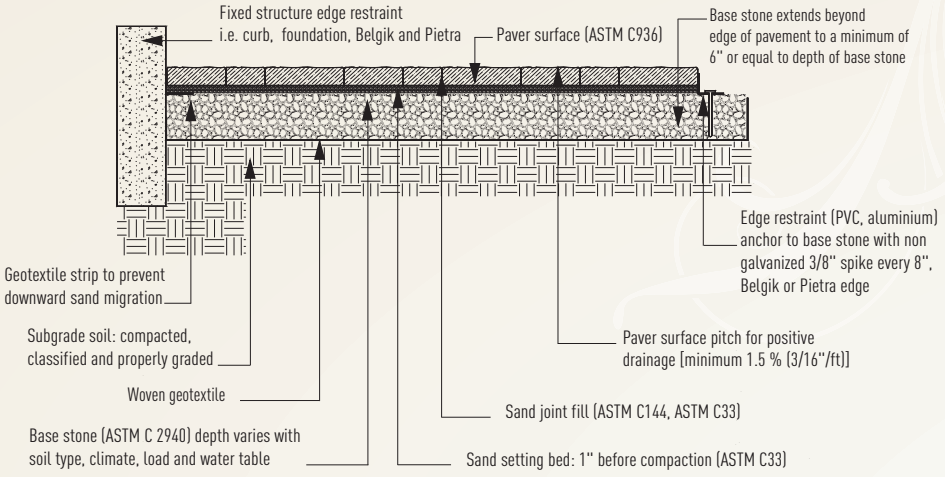
Installation
of paving stones and slabs



STABILIZING SAND

Approximative surface coverage per 50 lb (22.7 kg) bag
Available in graphite grey and sandy beige.

Pavers	sq. ft.	sq. m
Antika, Permea, Villagio	21	2
Allegro	38	3.5
Athena, Santorini	42	4
Blu	100	9.3
Elena, Hera, Trias	64	6
Olympia	55	5
Tetra	79	7

INSTALLATION OF PAVERS

1 EXCAVATION

A. Before excavating you need to call all the local utility companies (e.g. phone, gas, electrical) to ensure that the area in which you plan to dig is clear of underground cables or wires. If some are found, please notify the related companies before commencing.
B. When excavating it is important to achieve a slope in increments of 3/16"(5mm) per foot which will allow for proper drainage. The excavation should mirror final grade of pavement.
C. The width of your base behind your edge should be equivalent to the thickness of the base.
D. With the help of a rake, grade the bottom of your excavated area. If the natural soil is granular or sandy we recommend that you compact the soil with a vibrating plate. If the soil is clay like, amend the soil with a blend of lime and crushed stone prior to compaction. Next, cover it with a layer of geotextile membrane to prevent the contamination of your base (clay and 0-3/4" crushed stone).

2 FOUNDATION

A. Install your 0-3/4" crushed stone base, in 2-4" lifts with a (minimum 5000 CF vibrating plate) compactor.
B. Wet your base material and compact with a vibrating plate. Repeat the process layer by layer until you have reached the desired height. At this stage you can verify your final height with the help of a paver.
C. Base tolerance ± 3/8" (10mm) for every 10' increments

3 THE SETTING BED

A. On your compacted crushed base install two pipes (the diameter of 2.5 cm (1")). Level the concrete sand with the help of a straight edge (2"× 4" or Angle Iron). If your setting bed is not properly graded, it will be reflected in your final work.
B. Bedding sand should not be compacted until all paving stones have been laid down. Passing the vibrating plate on top of your paving stones causes them to settle down into your bedding sand approximately 10 mm (3/8").

