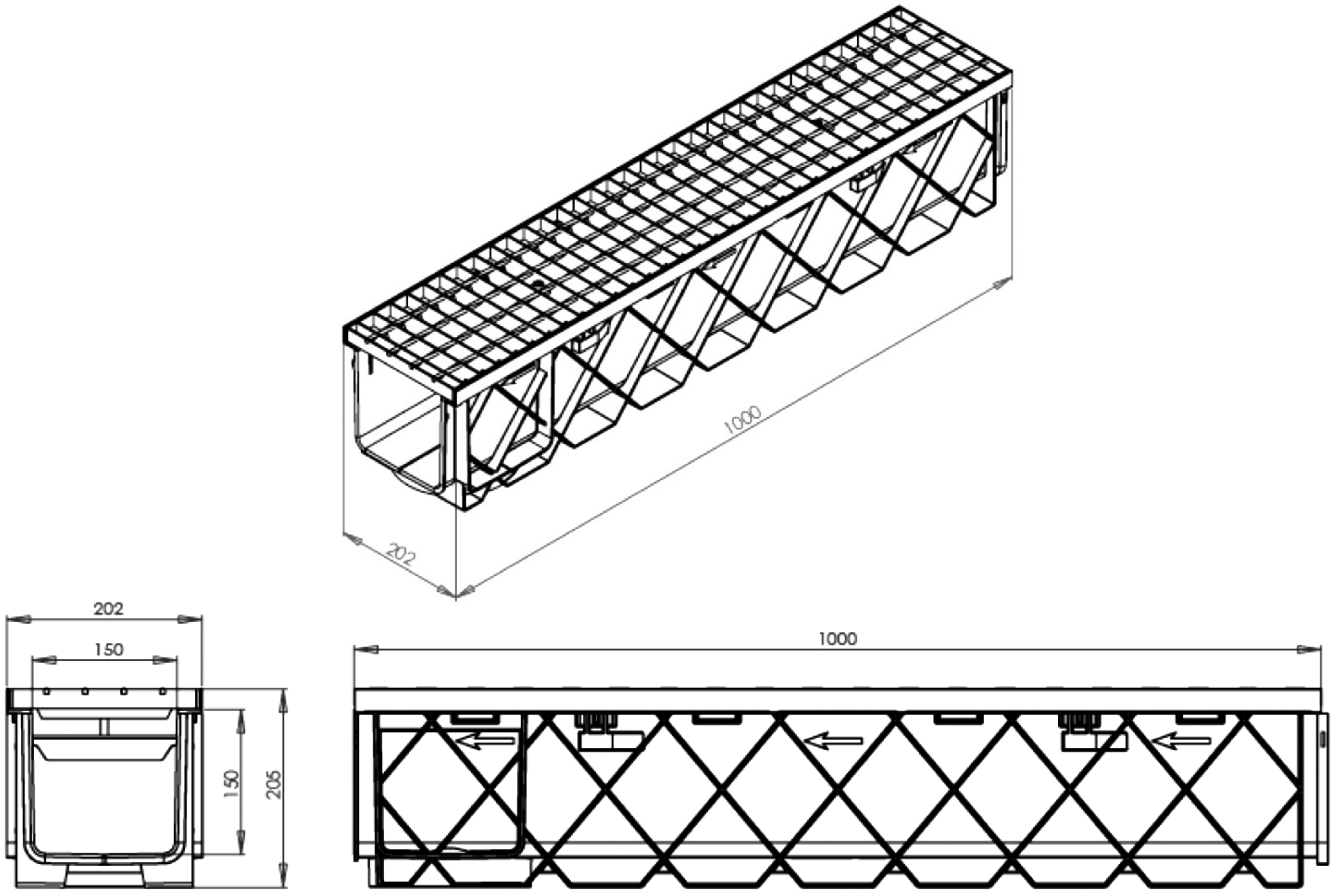
Storm Drain® Pro Installation

Storm Drain® Pro surface water drainage system is the perfect solution for collection of high flows of surface water in domestic and commercial applications.

Storm Drain® Pro surface water drainage can be used where large surface areas need to be drained or where heavier rainfall is encountered. Storm Drain® Pro is 202mm wide and 205mm deep overall and has an internal drainage channel 150mm wide and 150mm deep. The specially shaped self-cleaning channel base is designed to efficiently clear high flows of stormwater runoff. Storm Drain® Pro is available with high intake galvanised steel grates and pedestrian heel guard grates in a range of load ratings (AS3996 Class B, Class C).



Detailed installation specification drawings are available so that Storm Drain® Pro can successfully be installed with a number of alternative pavement types.

