

### Bypass Inlet

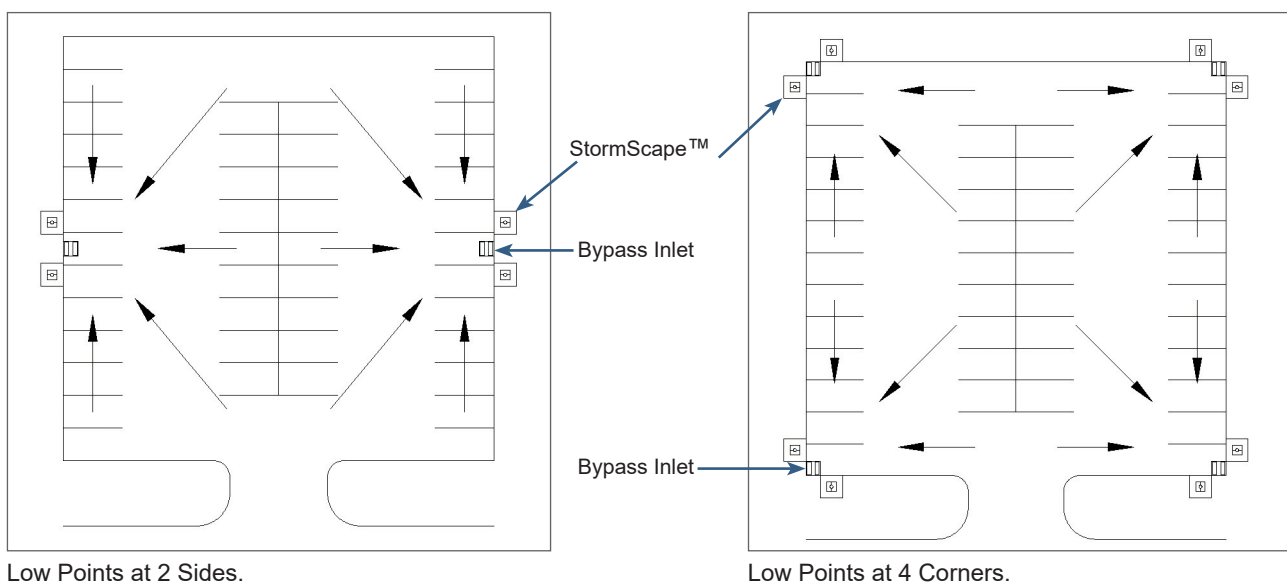
The unit should not be installed as a terminal inlet – as the unit is designed to treat 90% of the annual runoff volume, an effective bypass is required to accept higher intensity rainfall events. Where surface ponding is a concern, the bypass inlet design should be checked to ensure that it is able to accept the higher intensity or duration storm events.



Typical Bypass Arrangement.

### Surface Gradation

The slope and camber of the road / car park should be set to encourage flows into the Hydro StormScape™. Where required, a diversion inlet may be incorporated into the system design to pass the water quality treatment volume into the Hydro StormScape™ unit and divert extreme flows to a separate bypass inlet using conventional hydraulic design criteria for flow over paved surfaces. There are a number of techniques that can be employed to direct the majority of the surface water flows to Hydro StormScape™ units as illustrated in the drawings below. Further detailed layout examples can be obtained from Hydro International.

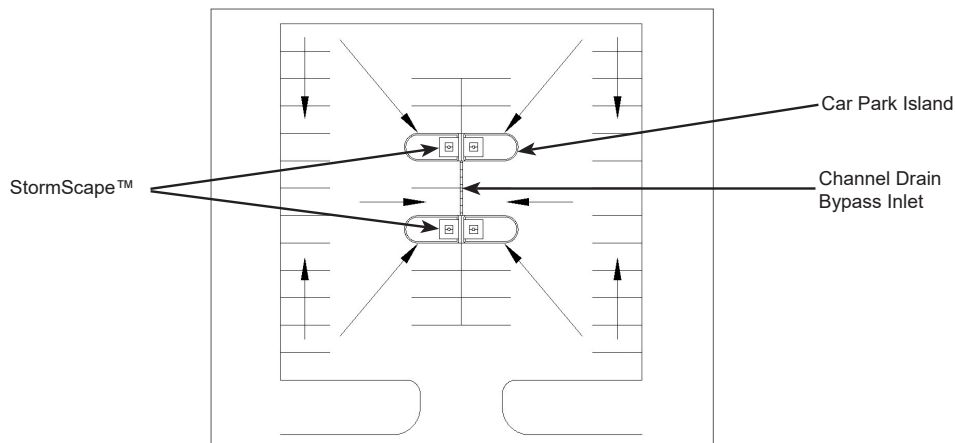


Low Points at 2 Sides.

