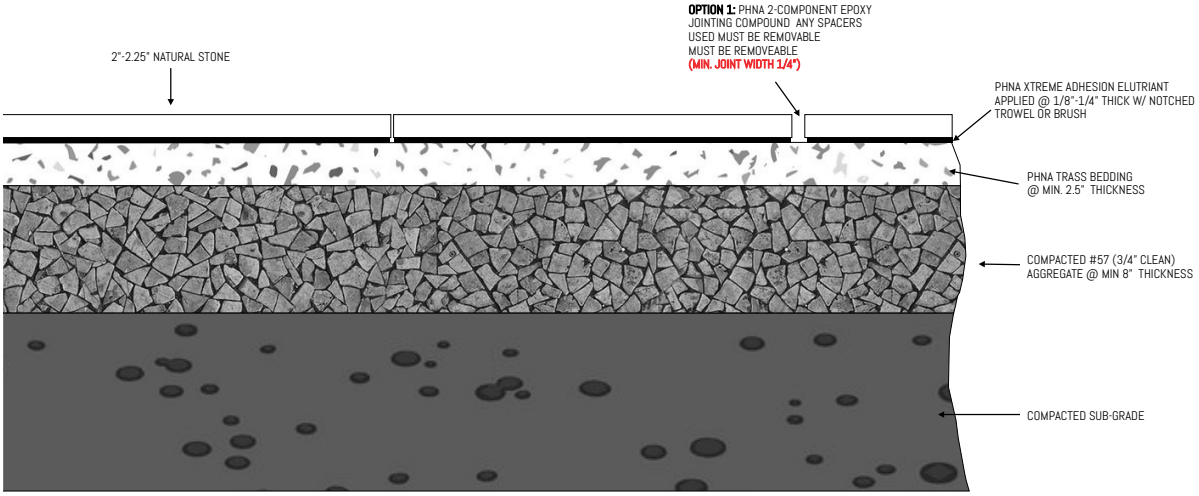
TRASS PERMEABLE PAVEMENT: 2”-2.25”

MSNSP – Marmiro Stones Natural Stone Pavers – Light Vehicular Application



WARNING
Installation of material is sign of acceptance.
No returns on open crates, custom orders, & products with custom packaging.
For unique job conditions, soil types and concrete slab reinforcement additional engineering may be needed.
Clean and washed aggregate can only be used for this application. Any fines can slow down the permeability of the system and alter the mix of the Trass System.
Vibratory plate tamping is **NOT** needed for this application. This can alter the Trass bedding layer and crack the natural stone units.

BENEFITS	
✓ Highly permeable	✓ Perfect for porcelain installations
✓ Freeze-Thaw resistant	✓ Wet-Laid permeable system
✓ No efflorescence	✓ Acts as a structural slab
✓ Pedestrian and heavy vehicular rated	✓ Creates a monolithic system

1) EXCAVATION

a. Please be sure to call 811 or your local utility companies to ensure utility lines are marked correctly before any excavation has begun.

b. If lines are found, please take proper precautions with the customer to ensure utility lines will not be disturbed. This includes, but is not limited to, septic fields and sprinkler lines and heads.

c. Dig soils to depth between 9”-12”, maintaining a minimum slope of 1/8” to a maximum of 3/16” per foot to allow for proper drainage. This slope should mimic the slope of your final elevation.

d. Depending on your soil type, compaction of your sub grade may be needed while maintaining the slope as mentioned above.

2) GEOTEXTILE & DRAINPIPES

a. Install woven geotextile, encapsulating the entire excavated area including the vertical walls of the soil.

b. Be sure to overlap the geotextile a minimum of 2” in a shingle method that mimics the slope and flow of water.

c. Install a 4” perforated pipe with holes facing down to capture excess water. Pipe should be exposed to daylight outside the excavated area to relieve water build up. If daylight is not optional, consider using a catch basin with a grate.

3) SUBSTRUCTURE - BASE

a. Install a minimum of 8” of ASTM #57 (3/4” clean) stone, compacting using a vibratory plate compactor in both directions.

4) SETTING BED

a. PHNA Xtreme Trass Bedding Compound (VDW 480)

- Use 1/8”-3/8” clean stone aggregate (AASHTO #9, AASHTO #89, AASHTO #8, AASHTO #78) for setting bed on top of #57 base.
- A cement mixer is highly recommended to mix the aggregate and Trass bedding compound for fast and easy mixing.
- Mixing ratio should be a maximum of 1:4 to a minimum of 1:6 (Trass: Aggregate)

(1) Ratios
  - 1:4 = One 55lb. bag of Trass bedding mortar (VDW 480) to four five- gallon buckets of aggregate

(2) Add 2-3 liters (3/4 gallon) of clean water in cement mixer, then add aggregate and 75% of the Trass bedding mortar - in that order.

(3) While cement mixer is turning, SLOWLY add remaining water of an estimated eight additional liters, (2 gallons) totaling 11 liters, (2.9 gallons) and the remaining 25% of the Trass bedding mortar.
*NOTE- If aggregate is wet, the amount of water needed may be less depending on saturation.

(4) Mix until it becomes earth-moist for a total mixing time of 4-5 minutes, the mortar is slightly shiny, and can be formed into a loose ball.

(5) It is recommended to use the entire bag of bedding compound when possible.

b. Application

- Apply the mixed bedding mortar manually at a 2.5" thickness, using screed rails for light vehicular traffic only.
- Minimum ¼” joint must be applied to entire application in vehicular application.
- Screed only in small working areas as you do not want the bedding layer to dry.
*NOTE - If exposed bedding layer starts to dry, lightly mist area to keep moist.
- Mix Xtreme Adhesion Elutriant (VDW 495) in a five-gallon bucket with a mixing paddle. Mix to the consistency of typical mortar.
- Apply the Xtreme Adhesion Elutriant with a 1/4” notched trowel to the back of the stone, making sure there is at least 95% coverage.
- Remove excess Elutriant from all sides and edges of stone before laying the product in place.

5) FINISHING

a. Jointing material

- Apply the two-component epoxy jointing compound (Xtreme Easy VDW 840 Plus) in the minimum ¼” joint -please be sure all spacers are removed first.
- Follow manufacturer's instructions.

6) BEST PRACTICES

a. A good practice would be to place screed rails parallel to a fixed finished grade edge.

b. During installation of MSNSP, it is best practice to use string lines or laser equipment to maintain square at the starting point.

c. Due to variations in natural stone, it is required to pull from multiple crates.

- French Pattern – Pull from 2-3 crates for proper blending.
- Single Size – Pull from 4 crates for proper blending.

d) Vibratory plate compaction equipment is NOT needed for the finished surface. It is only needed for the base layer in this application.

e) For all stone types, use a white non-marking mallet to set the stones.

f) Perform all cutting using a diamond blade. Cutting wet can provide a smoother cut and may decrease chipping on MSNSP.