Storm Drain® Pro Application Table

	Concrete	Asphalt	Pavers	Grass
Class B	✓	✓	✓	✓
Class C	✓	✓	✓	Not Recommended

Installation Instructions

Prepare Ground

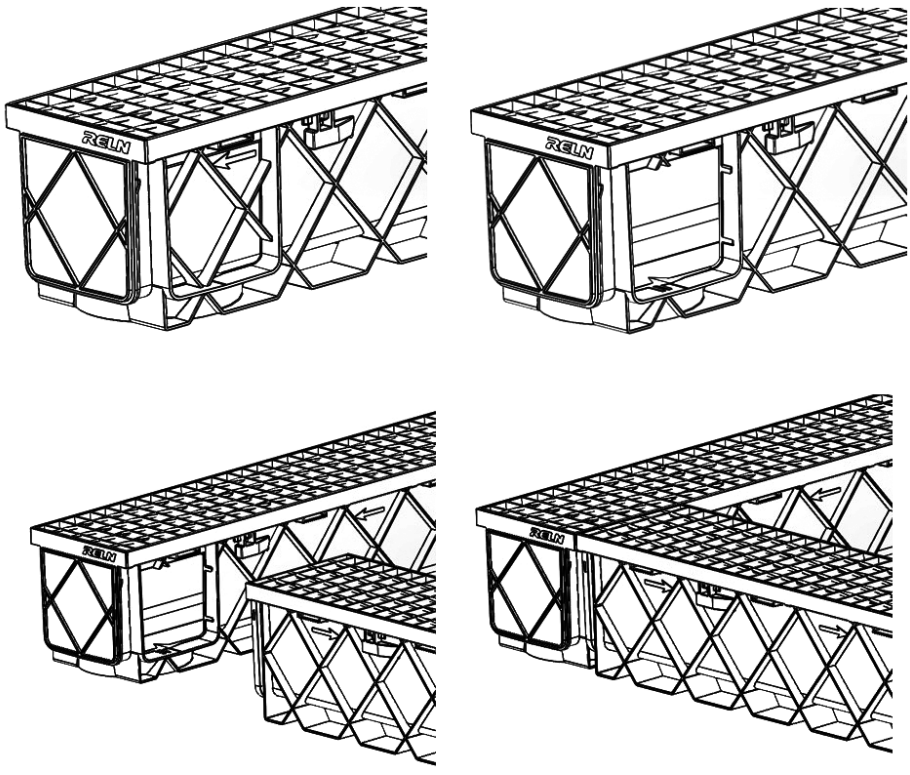
- Ground must be compacted and prepared to engineers' requirements to be suitable to support the intended pavement type and traffic loads.
- Pavements must have expansion joints to engineers' requirements.
- Dig trenches suitable to provide Storm Drain® Pro with a minimum support of reinforced concrete, minimum 100mm for Class B and minimum of 150mm for Class C.
- Detailed installation specification drawings are available for Concrete, Asphalt, Pavers and Grass on www.reln.com.au
- Fix a string line to set finished surface level and allow for an ideal minimum fall of approximately 5mm for every 1m length for suitable run-off.
- Stormwater discharge from the bottom outlet of the channel, must be at the lowest point of the installation.

Assemble components

- Channels are supplied pre-assembled with grates.
- Assemble channels to each other, and end caps using silicone to seal each joint.
- Ensure the joining clips have engaged to provide a positive connection between channel sections.
- Corners can be created in either direction by cutting out the side panel and connecting the channel end.

Creating Corners

- Corners can be created at the downstream end of the channel on either side.
- With a sharp knife or small reciprocating saw, follow along the indicated cut out and remove the required side panel from the channel.
- Apply silicone to the outer flange of the channel with the side cut out and to the female slotted connection end of the intended downstream channel to create a seal between both channels.
- Use an End Cap and seal with silicone to blank off the end of the channel that has the side panel removed.
- Join the channels together and complete installation as per instructions.



Stormwater pipe connection

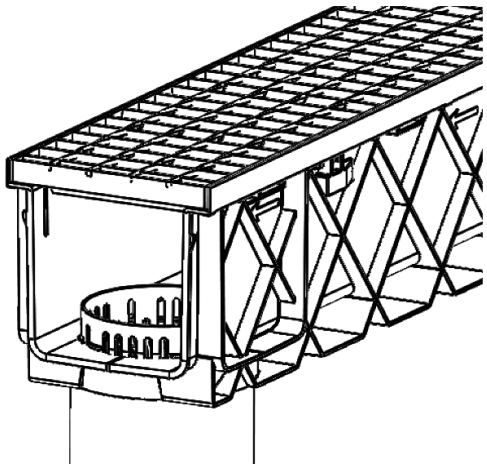
- Cut out the bottom outlet port of the channel with a hole saw for connection to PVC stormwater pipe.
- RELN recommend the fitment of AS/NZS1254 DN150 PVC Stormwater Pipe for optimum drainage performance.
- Refer to Bottom Outlet Hole Saw Table or underside of channel for correct hole saw size.
- Use silicone to seal between pipe and bottom outlet.

Storm Drain® Pro Bottom Outlet Hole Saw Table

Bottom Outlet Pipe Size	Hole Saw Size
DN150 – Recommended	140mm (5 ½ inch)
DN100	102mm (4 inch)
DN90	76mm (3 inch)

