B.4 DA04 - Sevenoaks Town

Sevenoaks Stage 1 SWMP: Summary Sheet
Drainage Area 04: Sevenoaks Town

Area overview

Area (km^2)	43

Drainage assets/systems	Type	Known Issues/problems	Responsibility
Sewer networks	Sewer (foul and surface water)	There are records of sewer flooding linked to Thames Water systems	Thames Water
Watercourses	Main River	Known fluvial issues associated with the Main Rivers	Environment Agency
Watercourses, drains and ditches	Non-Main River	Known fluvial issues associated with ordinary watercourses.	Kent County Council and Sevenoaks District Council
Watercourses, drains and ditches	Non-Main River	No specific known problems	Riparian

Flood risk

Receptor	Source	Pathway	Historic Evidence
A: Chipstead and Riverhead	Heavy rainfall resulting in surface water run off and overloaded sewers. Surface water (blocked drains / gullies) Fluvial Water Main	River Darent Unnamed Drain (Chipstead) Water Main (Chipstead Park) Thames Water Sewers (Braeside Avenue, Bullfinch Lane, Hamlyn Court, Mill Road, Station Road and London Road, Sevenoaks) Amherst Hill and A25, Riverhead, Bullfinch Lane, Cranmer Road and London Road FMfSW (deep) describe flow routes that follow the watercourse route and there are isolated ponds within Riverhead.	Chipstead Lakes was flooded in 1968 from the Darent. In 2003, Chipstead flooded from a small stream under M25. Base flow from springs at times has been recorded as significant. In 2010 at Chipstead Park, a water main burst resulting in flooding. Brands Hatch, West Kingsdown, Howells Close, Station Road and London Road have been affected by sewer flooding. Flooding at Station Road was reported as being caused by a blockage (2011) and hydraulic overload of foul sewer. There are regular events of internal flooding on Station Road due to blockages from Fats Oils and Grease (FOG). Several events were recorded on London Road due to hydraulic overload (2000 (foul and combined) , 2002, 2004, 2005 (combined) and 2012 (blockage)). Thames Water noted that their records reported that mitigation works were completed for this area. Bullfinch Lane has been reported to be affected repeatedly by sewer flooding as a result if hydraulic overload (2000, 2004, 2006). Surface water flooding on Bullfinch Lane was recorded. Isolated events recorded on London Road and Cranmer Road. At Amherst Hill and A25, Riverhead flooding was reported by the Harvester Public House. Flooding extended north towards River Darent.
B: Sevenoaks North	Heavy rainfall resulting in surface water run off and overloaded sewers Surface water (blocked drains / gullies) Groundwater Fluvial Burst Water Main	River Darent and Honeypot Stream Springs (East of Riverhead, Bradbourne Lakes) Thames Water Sewers (Station Road Bat & Ball Station, Bradbourne Vale, Dunton Green, Linden Chase Road, Mill Lane, Nursery Close, Otford Road, Seal Road and St James Road) Otford Road, East of Riverhead, Bradbourne Lakes, Otford Road, Bat & Ball Station, Bradbourne Vale, Dunton Green, Linden Chase Road, Mill Lane, Nursery Close, Seal Road, St James Road, Bradbourne Vale Road, Bradbourne Park Road, Greatness Lane, Harrison Way, Hospital Road, Moor Road and Seal Hallow Road. FMfSW describes isolated ponding, follows the route of drains in the area. In addition the railway line is identified as a flow route.	Mill Lane, Nursery Close, Bat & Ball Station, Otford Road, Seal Road, St James Road, Seal Hallow Road and Seal Road have records which describe sewer flooding from blockages and hydraulic overload. Dates range from 1991 to 2012. On the Otford Road,the Honeypot Stream overtopped its banks to the east of the railway and flowed through the railway embankment via the new M26 bridge. There are records of the River Darent flooding in 1969 and 1970. East of Riverhead, Bradbourne Lakes are spring fed and groundwater is high in this area, this area is potentially vulnerable. On Harrison Way, whenever it rains, the gully need to be emptied frequently, if not, the road and footway flood. On Hospital Road, isolated areas of flooding were reported by excessive local surface runoff. In 2011, on St James Road floodwater nearly entered a property. In 2008, on Moor Road, a drain overflowed and water entered a property.

