

CASE STUDY

SPR™

EAUBONNE, FRANCE
DN1150/2600 (45/102 in), 110 m (360,9 ft)



The renewal of a storm water pipe was given high priority from the local waste-water authority SIARE (Syndicat Intercommunal d'Assainissement de la Région d'Enghien) after there had been several collapses on the road Rue d'Enghien in Eaubonne, a suburb of Paris. First, the ground gave way under the high load of a 22-ton roadwork machine. Another one was caused by material fatigue. The storm water pipe with a height of 1150 mm (45 in) and a width of 2600 mm (102 in) covers the Montlignon stream, which has its source in the Montmorency forest and replenishes the lake d'Enghien 10 km

(6.2 mi) southwards. In addition, it also collects the rain water at Rue d'Enghien.

110 m (360,9 ft) storm water pipe in need of rehabilitation

A camera inspection showed the extent of the damage. The custom-shaped pipe had numerous of corrosion damages, cracks and infiltrations along a 110 m (360.9 ft) section. The construction work would be a challenging task and asked for a trenchless solution. The road section in need of rehabilitation is a one-way street, which goes from the racecourse railway



A watertight pipe with high hydraulic performance is the result of the Spiral-Wound pipe rehabilitation method.

station “Champs de courses” to the city hall. Therefore possibilities for an alternative routing were limited and the traffic should not be affected. The box-shaped sewer lies 15 cm to 1.5 m (0.59 to 59 in) below the ground level and features a 10° bend and a dozen of lateral connections. Further the poor static situation of the storm water pipe asked for an innovative technology to avoid structural damages on surrounding private properties. The trenchless SPR™-method convinced SIARE as it meant lower costs and less time consuming rehabilitation.

Trenchless pipe rehabilitation with SPR™

The SPR™ Spiral-Wound pipe rehabilitation technology rehabilitated the 110 m (360.9 ft) decayed sewer section by winding an endless PVC profile strip to a new pipe in the old pipe. A special spiral-winding machine crawled along

the full length of the structure, combining with every rotation the SPR™ profile strip to a watertight pipe by a key-and-slot joint. The frame of the directly in the sewer installed machine was adjusted to the particular box shape and dimension. Liners of any length can thus be created: as soon as one of the 13 above-ground profile drums was empty, a new one was welded onto it. After the winding process, the annular space between the SPR™ liner and the old pipe was backfilled with a high-strength grout that ensures the static characteristics of the Spiral-Wound pipe. The 10° bend as well as several lateral connections were no problem and could be relined in one step.

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