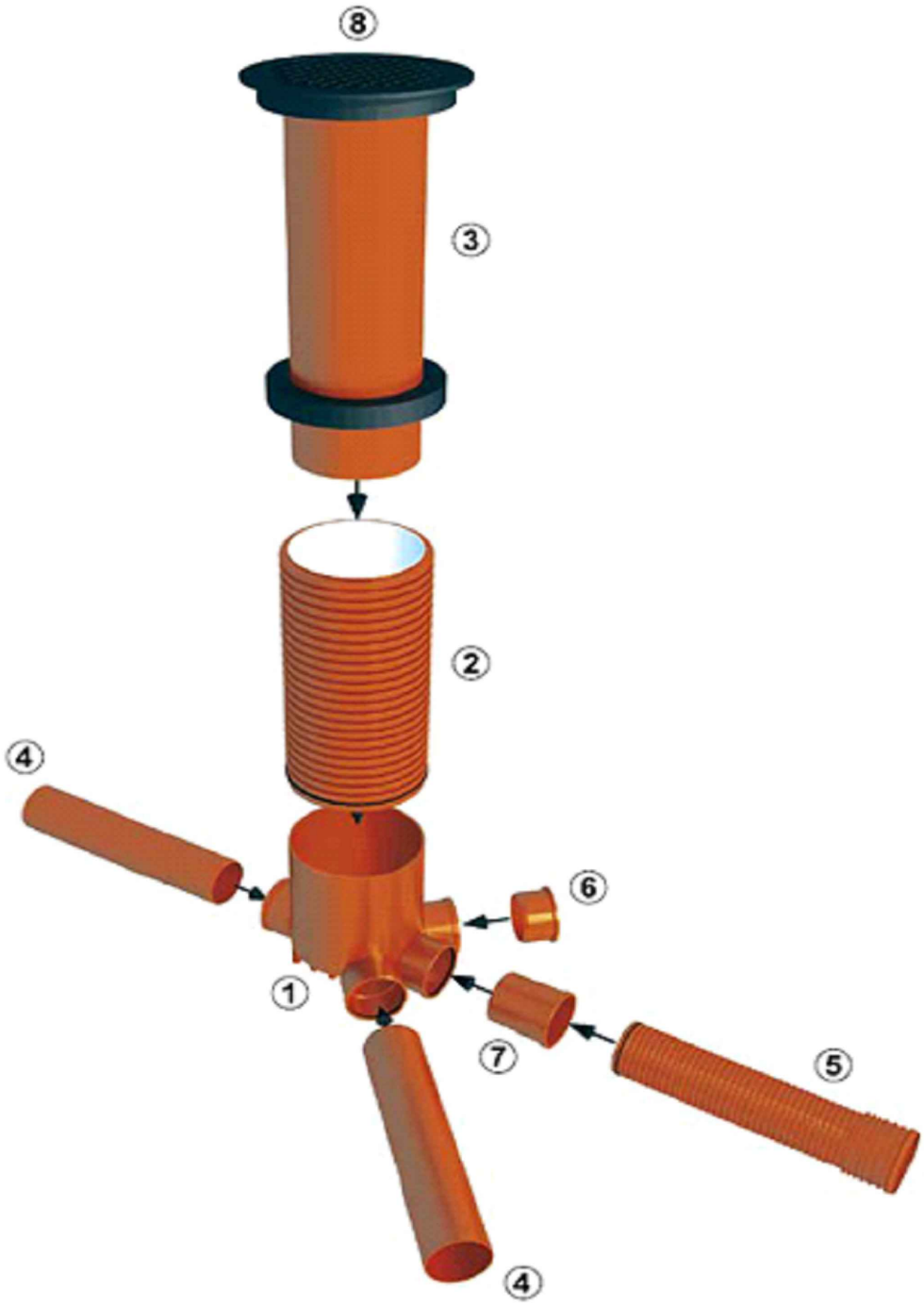


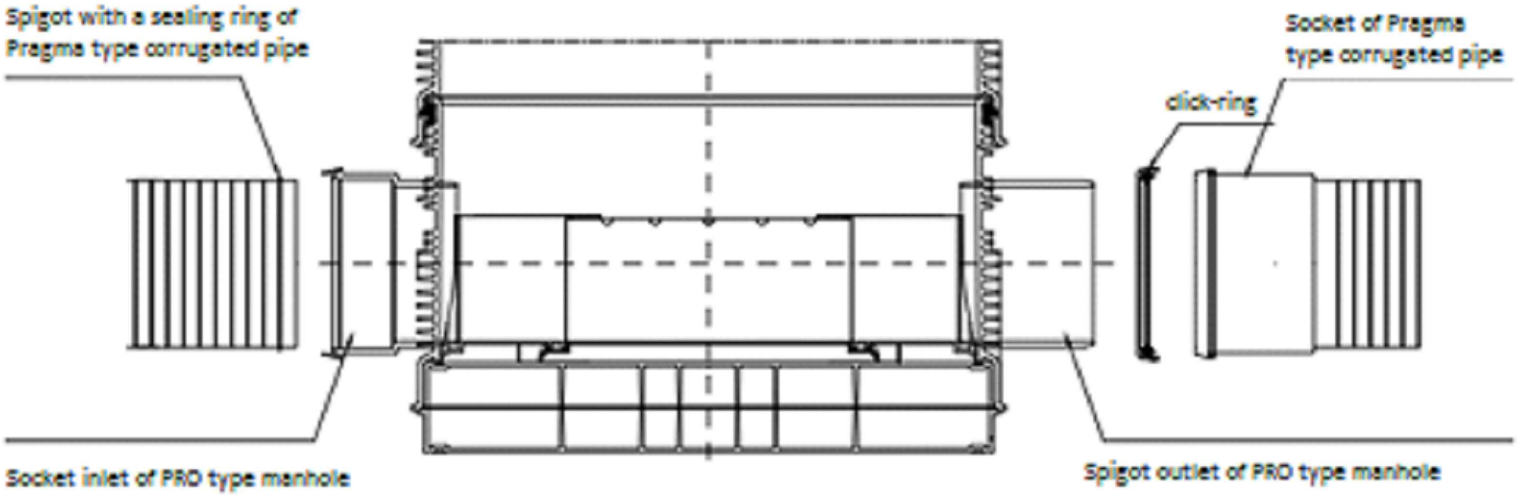
CONNECTION TO INSPECTION CHAMBERS PRAKTO®

The inspection chambers PRAKTO® made by Pipelife are designed and manufactured to be conveniently and securely connected to pipes and fittings of the Pragma series using an adapter!