4 INSTALLATION OF PAVING STONES

A. Once the choice of paving stones and the design has been finalized, it is recommended you start installing your pavers on a 90-degree angle as this will minimize the amount of cuts required. To obtain a 90-degree angle you should use the rule of a 3/4/5 triangle. You need a stationary line of 3' which meets a 4' line along the base. You then connect a third line which will form a triangle. If this line measures 5' you now have a 90-degree angle. While installing your paving stones, make sure to walk on installed pavers and not on your bedding sand. Remove the 1" pipes and fill in gaps with concrete sand.
B. To maximize your color blends, you should use two or more cubes at a time. While you lay down your paving stones, you should alternate between two cubes and randomly take paving stones from the top to bottom of both cubes.
C. You can cut your paving stones with a guillotine or a concrete saw. When cutting paving stones we recommend you wear protective ear and eye wear.
D. When you finish installing your paving stones, you can install your Belgik or Pietra curbstone on the granular base. To keep curbs in place, add mortar along the back to form a triangle shape. In a vehicular traffic application, the concrete must be reinforced.

5 FILLING IN JOINTS

A. Spread out Techo-Bloc's Stabilizer sand and sweep sand in between joints in all directions. Always make sure that the paving stone surface is dry before laying the sand.
B. Pass vibrating plate in all directions to allow sand to penetrate between the joints. Sweep one more time and remove excess sand.

VIBRATING PLATE ALERT!

To prevent surface damage, manufacturers of plate compactors recommend the use of mats or membranes between the vibrating plate and the pavers. This is especially important when using our ondulated and sculpted products such as Santorini, Allegro, Tetra, Athena, Blu, Villagio, Permea etc. Techo-Bloc suggests using a geotextile fabric, compaction sand, thin carpeting or cardboard when compacting your pavers with a vibrating plate.

INSTALLATION OF SLABS

Follow the same instructions as for the paving stones, omit point 5b.

A

1 Troweled concrete edge restraint
2 Concrete paver 2 3/8" (60 mm) min. thickness
3 1/2" to 1" (15 to 25 mm) bedding sand
4 Compacted aggregate base
5 Geotextile as required. Turn up at sides of base
6 Compacted soil subgrade

Notes:
1 Use 5:1 (aggregate:cement) mix for concrete edge.
2 Recommended for non-freeze thaw areas
3 Construction of this detail can be used on residential driveways in non-freeze thaw areas. Reinforcing may be required in the edge restraint. Thickness of aggregate base will vary with subgrade conditions and climate.
4 Colder climates may require thicker bases.

B

1 Plastic edge restraint
2 Concrete paver 2 3/8" (60 mm) min. thickness
3 1/2" to 1" (15 to 25 mm) bedding sand
4 Compacted aggregate base
5 Geotextile as required. Turn up at sides of base
6 Compacted soil subgrade

C

1 Aluminum/steel/plastic edge restraint
2 Concrete paver 2 3/8" (60 mm) min. thickness
3 1/2" to 1" (15 to 25 mm) bedding sand
4 Compacted aggregate base
5 Geotextile as required. Turn up at sides of base
6 Compacted soil subgrade

Notes for B and C:
Thickness of aggregate base will vary with subgrade conditions and climate. Colder climates may require thicker bases.

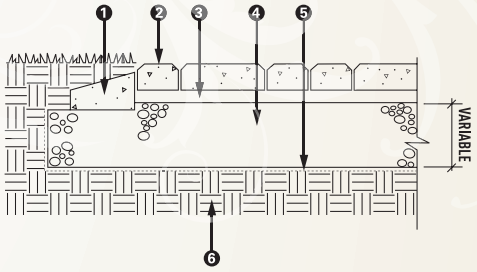
GLUING INTERLOCKING CONCRETE PAVEMENTS ONTO A CAST-IN PLACE CONCRETE

D

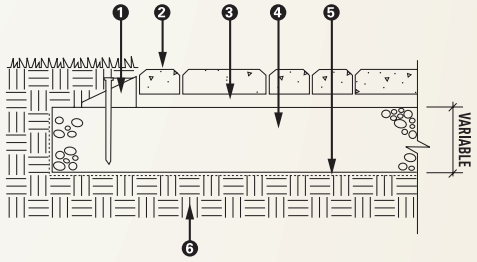
1 6"- 8" (150-200 mm) min.
2 Concrete adhesive at joints and bottoms
3 Concrete pavers minimum thickness of 2 3/8" (60 mm) with slope for drainage
4 1/2" (15 mm) bullnose
5 6"- 8" (150-200 mm) riser
6 Concrete footer
7 Concrete base for steps

Notes:
1 Use of mortar is not recommended except in non-freeze-thaw areas.
2* Create with the help of a concrete saw a drop line to evacuate potential water infiltration between paver and cast-in concrete.