Leaf Guard Installation

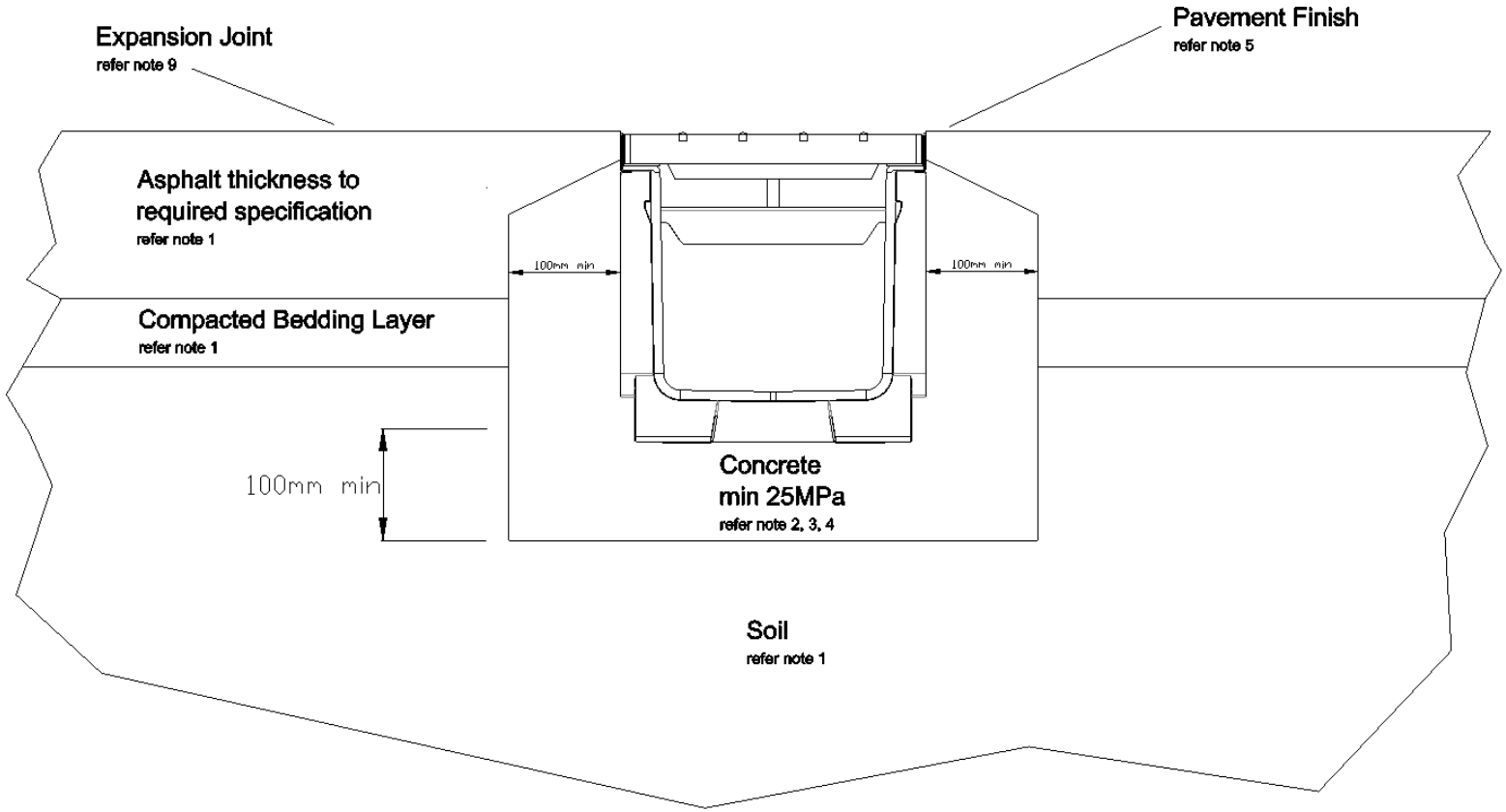
- A Leaf Guard can be installed in Storm Drain® Pro to reduce debris blocking the drainage pipe system.
- The Storm Drain® Pro Leaf Guard is installed "cup facing upwards" and is designed to fit all bottom outlet size options.
- It is the system owners' responsibility to ensure the leaf guard is cleaned out on a regular basis to prevent flooding of the surface water drainage system and surrounding areas.
- Grates can be removed by unscrewing the socket head cap screws from the grate and cross bar. On re-installation of grate, ensure the cross bar is squarely secured in the channel side pockets and the screws are tightened to secure the grates from future movement.