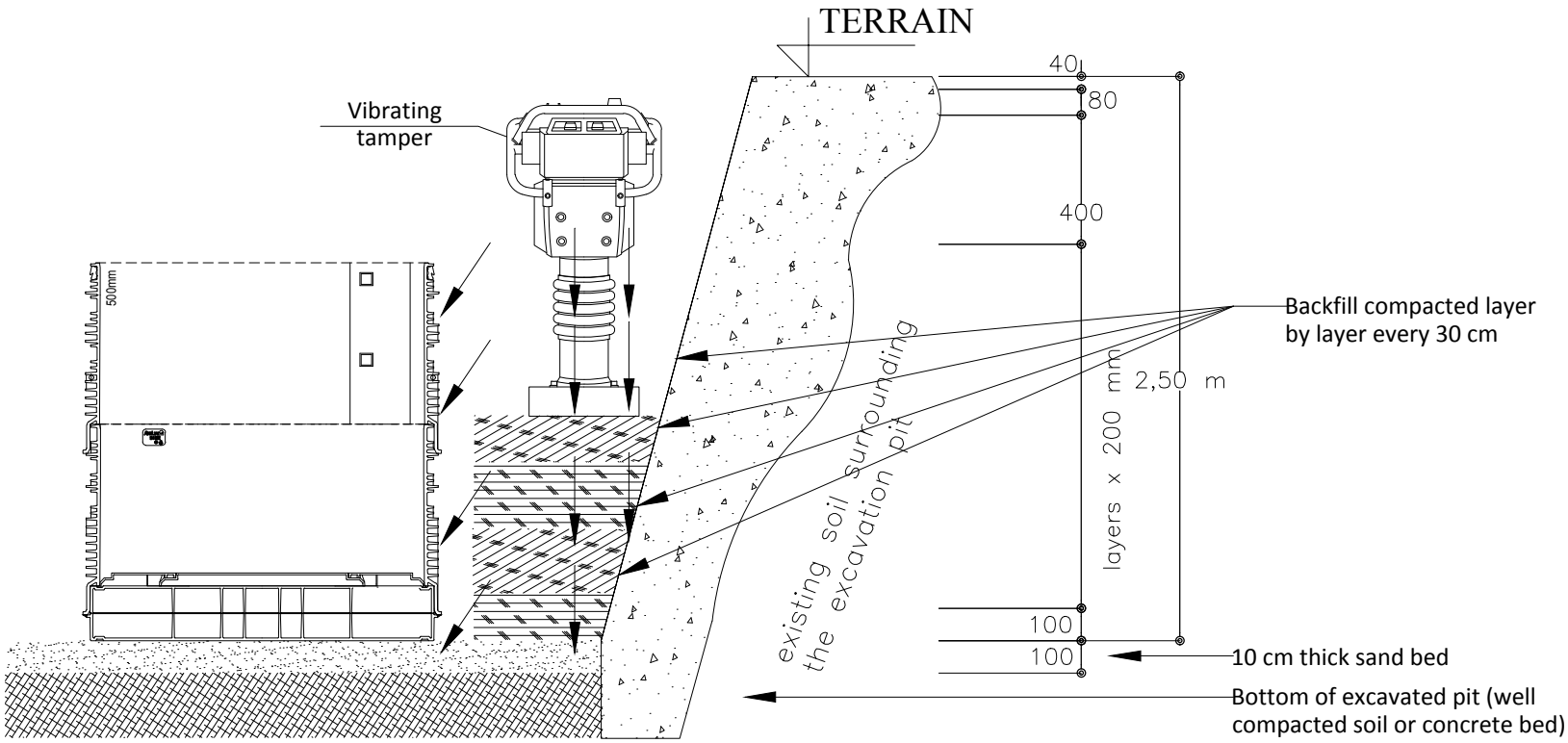
1- PP base bottom RML
2- PP extension PRAGMA® SN8
3- Telescopic part
4- Smooth-wall PVC pipe
5- Corrugated pipe PP-B PRAGMA®
6- PP-B PRAGMA® end cap
7- PP-B PRAGMA® adapter for PVC
8- Lid

CONNECTION TO MANHOLES PRO®
The manholes PRO® made by Pipelife are designed and manufactured to be conveniently and securely connected to pipes and fittings of the Pragma series!