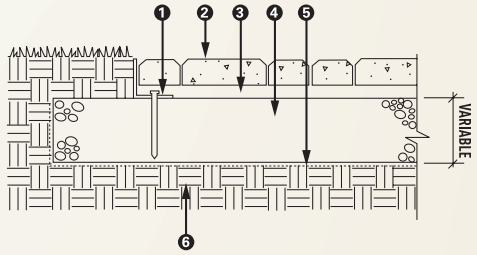
A – Patio/Walk/Driveway with troweled concrete edge restraint



B – Patio/Walk/Driveway with plastic edge restraint

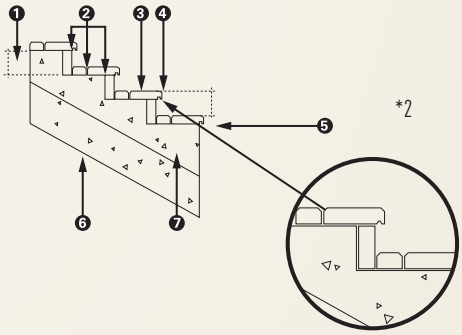


C – Patio/Walk/Driveway with Aluminum/Steel/Plastic edge



D – Steps with concrete pavers

See Venetian overlay system p. 76



Installation guide
paver and slab

A

1 Existing asphalt pavement
2 Saw-cut pavement
3 Seal joint
4 Concrete curb min. 8" (200 mm) wide x 16" (400 mm) deep
5 Concrete paver 2 3/8" (60 mm) min. thickness
6 1/2" to 1" (15 to 25 mm) bedding sand
7 Geotextile 12" (300 mm) wide. Turn up against curb
8 Compacted aggregate base
9 Geotextile as required
10 Compacted soil subgrade

Notes:
1 Base thickness varies with traffic, climate, and subgrade conditions.
2 Concrete curbs do not deflect to the same depth as pavers or existing residential streets.
3 Thickening asphalt pavement adjacent to concrete curb is recommended.

B

1 Concrete curb set 1/4" (7 mm) below top of pavers and control joints at 15' (5 m) OC
2 Concrete paver 2 3/8" (60 mm) min. thickness
3 1/2" to 1" (15 to 25 mm) bedding sand
4 Compacted aggregate base 6" (150 mm) min. depth
5 Geotextile as required. Turn up at sides to cover base
6 Compacted subgrade
7 12" (300 mm) wide geotextile along perimeter turn up at curb (do not cover top of bases)

Notes:
1 Thickness of aggregate base will vary with subgrade conditions and climate. Colder climates may require thicker bases.
2 Concrete pavers should be placed on a Portland cement stabilized base if soil is extremely weak or constantly saturated. Pavers can be overlaid or inlaid on existing asphalt or concrete driveways.
3 Plastic, steel, aluminum or precast concrete edging may be used.

C

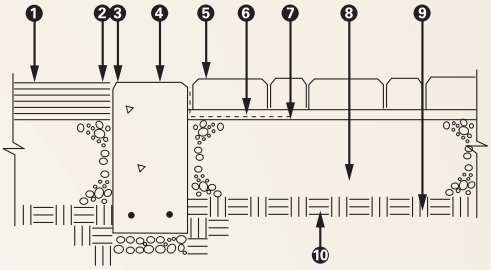
1 Concrete curb set 1/4" (7 mm) below top of pavers and control joints at 15' (5 m) OC
2 Concrete paver 2 3/8" (60 mm) min. thickness
3 1/2 to 1" (15 to 25 mm) bedding sand
4 Compacted aggregate base 4" (100 mm) min. thickness
5 Compacted soil subgrade

Note:
Thickness of base will vary with subgrade conditions and climate. Colder climates may require thicker bases.