Concreting

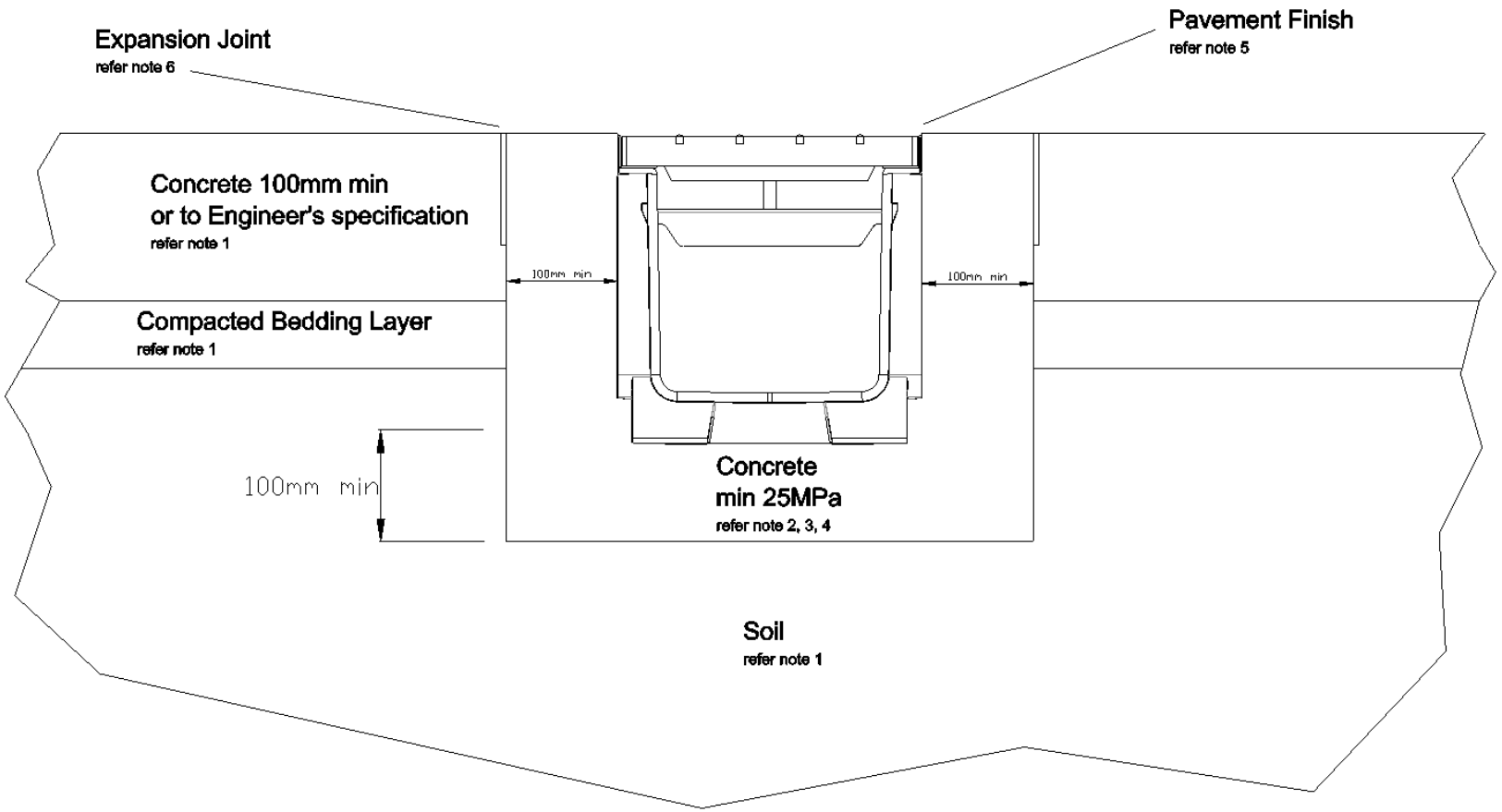
- Storm Drain® Pro must be installed in reinforced concrete with minimum 25MPa strength.
- Grates must be assembled to Storm Drain® Pro prior to concrete pour.
- Protect grates with tape to protect from concrete splash.
- Ensure concrete fully encases Storm Drain® Pro channel sections.
- Vibrate concrete to eliminate air pockets.
- Finish concrete a minimum of 3mm above the edge of the channel.
- Allow full concrete cure prior to vehicle use or removal of grates – approximately ten days.

