 0.0001} = 6.4m$$

W: width of Sand Mat
B: width of SB Drain
t: Thickness of SB Drain
kd: Drainage Coefficient of SB Drain
h: Thickness of Sand Mat
Ks: Drainage Coefficient of Sand Mat

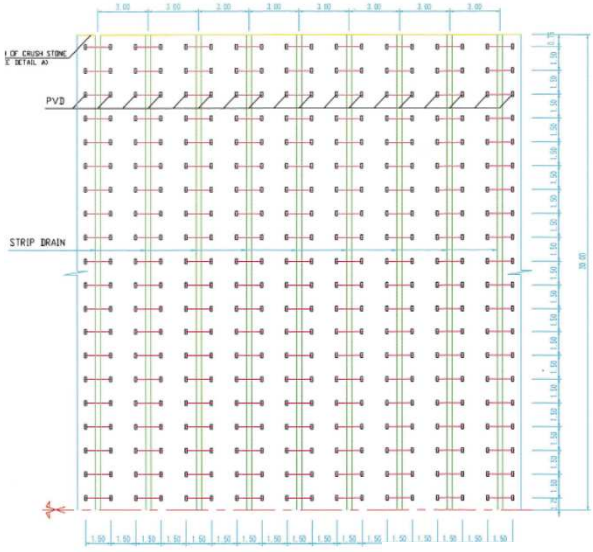
If SB T-200 is covered separately by 6.4m, the drainage capacity will be equivalent to Sand Mat with the terms as above.

◎Example of SB Drain layout

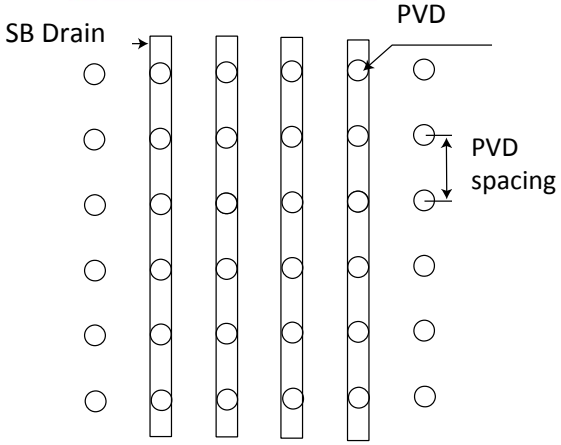
■Example: Plane Configuration: At project international port of Thi Vai-Cai Mep, the SB Drain was used and the layout as below:



(for example layout in the design)



■When preloading up high, large PVD spacing, there is also SB Drain layout shown on the right.



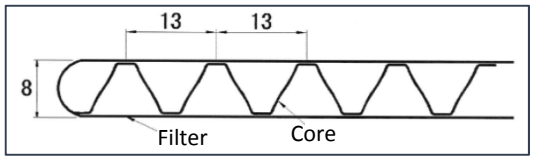
SUPER BOARD DRAIN

CONSTRUCTION PROJECTS

- **2015**
  - BEN LUC-LONG THANH Express Way(A1+A3 portions)(40,500m)
- **2009**
  - CAI MEP-THI VAI (300,000m)
  - CAI MEP PORT-2 (83,300m)
- **2007**
  - CAI MEP PORT-1 (70,000m)
- **2006**
  - SAI GON EAST-WEST HIGHTWAY (150,000m)
  - CAN THO BRIDGE (50,000m)
- .....

SB Drain specification

Categories		Unit	Parameter	
Material	Core	-	Polyvinyl Chloride	
	Filter Jacket	-	PET– Non-woven	
Dimension	Width	mm	305±3.0 (T-300)	
	Thickness	mm	205±3.0 (T-200)	
	Length	m	50	
Load capacity		kN/m^2	>200	
Drainage Coefficient of core		m/s	$>5x10^{-2}$	100kPa I=0.5
Drainage Coefficient of Filter casing		m/s	$>1x10^{-4}$	



Section of SB

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