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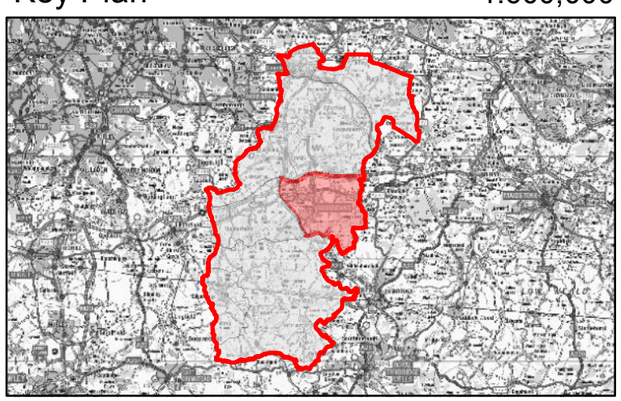
C: Sevenoaks South	Heavy rainfall resulting in surface water run off and overloaded sewers Surface Water with Blocked gullies/drains Fluvial Groundwater	Thames Water Sewers (Bethal Road, Buckhurst Avenue, Crownfields, Knole Park, Marlborough Crescent, Shenden Close, Solefield Road, South Park, South Park, St Botolph's Road, St Botolph's Ave, Weald Road, Seal Hallow Road and London Road) Unnamed Drain (Kippington and Mount Harry Road) Groundwater (Brittains Lane, Sevenoaks) Birch Close, Brittains Lane, Granville Road, Grassy Lane, High Street, Holly Bush Lane, Holmesdale Road, Morewood Close, Seal Hollow Road, Tonbridge Road, Yeomans Meadows, Bayham Road, Lea Road, London Road and Tonbridge Road FMfSW illustrate that there may be a flow route along the railway line and from Knole Park to Wildernesse.	Flooding from the River Darent in 1976. Bethal Road, Buckhurst Avenue, Crownfields, Knole Park, Marlborough Crescent, Shenden Close, Solefield Road, Sevenoaks, South Park, St Botolph's Road, St Botolph's Ave and Weald Road all have been recorded by Thames Water as being affected by sewer flooding, dates range from 1992 - 2012. With the most recent events occurring on St Botolph's Road St Botolph's Ave and South Park, Sevenoaks. Specifically on St Botolph's Road hydraulic overload of foul water sewer has occurred regularly. The Sevenoaks SFRA describes that some locations where the aquifer cap is missing resulting in groundwater infiltration when full. At Brittains Lane, a culverted watercourse which is a designated public sewer combines with highway drainage. This floods the area adjacent to railway embankment, also it is a source of flood risk to the area north of railway embankment around Bradbourne Lakes. Grassy Lane serves as flow route for surface water. Tonbridge Road is subject to regular flooding. The remaining roads all have historic events attributed to surface water flooding.
D: Underriver	Heavy rainfall resulting in surface water run off Surface water (blocked drains / gullies)	Underriver House Road and Bank Lane FMfSW (deep) follows the line of the watercourse.	Flooding at Underriver Road in 2010 and 2012, no properties were reported as being affected. In 2012, KCC cleared the gullies and drains and Bank Lane. FMfSW (deep)
E: Seal Chart (incl. Stone Street)	Heavy rainfall resulting in surface water run off Surface water (blocked drains / gullies)	Bitchet Green Road, Maidstone Road, Park Lane and Pond Lane FMfSW (deep) follows dry valley routes within the topography from Stone Street and Lower Bitchet flowing north towards Seal.	Regular flooding is described at Park Lane. In 2012, Park Lane and Birchett Green Lane were cleared of flood water by KCC Highways. Other roads mentioned have isolated incidents.
F: Seal (incl. Seal Church of England Primary School)	Heavy rainfall resulting in surface water run off Surface Water with Blocked gullies/drains	Ash Platt Road and High Street FMfSW (deep) follows dry valley routes on Grove Road through to Seal Drive Seal on to Ash Platt Road, through Seal Church of England Primary School recreation grounds to the north east towards an unnamed drain.	Repeated flooding in Chevening Road as a result of hydraulic overload of a sewer, a NRV has since been fitted. Regular surface water flooding on Ovenden Road, Sundridge Hill, Pilgrims Way and Shelleys Lane. In 2011, surface water flooding was recorded near Stoneings Lane.
G: Other	Surface Water with Blocked gullies/drains	Childsbridge Lane.	In 2012, KCC was requested to cleanse gullies and jet connecting lines through to the next gully/centre line.

North

A Chipstead and Riverhead
B Sevenoaks North
C Sevenoaks South
D Underriver
E Seal Chart (incl Stone Street)
F Seal

Please NOTE: Thames Water sewer flooding data was provided at postcode sector level (for e.g. TH13 2). Therefore even though an entire area may be highlighted it does not mean that the location is at risk from sewer flooding.

Key Plan 1:600,000



Legend

- Main Rivers
- IDB Maintained Watercourse
- Ordinary Watercourses
- Upper Medway IDB

Historic Flooding*

- Surface Water
- Surface Water with blocked gullies/drains
- Sewer
- Groundwater
- Fluvial
- Other/ Unknown
- Tidal

* Where an entire road has been highlighted in the historic layer; this does not mean that all the road has flooded in the past but rather no specific location was identified in the records received.

Sewer Flooding Incidents**

Number of flood occurences per postcode area

- 1 - 3
- 4 - 6
- 7 - 8 <

**Polygons only represent the postcode area and not the flood extent

Client: Kent County Council

Consultant: JBA consulting

Partners: Upper Medway Internal Drainage Board, Sevenoaks District Council, Thames Water, Environment Agency, Southern Water

Scale 1:35,000

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Historical Flooding
Sevenoaks Town
DA04