Low Points at 4 Corners.

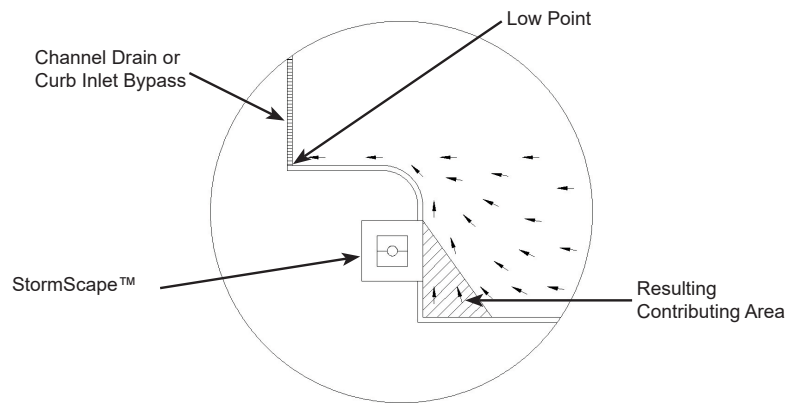
# Design Considerations

## Hydro StormScape™



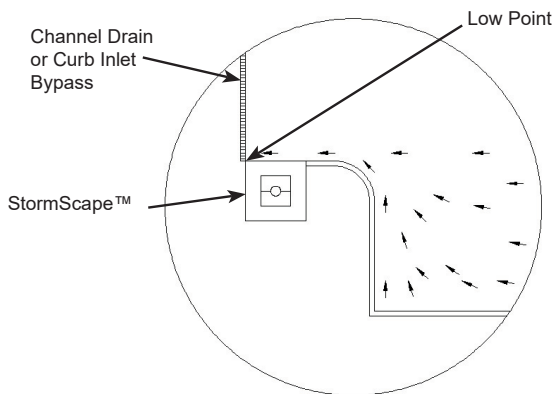
### Avoid Short Circuiting

Care should be taken to ensure that the gradation does not direct surface flows away from the StormScape™ unit. This could lead to the majority of flows short circuiting the StormScape™ and draining directly via the bypass inlet. In the example below the arrows show the likely flow path. The resulting contributing area is reduced to the corner of the drained area.

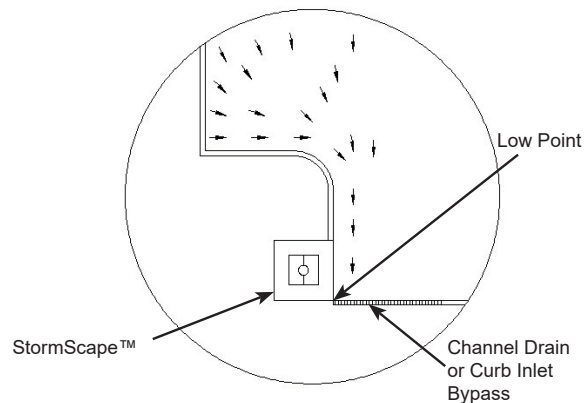


Short Circuiting Problem.

This problem can be alleviated by altering the position of the StormScape™ unit or by re-grading the surface as shown in the diagrams below.



Alternative Unit Placement.



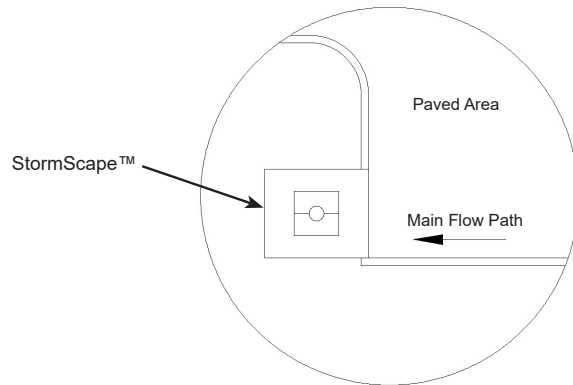
Re-Graded Surface.