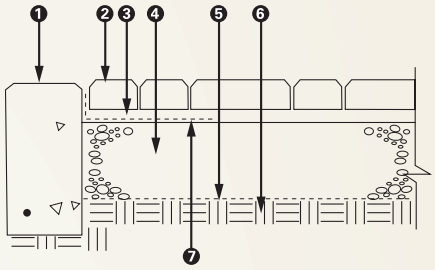
D

1 Existing curb
2 Min. 2 3/8" (60 mm) thick. Concrete pavers. Over root zone. Min. 1/4" (7 mm) wide joints
3 Geotextile
4 Approximatively 1/2" to 1" (15 to 25 mm) bedding sand
5 Lava slag with tree pit soil. Mix 2:1 in root zone
6 Tree Grate
7 Washed aggregate
8 Geotextile
9 Tree pit with planting soil. Min. depth 3' (0.9 m)
10 Concrete collar
11 4" (100 mm) dia. perforated plastic pipe wrapped with washed aggregate and filter fabric drain to storm sewer
12 95% compaction of soil under rootball
13 Tree

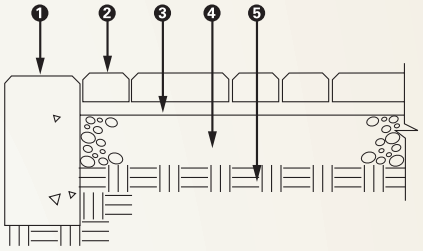
A – Crosswalk on compacted aggregate base



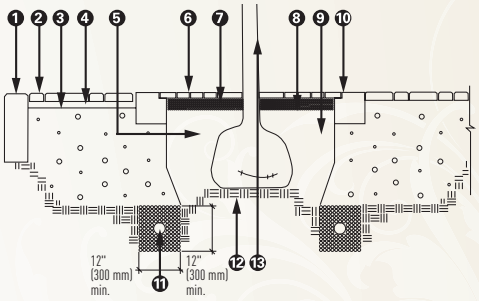
B – Residential driveway with concrete edges



C – Pavers on compacted aggregate base



D – Tree pit – Non-compacted root zone under pavers



E

1 Concrete pavers 2 3/8" (60 mm) min. thickness
2 1/2" to 1" (15 to 25 mm) bedding sand
3 Woven geotextile
4 Asphalt joint filler/sealant
5 Epoxy grout filler
6 Seal at joint
7 Structural slab slope to drain on steel or concrete beams

Note:
Provide drainage of excess moisture in bedding sand at perimeter of structural slab.

F

1 Concrete curb and foundation per local standards
2 Concrete pavers 2 3/8" (60 mm) thickness
3 1/2" to 1" (15 to 25 mm) bedding sand
4 Geotextile
5 Existing asphalt pavement
6 2" (50 mm) dia. drain hole, fill with pea gravel. Locate at lowest elevations
7 Existing soil subgrade
8 Existing aggregate base

Note:
Drain bedding sand of excess moisture through pavement at lowest points as shown or at catch basin(s).

G

1 Concrete pavers 2 3/8" (60 mm) min. thickness
2 Approx. 1/2" to 1" (15 to 25 mm) bedding sand
3 Portland cement stabilized base
4 Compacted soil subgrade

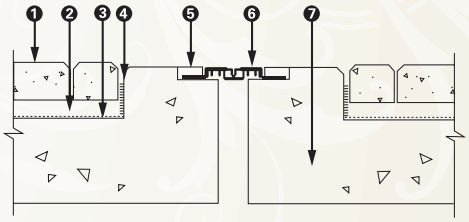
Notes:
1 Base, sub-base, and subgrade thickness vary with loads, subgrade strength, and climate.
2 Concrete pavers may be inlayed on existing asphalt or concrete gas station pavements.
3 Sealing joints of pavers is recommended.