Storm Drain Pro Class B Installation - Asphalt Pavement



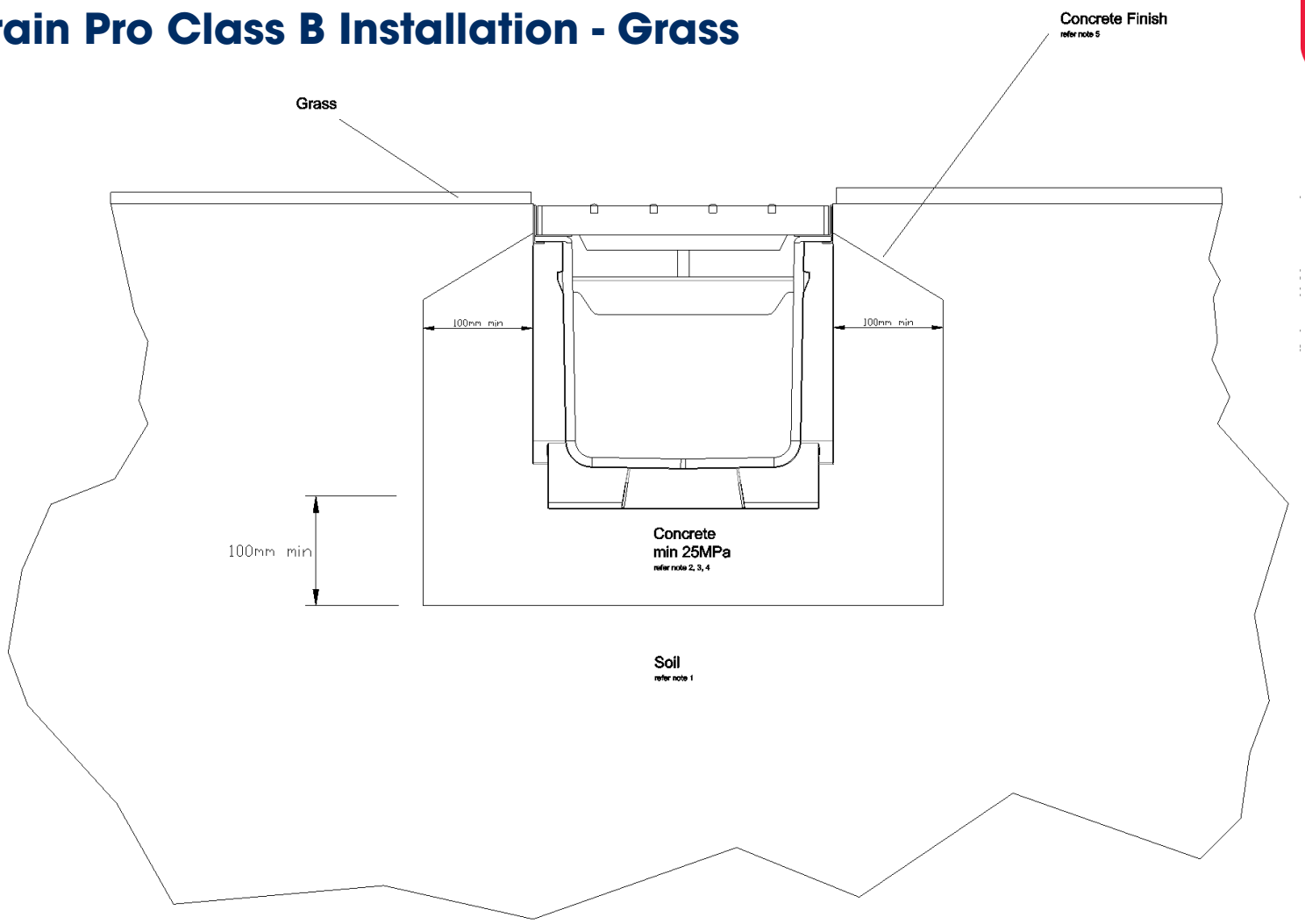
1. Cary out ground preparation, compaction, pavement and expansion joint design to engineer's specifications. These installation requirements are general minimums and specific engineering advice from others may be required to suit specific site requirements.
2. Engineer to specify slab reinforcing bars/mesh for application.
3. Encase Storm Drain Pro in concrete minimum strength 25MPa, reinforced to engineers specifications.
4. Haunch concrete from steel channel edge to desired asphalt thickness.
5. Vibrate concrete to eliminate air pockets.
6. Lay asphalt to engineer's specifications to suit design loads.
7. Do not allow hot asphalt to come into contact with plastic channel.
8. Finish top course 3mm above channel edge.
9. Pavement expansion joints as required to engineer requirements.

Storm Drain Pro Class B Installation - Concrete Pavement



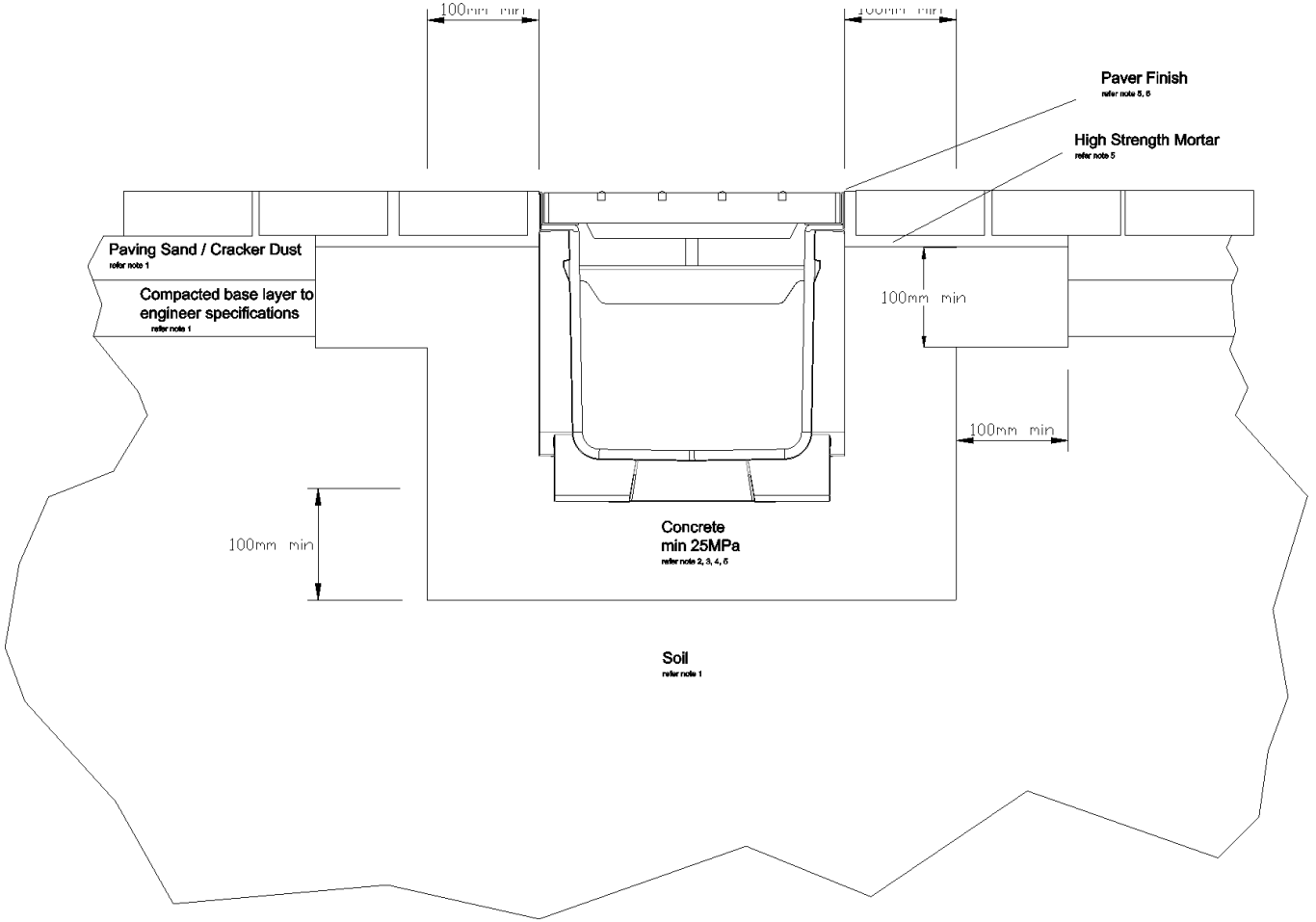
1. Cary out ground preparation, compaction, pavement and expansion joint design to engineers specifications. These installation requirements are general minimums and specific engineering advice from others may be required to suit specific site requirements.
2. Engineer to specify slab reinforcing bars/mesh for application.
3. Encase Storm Drain Pro in concrete minimum strength 25MPa, reinforced to engineers specifications.
4. Vibrate concrete to eliminate air pockets.
5. Finish top course 3mm above channel edge.
6. Pavement expansion joints to engineer requirements.