Diagram for the connection of PRO manholes and Pragma pipes



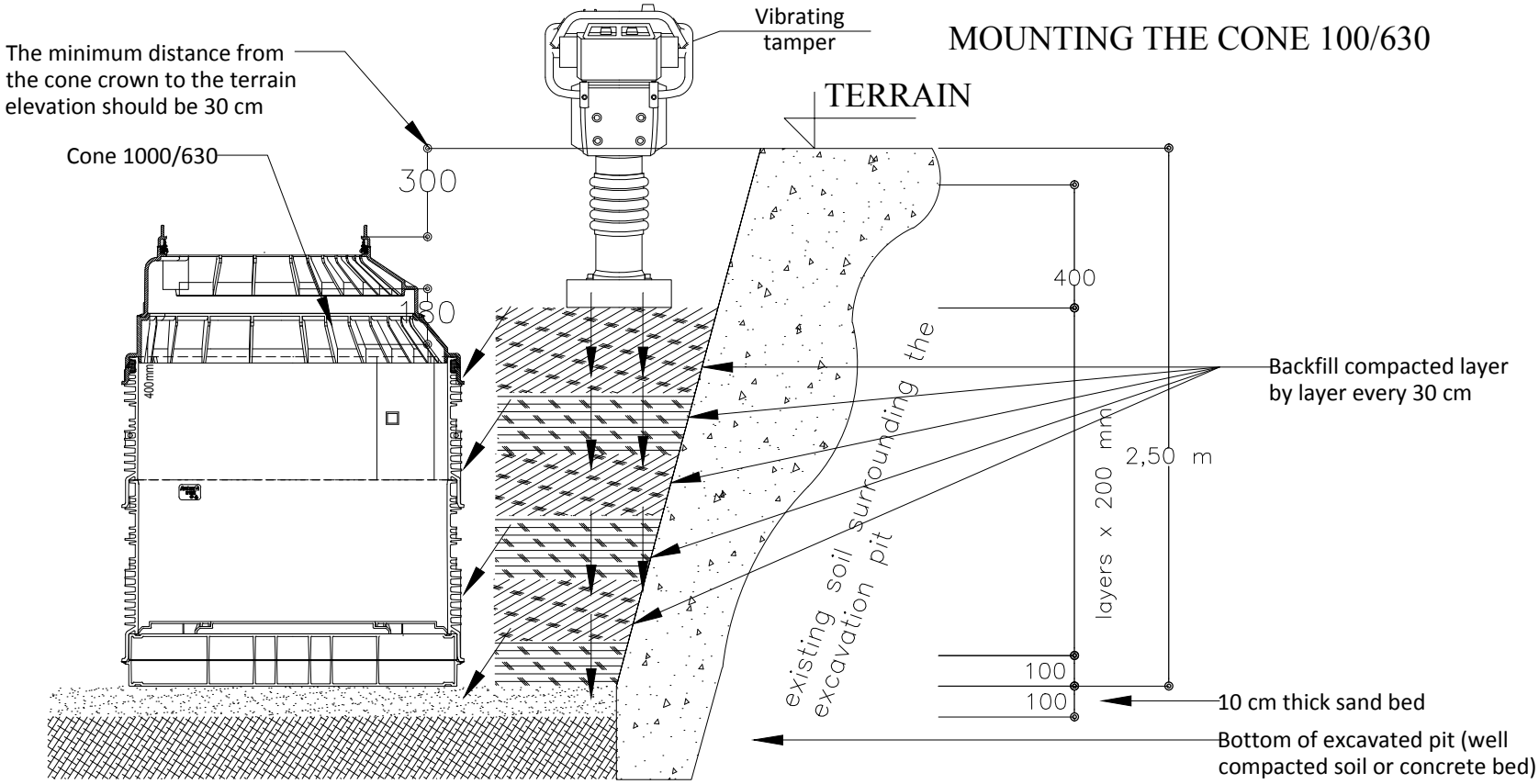
SETTING THE BASE AND RISER RINGS



1. Setting the base on the compacted sand bed - 10 cm thick
2. Fixing the rubber sealing and greasing it with Pipelife lubricant
3. Mounting the riser rings, the last one remaining without a sealing ring
4. Pouring the backfill by 30 cm thick layers and manual compacting 95-97% up to the base of the last extension ring

Note: The traffic of vehicles on top of the lid should not be allowed because it has no reinforcement against horizontal dynamic stress, which may result in displacement and cause deformation of the telescopic part.

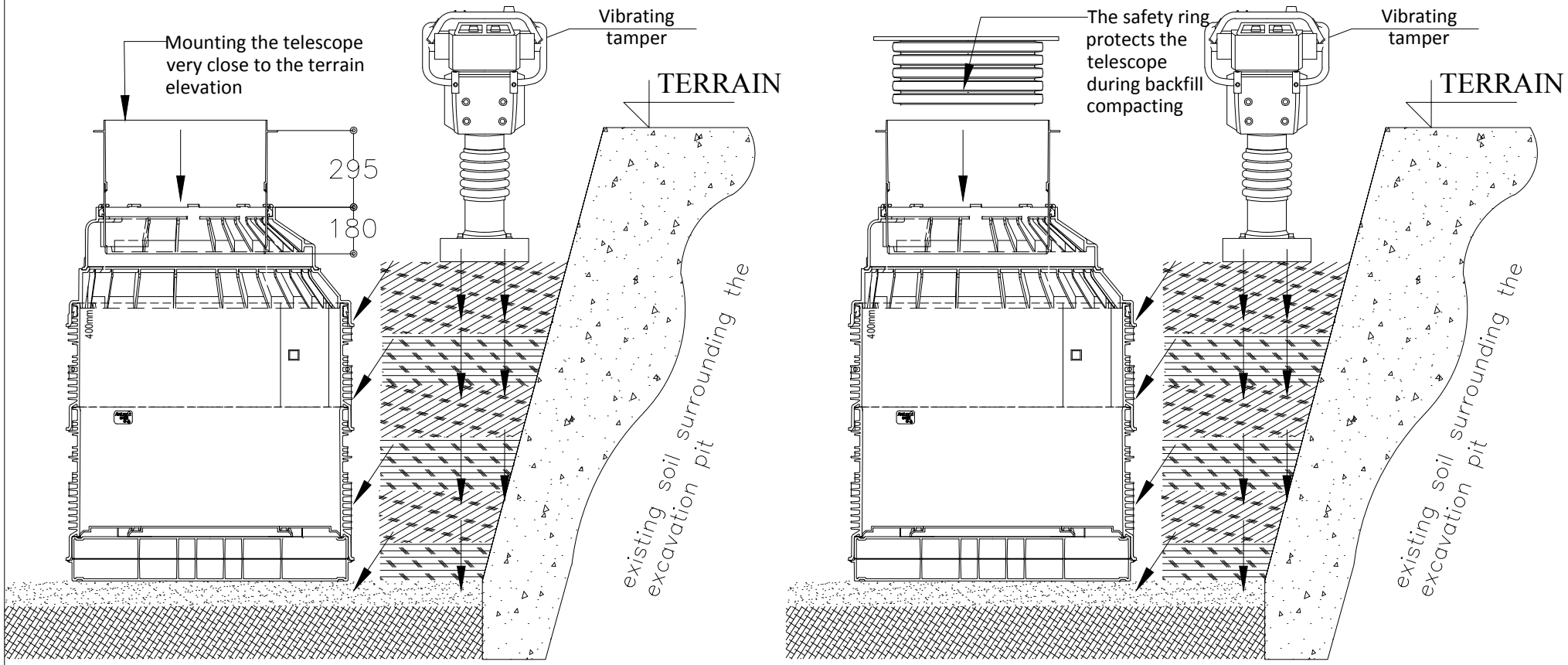
MOUNTING THE CONE 100/630



1. After all extension rings have been mounted proceed to the mounting of the cone on the last extension ring which was left without a sealing ring. Measure the distance from the field elevation to the cone crown and if the measured distance is shorter than 30 cm, remove the cone and shorten the extension ring below it by 10 cm or 25 cm.
2. Put the rubber sealing, lubricate and mount the cone again.