H

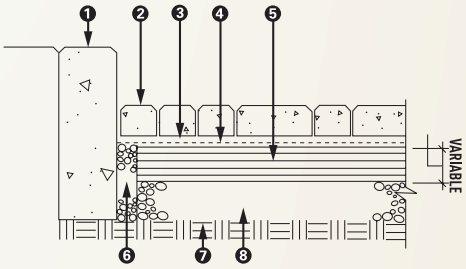
1 Existing asphalt pavement
2 Saw-cut pavement
3 Seal joint
4 Concrete curb min. 12" (300 mm) wide x 12" (300 mm) deep
5 Concrete pavers 2 3/8" (60 mm) thickness
6 1/2" to 1" (15 to 25 mm) bedding sand
7 Geotextile. Turn up at curbs
8 Concrete base
9 Wire welded fabric or steel re-bar as required
10 2" (50 mm) dia. drain hole locate at lowest elevations, fill with pea gravel
11 Compacted soil subgrade
12 Aggregate sub-base as required

Notes:
1 Base thickness and reinforcing varies with traffic, climate, and subgrade conditions.
2 Concrete base minimum 2% slope from centerline to curb.
3 Do not use drain holes to subgrade when water table is less than 2' (0.6 m) from top of subgrade. Drain to catch basins.

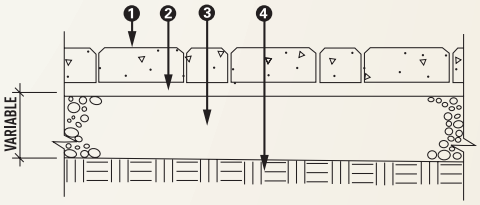
E – Bridge deck



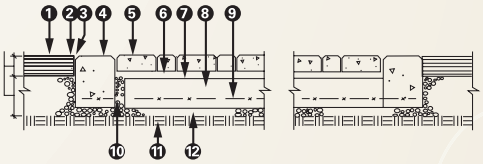
F – Street/Parking lot overlay on existing asphalt pavement



G – Gas station on cement treated base



H – Crosswalk on concrete base



Installation guide
paver and slab (continued)

I

1 Concrete pavers 2 3/8" (60 mm) thickness
2 1/2" to 1" (15 to 25 mm) bedding sand
3 Geotextile
4 Protection board 1/4" (7 mm) min. as required
5 Waterproof membrane
6 Waterproof adhesive
7 Epoxy grout filler
8 Strip seal at construction joint

J

1 Concrete pavers 2 3/8" (60 mm) min. thickness
2 1/2" to 1" (15 to 25 mm) bedding sand
3 Geotextile. Turn up at drain and all vertical surfaces
4 Protection board 1/4" (7 mm) min. as required
5 Rigid insulation. Thickness varies with local codes and climate
6 Holes for drainage
7 Roof drain
8 Concrete roof deck. Slope to drain
9 Waterproof membrane

Notes:
1 Protection board and insulation must withstand static and dynamic vehicular loads.
2 Insulation may be excluded for some applications over uninhabited space.

K

1 Concrete pavers 2 3/8" (60 mm) min. thickness
2 1/2" to 1" (15 to 25 mm) bedding sand
3 Geotextile
4 Protection board 1/4" (7 mm) min. as required
5 Rigid insulation
6 Waterproof adhesive
7 Epoxy grout filler
8 Strip seal at construction joint
9 Waterproof membrane
10 Structural slab. Slope to drain

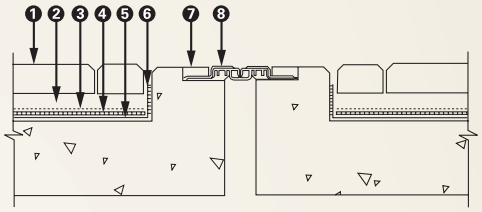
Note:
Insulation may be excluded for some applications over uninhabited space.