Storm Drain Pro Class B Installation - Grass



1. Cary out ground preparation, to engineers specifications. These installation requirements are general minimums and specific engineering advice by others may be required to suit specific site requirements, especially vehicular load applications.
2. Engineer to specify slab reinforcing bars/mesh for application.
3. Encase Storm Drain Pro in concrete minimum strength 25MPa, reinforced to engineers specifications.
4. Vibrate concrete to eliminate air pockets.
5. Finish top course 3mm above channel edge.

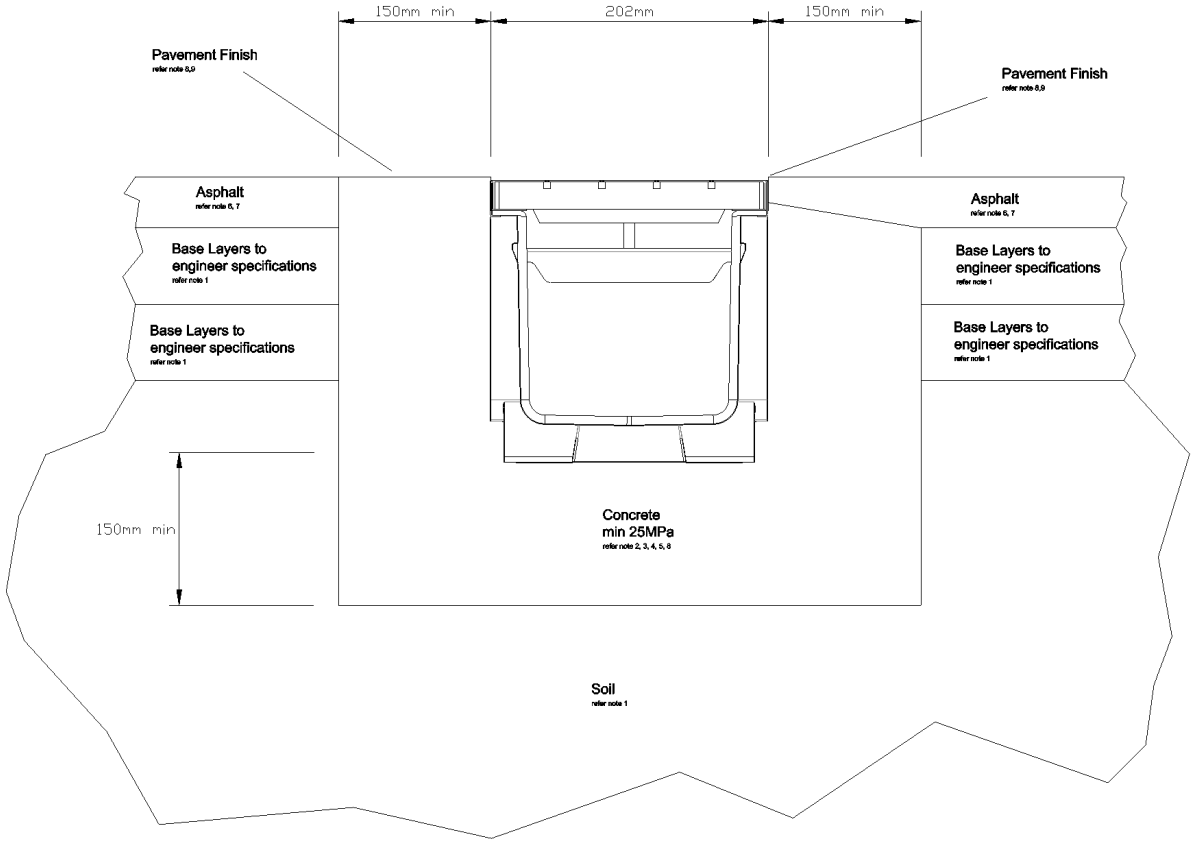
Storm Drain Pro Class B Installation - Pavers



1. Cary out ground preparation, base layers, compaction, and paver laying design to engineers specifications. These installation requirements are general minimums and specific engineering advice by others may be required to suit specific site requirements.
2. Engineer to specify slab reinforcing bars/mesh for application.
3. Encase Storm Drain Pro in concrete minimum strength 25MPa, reinforced to engineers specifications.
4. Vibrate concrete to ellmlnate air pockets.
5. Secure pavers adjacent to Storm Masta channel in high strength mortar.
6. Finish top course 3mm above channel edge.