Note: The traffic of vehicles on top of the lid should not be allowed because it has no reinforcement against horizontal dynamic stress, which may result in displacement and cause deformation of the telescopic part.

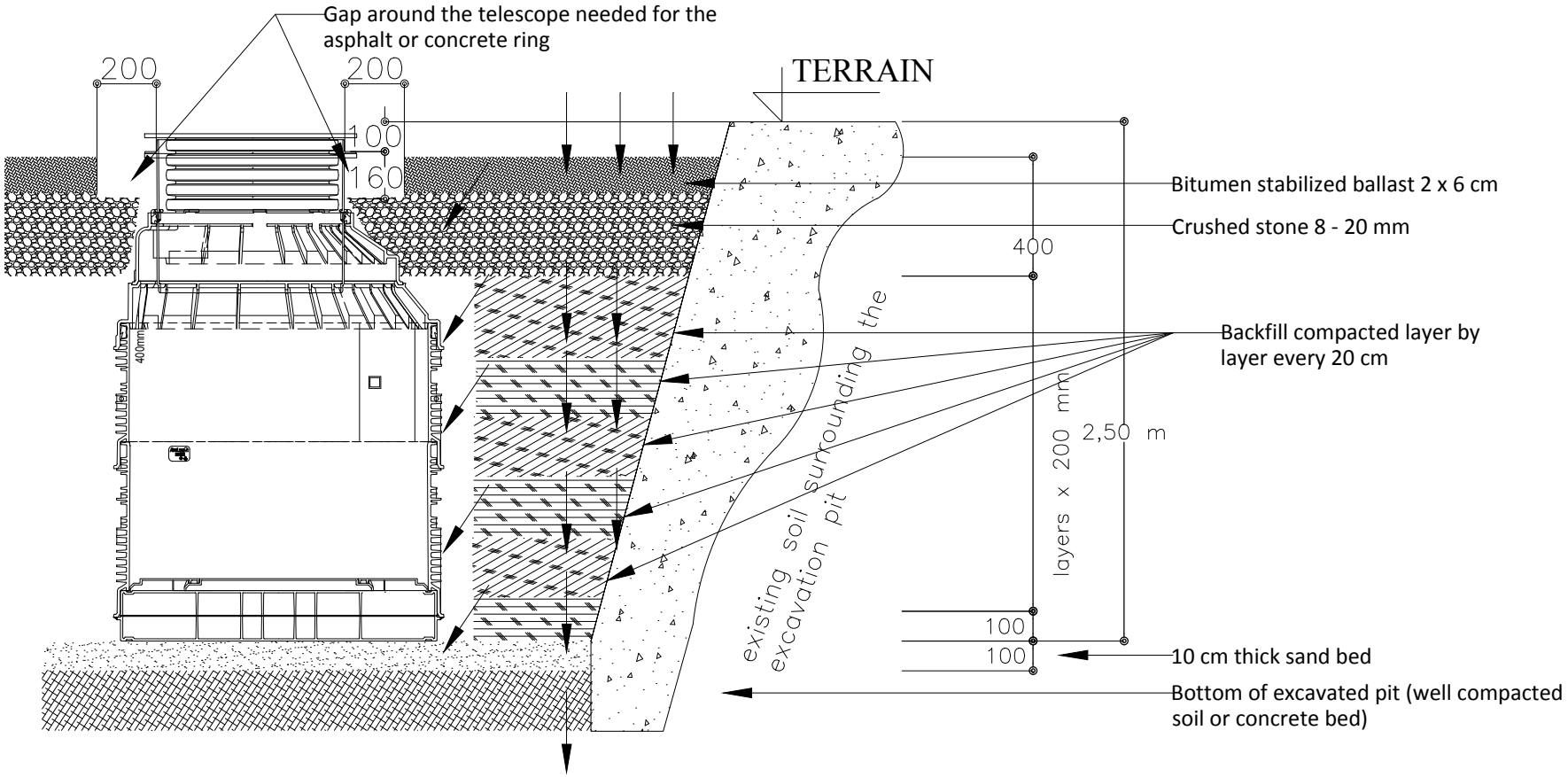
MOUNTING THE TELESCOPE AND SAFETY RING PRAGMA DN590



3. Mounting the telescopic ring
   - apply lubricant to the sealing ring which is embedded in the cone
   - mark the telescope 15 cm from the bottom and insert it into the cone up to the marking
4. Put the safety ring PRAGMA OD590 on the telescope to protect its shape and integrity. One side of the safety ring is cap-closed, preventing inert materials to fall inside the manhole.

Note: The traffic of vehicles on top of the lid should not be allowed because it has no reinforcement against horizontal dynamic stress, which may result in displacement and cause deformation of the telescopic part.