L

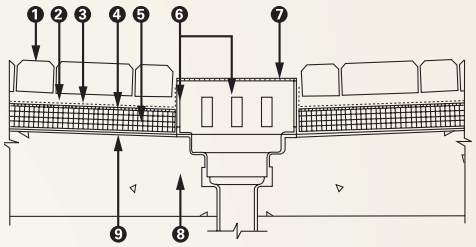
1 Concrete curb
2 Geotextile turn up at curb
3 Concrete pavers 2 3/8" (60 mm) min. thickness
4 1 1/2" (40 mm) bedding sand
5 Electric heat tracing or flexible hose layout determined by manufacturer
6 Concrete base 4" (200 mm) min. thickness or compacted aggregate base 6" (150 mm) min. thickness
7 Aggregate sub-base as required under concrete
8 Compacted soil subgrade

Notes:
1 Heated assemblies can be placed on a cement treated base or compacted aggregate. A concrete base has the highest thermal efficiency.
2 On concrete base, provide pea gravel-filled weep hole(s) at lowest point(s).
3 On an aggregate base, geotextile is only required along the curb.
4 Flexible hose can be placed in top layer of aggregate base prior to base compaction.

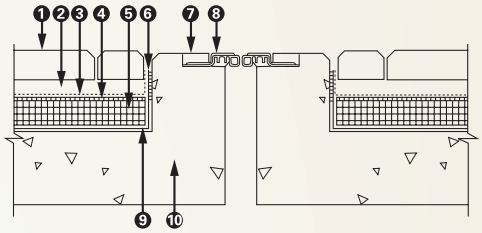
I – Parking garage over uninhabited



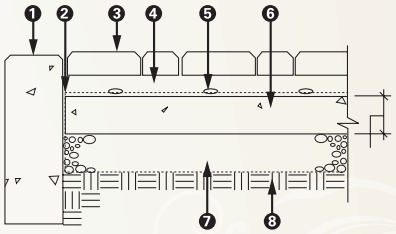
J – Parking garage over inhabited/uninhabited space – Drain



K – Parking garage over inhabited space – Expansion joint



L – Heated sidewalk/Driveway on concrete base



M

1 Min. 6" wide x 12" deep (150 mm x 300 mm) concrete curb set 1/4" (7 mm) below top of pavers and control joints at 15' (5 m) OC
2 Concrete pavers 2 3/8" (60 mm) min. thickness
3 1/2" to 1" (15 to 25 mm) bedding sand
4 Geotextile over concrete/asphalt base turn up at curb (do not cover top of base)
5 Concrete/Asphalt base: 4" (100 mm) min. thickness for concrete 3" (75 mm) min. thickness for asphalt
6 2" (50 mm) dia. drain hole, fill with pea gravel. Locate at lowest elevations
7 Compacted subgrade

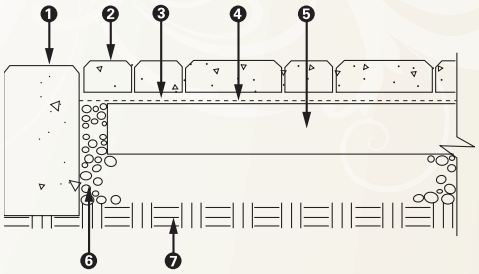
Note:
Thickness of base will vary with subgrade conditions and climate. Colder climates may require thicker bases.

N

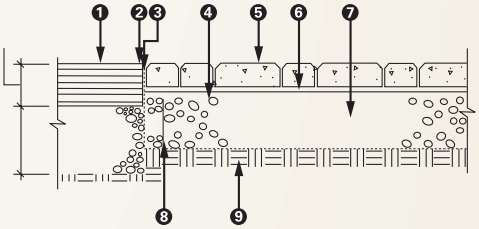
1 Existing asphalt pavement
2 Saw-cut pavement
3 Seal joint
4 12" (300 mm) wide geotextile along perimeter turn up at curb
5 Concrete pavers 2 3/8" (60 mm) min. thickness
6 1/2" to 1" (15 to 25 mm) bedding sand
7 Existing asphalt pavement or existing aggregate base
8 2" (50 mm) dia. drain holes at lowest elevations, fill with pea gravel, cover with geotextile
9 Existing subgrade

Notes:
1 Base thickness varies with traffic, climate, and subgrade. Colder climates and weak soil may require thicker bases.
2 Bottom elevation of existing asphalt pavement must be below bedding sand.
3 Concrete beams at ends of pavement may be necessary if asphalt is subject to rutting.
4 Do not use drain holes to subgrade when water table is less than 2' (0.6 m) from top of subgrade. Drain to catch basins.