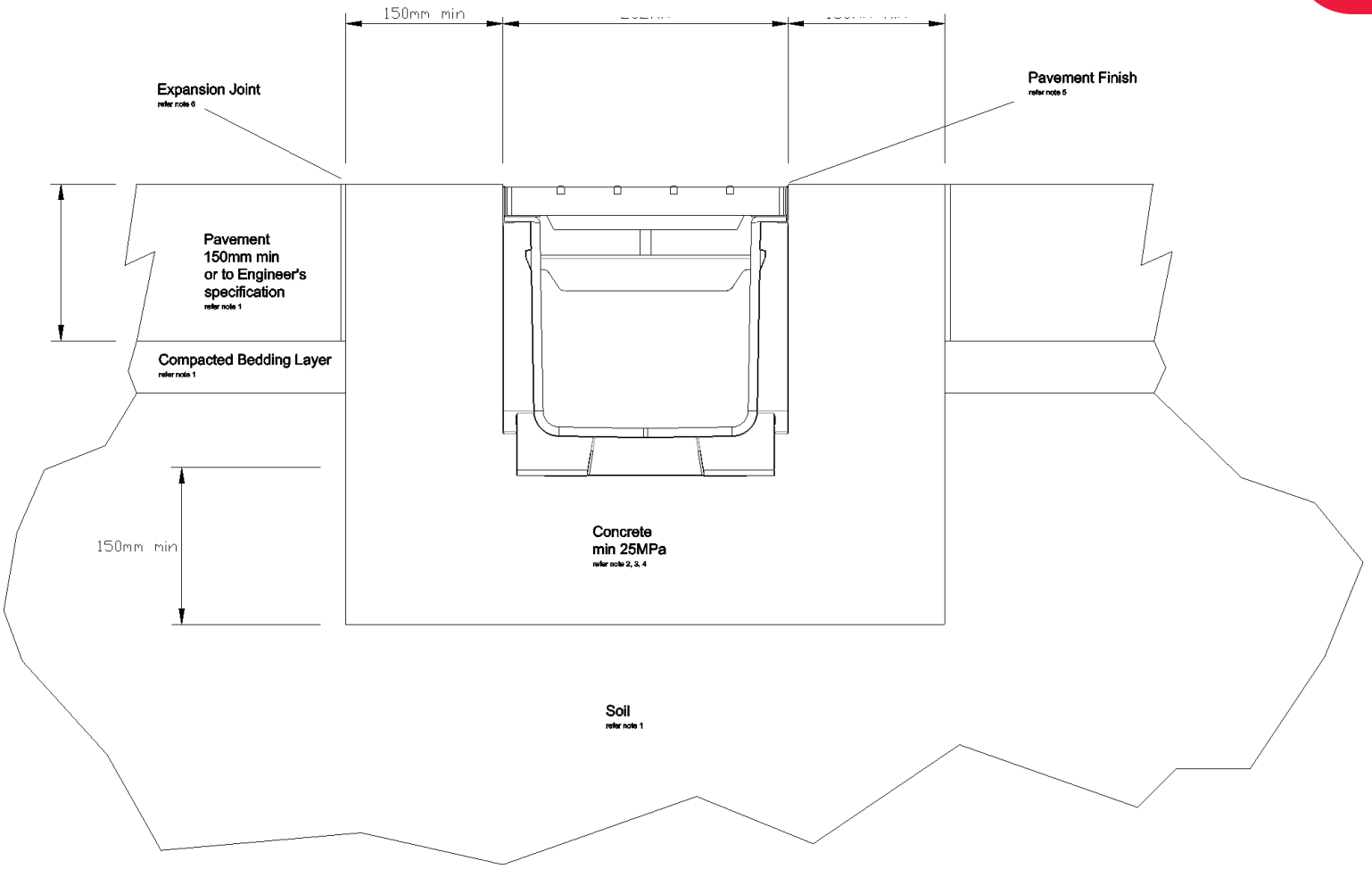
Storm Drain Pro Class C Installation - Asphalt Pavement

(Concrete Edge Strip or Haunched Pavement methods)