# Design Considerations

## Hydro StormScape™

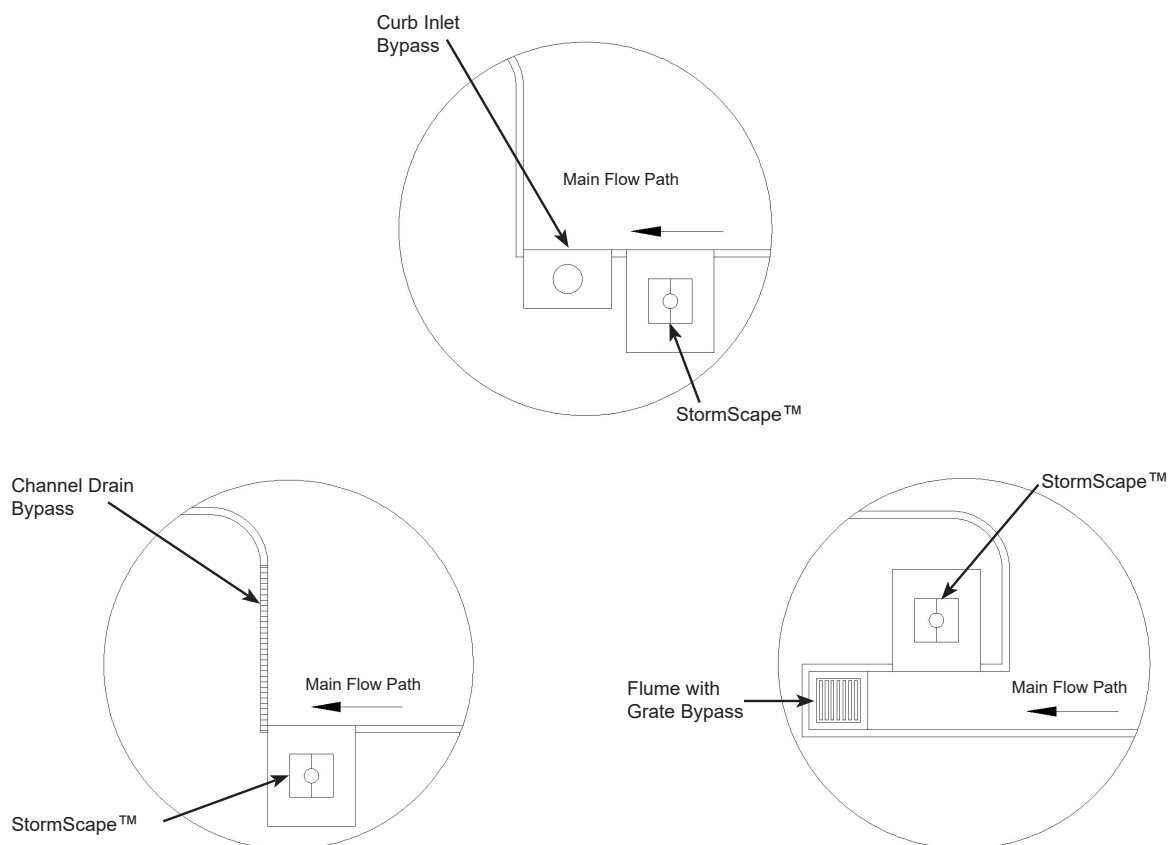
### Avoid Head-on Flow

The surface flow path should be so designed as to encourage a cross linear flow along the curb line in front of the Hydro StormScape™ inlet.



Head-on Flow Placement Problem.

In the above example, the main flow path directs the surface run-off head-on into the StormScape™ unit. This could cause media erosion or suspension. The diagrams below show alternative placement options that could help to reduce the head-on flow and the associated risk of system degradation.



Head-on Flow Placement Solutions.

# Design Considerations

## Hydro StormScape™

### Channels, Flumes and Islands

Where there is no curb or where the natural lie of the land directs the surface flow away from a logical placement of the StormScape™ system along the curb line, there are some techniques that can be employed to form a channel, flume or island for the StormScape™. This can be used to create a short curb line to direct the flows and / or to protect the StormScape™ unit from receiving head-on flows. The pictures below show a few placement examples. Further detailed placement drawings are available from Hydro International.