M – Patio/Sidewalk/Plaza on concrete or asphalt base



N – Crosswalk on asphalt or cement treated base



Installation guide
interlocking concrete pavers in an institutional zone

A

1 Concrete curb and foundation per local standards
2 Concrete pavers 2 3/8" (60 mm) min. thickness
3 1/2" to 1" (15 to 25 mm) bedding sand
4 12" (300 mm) wide geotextile along perimeter. Turn up at curb (do not cover top of base)
5 Compacted aggregate base
6 Compacted subgrade
7 Geotextile if required

Notes:
1 Drain may be necessary in slow draining subgrade.
2 Base thickness varies with traffic, climate, and subgrade conditions. Colder climates and weak soils may require thicker bases. Consult ICPI TECH SPEC 4 to determine base thickness.
3 Do not cover entire top of aggregate base with geotextile

B

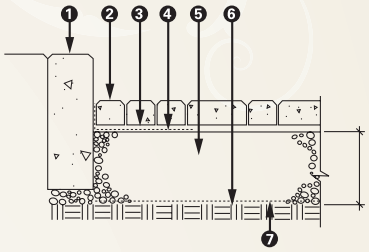
Diagram 1
1 String course of pavers around collar
2 Cover
3 Rebar

Diagram 2
1 Concrete pavers 2 3/8" (60 mm) min. thickness
2 1/2" to 1" (15 to 25 mm) bedding sand
3 Base material
4 Geotextile
5 12" (300 mm) wide geotextile. Turn up against collar
6 Concrete brick as required
7 Concrete utility structure
8 Cover
9 Concrete collar min. 8" (200 mm) wide. Elevation to be 1/4" (7 mm) below pavers
10 Rebar as required

C

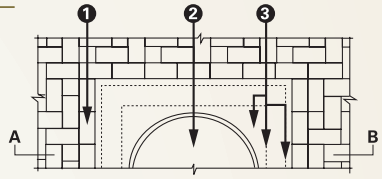
1 Concrete pavers 2 3/8" (60 mm) min. thickness
2 1/2" to 1" (15 to 25 mm) bedding sand
3 Geotextile as required
4 Base material
5 Cover
6 Concrete collar min. 8" wide x 8" deep (200 mm x 200 mm). Elevation to be 1/4" (7 mm) below pavers
7 Rebar
8 Subgrade
9 12" (300 mm) wide geotextile. Turn up against collar

A – Street/Parking lot on compacted aggregate base

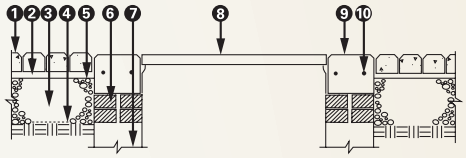
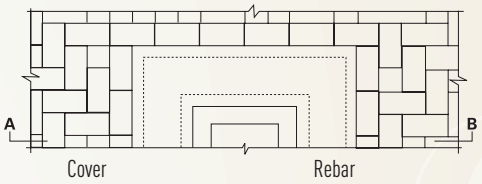
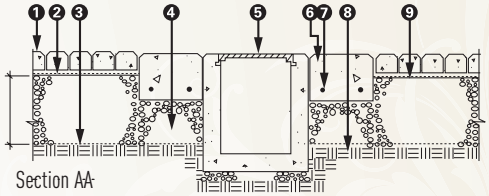


B – Utility structure manhole

1



2



C – Utility structure - Valve box/Pull box/Lamp hole