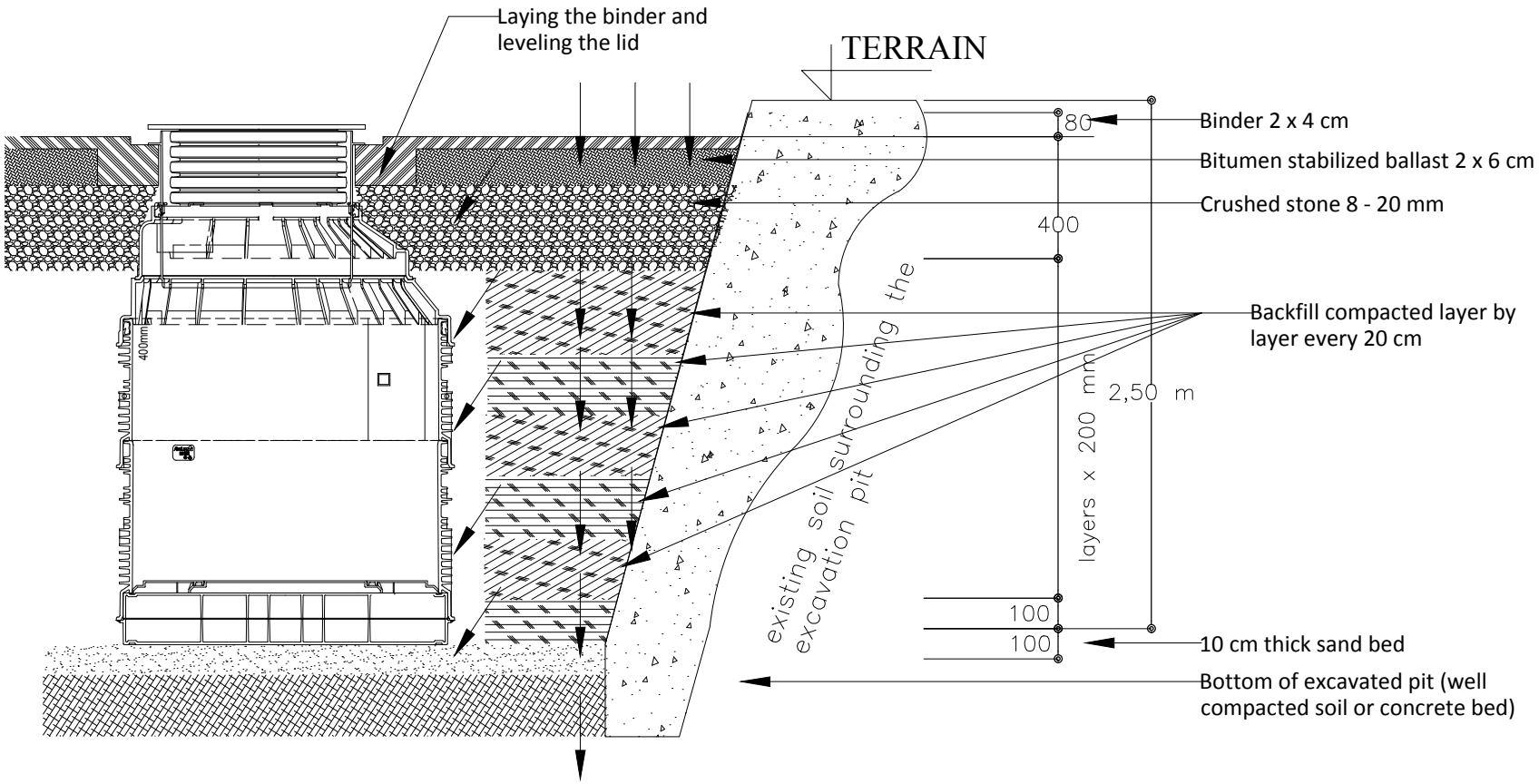
LAYING THE BASE COURSE IN THE AREA AROUND THE TELESCOPE



Having mounted the telescope and the safety ring on the cone, proceed to the laying of base course and bitumen stabilized ballast in accordance with the requirements for making the roadbed.

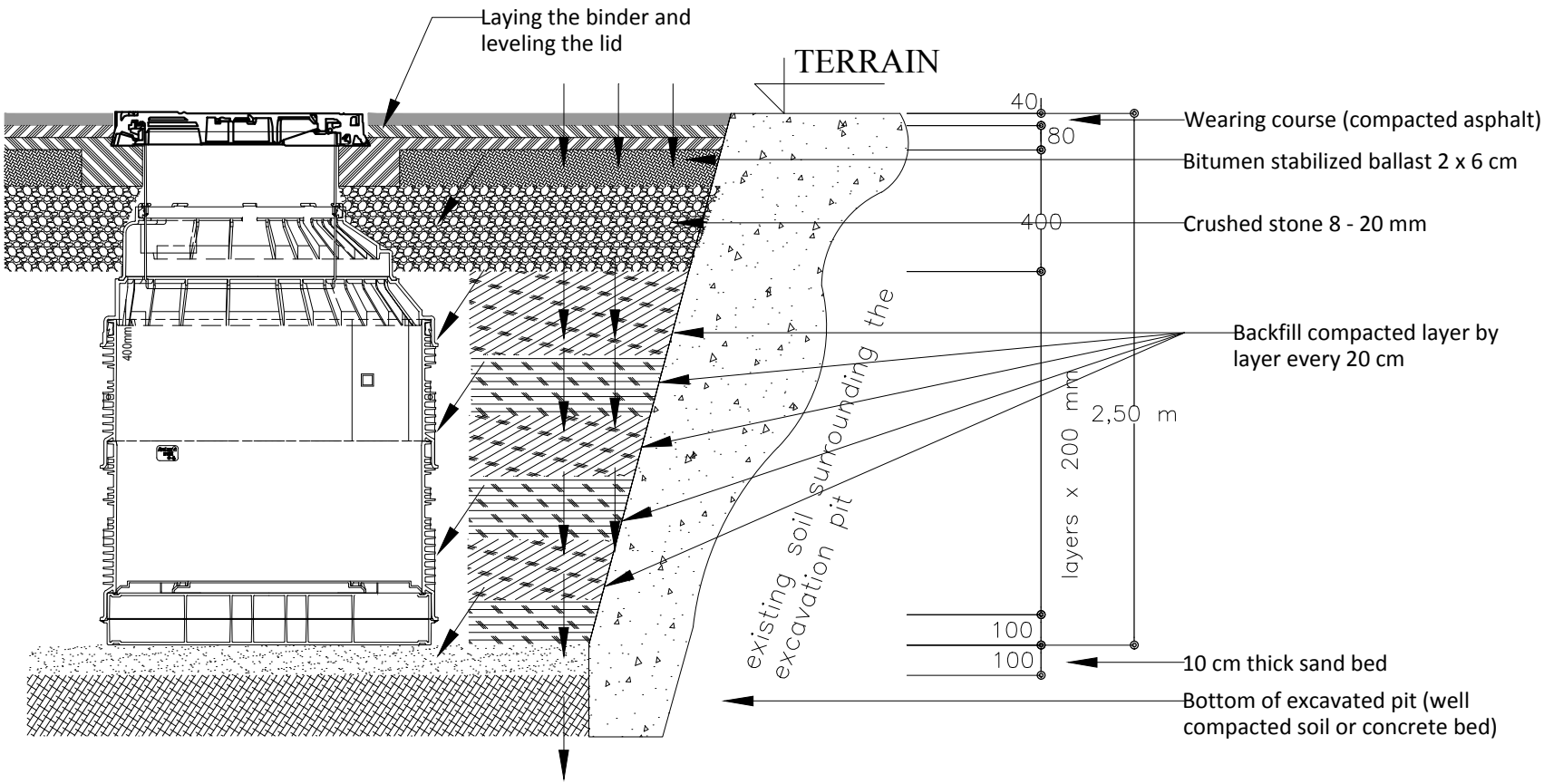
Leave a gap around the telescope at 200 mm from the telescope and 160 mm under the telescope flange. The gap so created may be occupied by a 160 mm high concrete ring or may be filled with asphalt during pavement works.

