

**CASE STUDY COMPARISON OF CONCRETE SOLDIER PIERS, CONCRETE STRIP FOOTINGS AND EARTH BOLTS
NASH GROUP DEVELOPMENTS 8-20 QUEEN STREET REVESBY NSW
NOV 2019 TO FEB 2020**

Calculations and costs are applicable as of early 2020 and are a realistic appraisal of different methods used to support temporary props.

	SOLDIER PIERS			STRIP FOOTINGS			EARTH BOLTS		
QUANTITY	278 Required (from plan)	TIME Days (8hr)	COST	596 lineal metres (from plan)	TIME Days (8hr)	COST	278 Required (from plan)	TIME Days (8hr)	COST
SPECIFICATIONS	600 Diameter pier 2.5m deep			450 wide x 450 deep 2 x 4 bar trench mesh with R6 stirrups at 1m centres			Re-usable patented system established and Certified by EarthBolt Vic		
EARTH BOLT ESTABLISHMENT EARTH BOLT INSTALL & REMOVAL							ESTABLISHMENT (per 6 visits)		\$ 2,400.00
EXCAVATION / DRILLING	5 piers p/h @ \$180p/h 278/5x180	7	\$ 10,008.00	10 m per hour 596/10 x \$150	8	\$ 8,940.00	INSTALL 278 EarthBolts	3	\$ 33,360.00
SPOIL	0.7m ³ per pier plus 10% wastage factor = 214m ³ x 2.2t total of 470t			0.45 x 0.45 x 596 x 20% wastage factor =144 m ³ x 2.2t total of 318t			REMOVAL	3	
STOCKPILING (same as drilling)	Bobcat @ \$800 p/d		\$ 5,600.00	Bobcat @ \$800 p/d		\$ 6,400.00	Not Applicable		
LOADING TRUCKS	Excavator 1 day @ \$1200 Float \$400 each way	1	\$ 1,200.00 \$ 800.00	Excavator 1 day @ \$1200 Float \$400 each way	1	\$ 1,200.00 \$ 800.00	Not Applicable		
TRUCK HIRE	\$140p/h truck & dog 2hr round trip 30t per trip is 470/30 for 16 trips (16 x \$280)	1	\$ 4,480.00	\$140p/h truck & dog 2hr round trip 30t per trip is 318/30 for 11 trips (11 x \$280)	1	\$ 3,080.00	Not Applicable		
TIPPING FEES	Tipping fees non venm soil @ \$50t on this site (470t)		\$ 23,500.00	Tipping fees non venm soil @ \$50t on this site (318t)		\$ 15,900.00	Not Applicable		
REINFORCEMENT	N20 bars 2m long with 50mm threaded end \$ 11ea (l x ea brace)		\$ 5,500.00	two layer of Trench Mesh 4 bar @ \$19pm with 10% laps for 596m		\$ 11,324.00	Not Applicable		
CONCRETE SUPPLY	0.7m ³ x 278 piers plus 10% wastage (214m ³) @ \$ 210 for 32mpa		\$ 44,940.00	0.45m x 0.45m x 596m plus 20% wastage is 144m ³ @ \$210 for 32mpa		\$ 30,240.00	Not Applicable		
CONCRETE PUMPING	Install Rate 30m ³ ph 2hr travel x 3 establishment \$190ph x min 4 hrs x 3 estab 214m ³ x \$5 per cub		\$ 1,140.00 \$ 2,280.00 \$ 1,070.00	Install Rate 30m ³ ph travel x 3 establishment \$190ph x min 4 hrs x 3 estab 144m ³ x \$5 per cub		\$ 1,140.00 \$ 2,280.00 \$ 720.00	Not Applicable		
CONCRETE & REO LABOUR	2 men x 3 days @ \$90 per 8 hr day	3	\$ 4,320.00	3 men x 3 days @ \$90 per 8 hr day includes reo install	3	\$ 6,480.00	Not Applicable		
BRACE CONNECTION	as per threaded bar above add 500 x M20 nuts & washers @ \$1.20 ea		\$ 600.00	500 x M20 Shisham expansion anchors @ \$3.50 ea. Drilling at same time as panel install add 2 drill bits @ \$100ea		\$ 1,950.00	2 x M20 bolt with washer included on top plate of EarthBolt		
Total		12	\$ 105,438.00		13	\$ 90,454.00		6	\$ 35,760.00