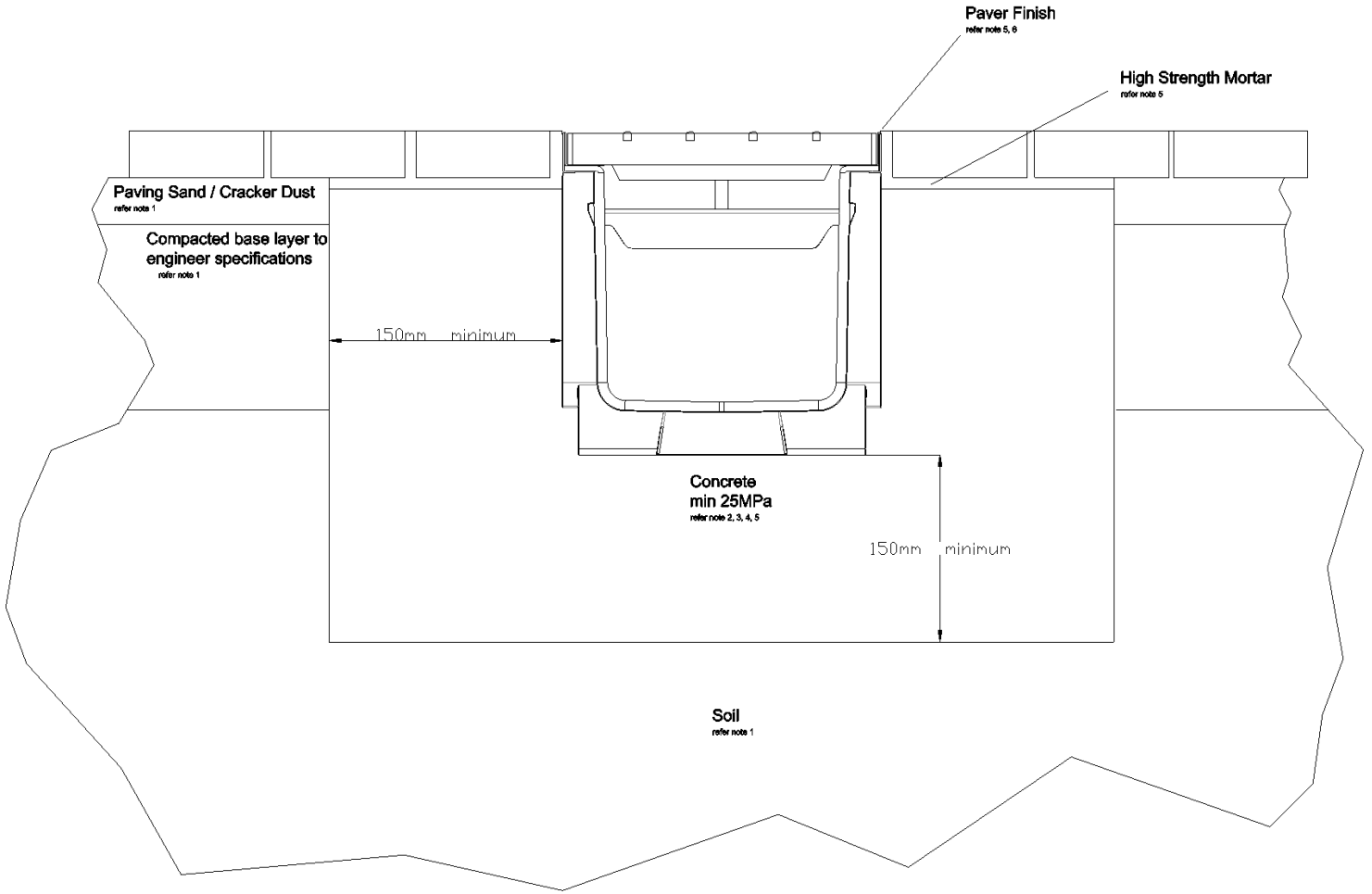
1. Cary out ground preparation, base layers, compaction, and pavement design to engineers specifications for load requirements. These installation requirements are general minimums and specific engineering advice may be required to suit specific site requirements.
2. Engineer to specify specific slab reinforcing bars/mesh for application.
3. Encase Storm Drain Pro in concrete minimum strength 25MPa, reinforced to engineers specifications.
4. Vibrate concrete to eliminate air pockets.
5. Fully encase plastic channel with concrete, via either concrete encasement to edge rail or haunched concrete from edge rail to required asphalt pavement thickness.
6. Avoid hot asphalt contact with plastic channel.
7. Lay asphalt to engineer's specifications to suit design loads.
8. Concrete can be colour matched to ashpalt where required.
9. Finish top course 3mm above channel edge.

Storm Drain Pro Class C Installation - Concrete Pavement



1. Cary out ground preparation, compaction, pavement and expansion joint design to engineers specifications and load requirements. These installation requirements are general minimums and specific engineering advice may be required to suit specific site requirements.
2. Engineer to specify slab reinforcing bars/mesh for application.
3. Encase Storm Masta in concrete minimum strength 25MPa, reinforced to engineers specifications.
4. Vibrate concrete to eliminate air pockets.
5. Finish top course 3mm above channel edge.
6. Pavement expansion joints to engineer requirements.

RELN Storm Drain Pro Class C Installation - Pavers



1. Cary out ground preparation, base layers, compaction, and paver laying design to engineers specifications for required loads. These installation requirements are general minimums and specific engineering advice by others may be required to suit specific site requirements.
2. Engineer to specify slab reinforcing bars/mesh for application.
3. Encase Storm Drain Pro In concrete minimum strength 25MPa, reinforced to engineers specifications.
4. Vibrate concrete to eliminate air pockets.
5. Secure pavers adjacent to Storm Masta channel in high strength mortar.
6. Finish top course 3mm above channel edge.