LAYING THE BINDER



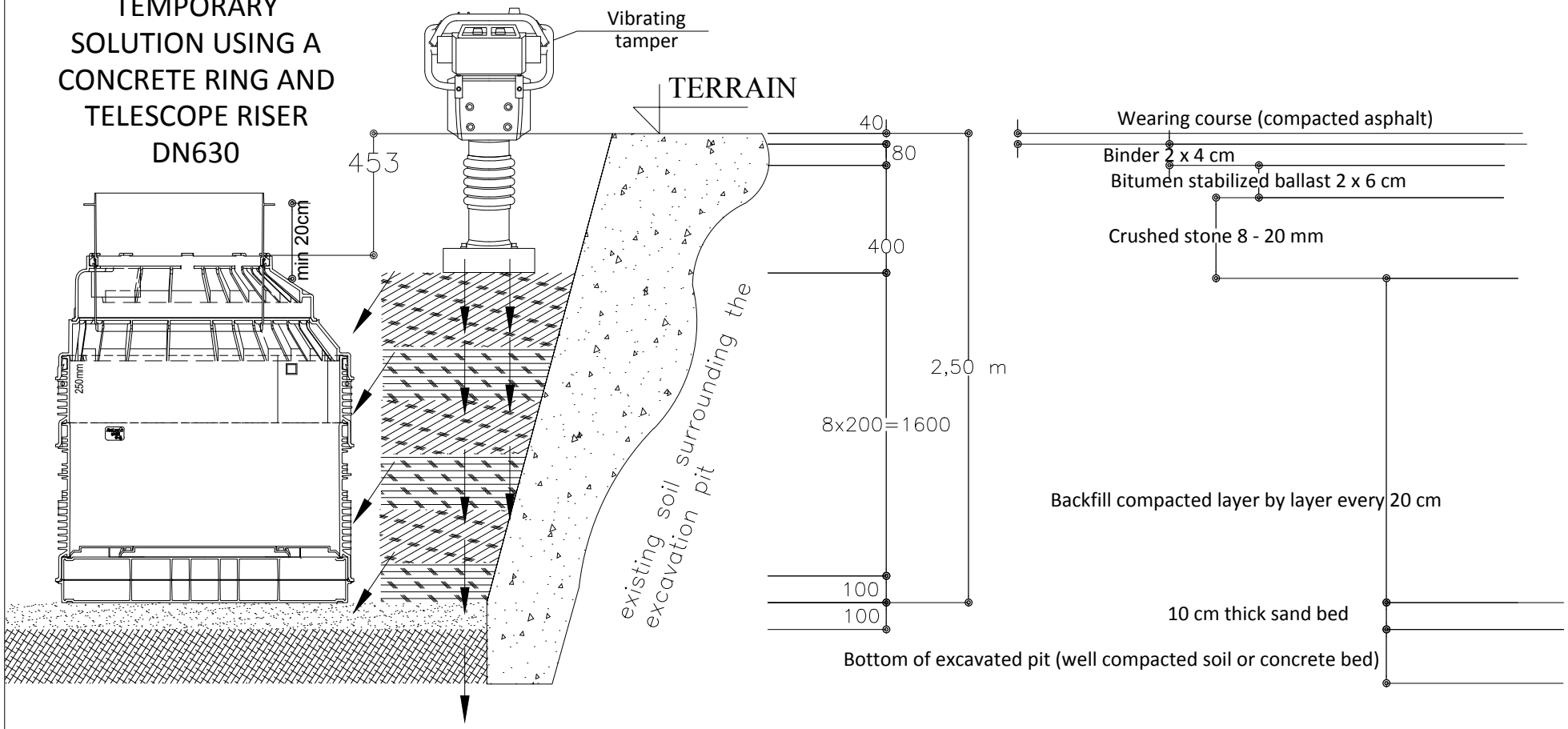
1. Laying the load-bearing 80 mm high asphalt layer and preparing the base for the lid.

MOUNTING THE LID AND LAYING THE WEARING COURSE



1. Laying the wearing/surface course.

TEMPORARY SOLUTION USING A CONCRETE RING AND TELESCOPE RISER DN630

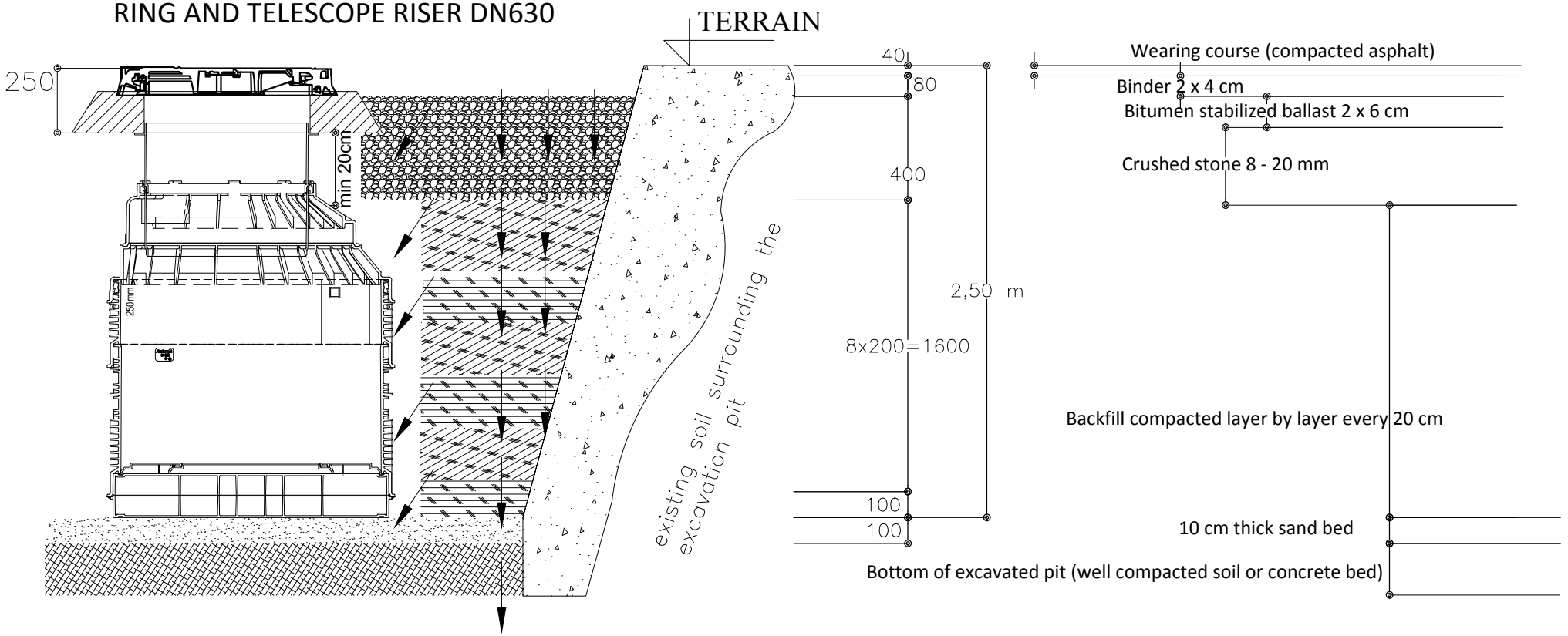


1. Assembly and erection of the manhole taking care to leave at least 45 cm distance from the field elevation to the cone crown.
2. Laying the backfill by 30 cm thick layers and manual compacting 95-97% according to Proctor.
3. Mounting the telescopic ring.
   - mark the telescope 10 cm from the bottom and insert it into the cone up to the marking
   - pour the crushed stone and stamp manually taking care to distribute it evenly in order to avoid deformation of the telescope.
   - upon reaching the level for placement of the 16 cm high concrete ring, adjust it on the telescope by letting it rest on the flange and push it until it touches the base.
4. Fix (by anchor bolt) the lid to the concrete ring

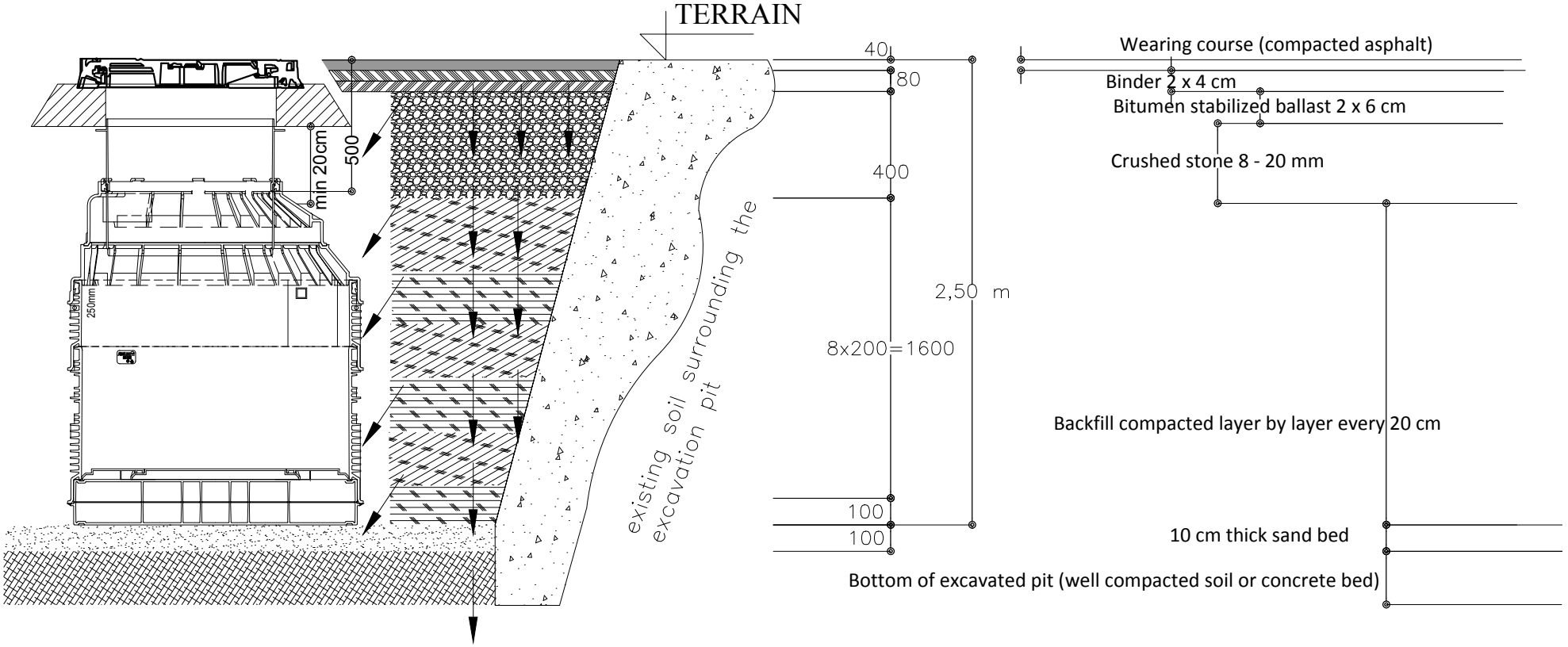
Now the base is ready for laying the asphalt pavement.

Note: The traffic of vehicles on top of the lid should not be allowed because it has no reinforcement against horizontal dynamic stress, which may result in displacement and cause deformation of the telescopic part.

TEMPORARY SOLUTION USING A CONCRETE RING AND TELESCOPE RISER DN630



MOUNTING THE LID USING A CONCRETE RING AND TELESCOPE RISER DN630



Laying the asphalt pavement:

Note: Check the lid elevation and the position in case there was an instance of vehicles traffic from the time of mounting the lid to the time of laying the road pavement.

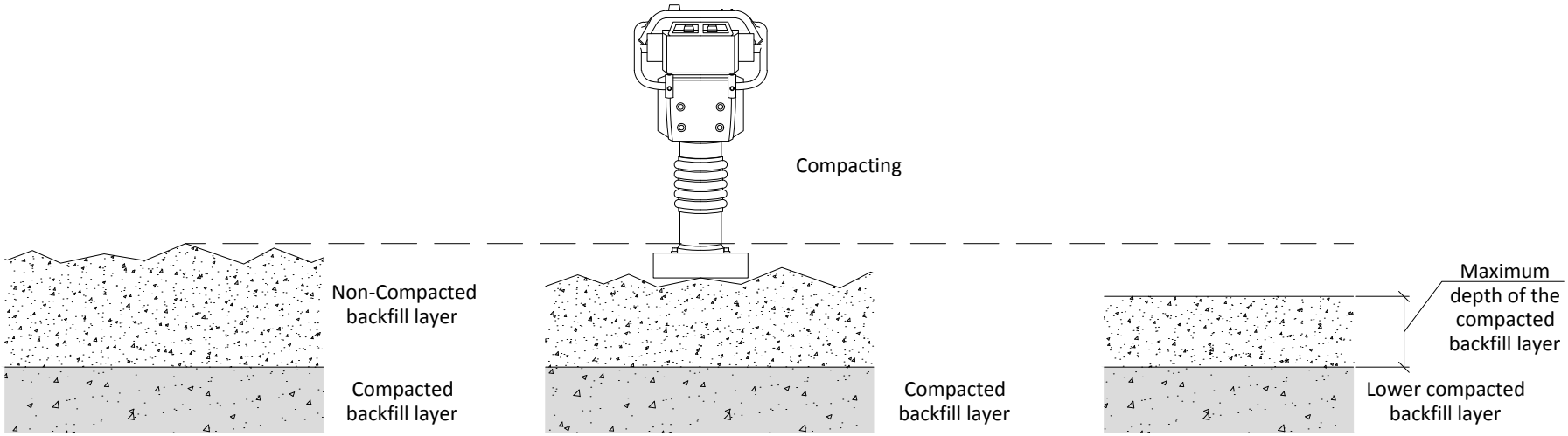
Note: The depth and composition of the road pavement should correspond to the client's design specifications. The backfill may consists of the most types and classes of natural granular materials with maximum grain size not bigger than 10% of the pipe nominal diameter or maximum size 30 mm. The backfill material should not contain foreign objects (mixtures) such as snow, ice or frozen earth masses.

Characteristics of materials used for backfilling:

material	grain size [mm]	Remarks
gravel, crushed stone	8 - 22, 4 - 16 8 - 22, 4 - 16	this is the most suitable soil material, containing from 5 to maximum 20% particles with grain size 2 mm
gravel	2 - 20	this is a suitable soil material, containing from 5 to maximum 20% particles with grain size 0.2 mm
sand, moraine pebbles	0.2 - 20	this is an acceptable soil material, containing maximum 5% particles with grain size 0.2 mm

The sand cushion should be compacted very well up to 95% according to Proctor.

The bottom of excavated pit should be made of well compacted soil or concrete bed. The areas around the inlets and the outlet should be compacted manually. The compacting density should be 95% according to Proctor. Observe the direction of compacting shown in the design drawing.



Soil type	Soil group				
	Soil group acc. to ATV127	popular name	symbol*	distinguishing features	examples
Gravel type (Non-Cohesive)	G1	Single grain size gravel	[GE] [GU]	Steep granular line with prevalence of large size grains	Crushed stone, river and coastal pebbles, moraine sand, cinders, volcanic ashes
		Gravel with different size grains, gravel-sand	[GW]	Uninterrupted granular line with several granulometric groups	
		Gravel with uniform size grains, gravel-sand	[GI] [GP]	Steep granular line with one or more missing granulometric groups	
		Single grain size sand	[SE] [SU]	Steep granular line with one dominating granulometric group	Sand from dunes and basin beds, river sand
		Sand with different size grains, sand-gravel	[SW]	Uninterrupted granular line with several granulometric groups	Moraine sand, coastal sand, beach sand
		Sand with uniform size grains, sand-gravel	[SI] [SP]	Steep granular line with one or more missing granulometric groups	
	G2 & G3	Debris gravels, gravel-debris-sand with uniform size grains	[GU] [GM]	Wide/interrupted granular line with fine debris particles	Crushed gravel, rock debris, clay gravel
		Clay gravel, gravel-sand-clay with uniform size grains	[GT] [GC]	Wide/interrupted granular line with fine debris particles	
		Debris sand, sand-debris with uniform size grains	[SU] [SM]	Wide/interrupted granular line with fine debris particles	Quicksand, earth, sand loess
		Clay sand, sand-debris with uniform size grains	[ST] [SC]	Wide/interrupted granular line with fine debris particles	Sandy soil, alluvial clay, alluvial chalky clay
Cohesive		Inorganic debris, fine sand, rock particles, debris or clay fine sand	[UL] [ML]	Low stability, shortly reactive, zero to low plasticity	Loess, clay
	G4	Inorganic clay, distinctly plastic clay	[TA] [TL]	Medium to high stability, slowly reactive, low to medium plasticity	Alluvial clay, clay
			[TM]		
			[CL]		

Backfill compacting tools	No of compacting tool courses to achieve 95% compacting acc. to Proctor	Maximum depth of the backfill layer after compacting depending on the soil group				Minimum depth of the backfill layer remaining above the pipe crown before compacting
		G1	G2	G3	G4	
		m	m	m	m	m
Manual or foot-operated stamping - min 15 kg	3	0.15	0.1	0.1	0.1	0.2
Vibrating Tamper - min 70 kg	3	0.3	0.25	0.2	0.15	0.3