



# Sevenoaks District Council

## Contaminated Land Strategy 2022-2027

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### **Consultation**

This document is a draft revision of the Sevenoaks District Council Contaminated Land Strategy<sup>1</sup> intended for consultation.

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<sup>1</sup> Original document titled Strategy for the Identification and Inspection of Contaminated Land.

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### 1. Sevenoaks District Council objectives for dealing with land contamination:

Sevenoaks District Council (SDC) seeks to implement the Part 2A regime and make judgements pursuant of its duties therein within the context and framework of the statutory guidance (Department of Environment, Food & Rural Affairs (DEFRA) Contaminated Land Statutory Guidance (April 2012)). Furthermore in dealing with land contamination the council's aims are:

- to identify and remove unacceptable risks to human health and the environment,
- to seek land remediation through the development management system,
- not to carry out the detailed inspection of sites unless there is significant possibility of significant harm occurring or the likelihood thereof,
- seek to ensure that contaminated sites are made suitable for their current use and
- to ensure that the burdens faced by individuals, companies and the community as a whole are proportionate, manageable and compatible with the principles of sustainable development.

The following objectives are pursuant of the aims above. Sevenoaks District Council;

- considers that land is not contaminated land unless there is reason to consider otherwise,
- considers the Development Management system as the predominant way in which land affected by contamination will be remediated,
- will encourage voluntary remediation of sites where appropriate,
- will only use Part 2A where no appropriate alternative solution exists,
- will not undertake a strategic or detailed inspection of any site where a planning permission exists or is understood to be imminent unless there is significant evidence that the land is contaminated land,
- will continue the process of strategic inspection across Sevenoaks District,
- will consult landowners before carrying out detailed inspection of their land,
- will refer any issues or allegations relating to radioactivity on land to the Department of Energy and Climate Change,
- will only use its powers of entry under Section 108 of the Environment Act 1995 when it is satisfied that there is a reasonable possibility that a significant pollutant linkage exists,
- where remediation is carried out by SDC then, where liable parties are identified, SDC will pursue the appropriate persons for the apportioned share<sup>2</sup> of the liability,
- will seek to communicate in language that is appropriate for the persons with whom we are communicating and where appropriate in non-technical language,

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<sup>2</sup> Which could be 100% of the cost.

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- seeks to communicate in language sensitive to the fact that land contamination issues have potential to cause property blight and psychological stress,
- will make available its Contaminated Land Public Register on its webpage,
- will, where relevant, consult other statutory and non-statutory bodies so as to seek advice and share knowledge,
- will request in writing that, on behalf of SDC, the Environment Agency (EA) carries out the detailed inspection of any Special Site of which SDC becomes aware,
- will, where necessary, authorise an officer of the EA to exercise the powers of entry conferred on it by section 108 (Environment Act 1995),
- will continue to train officers within Environmental Health so as to ensure an effective service with regard to its duties under the regime and
- has a policy of openness with regard to disclosing information held about land contamination issues.

Our objectives under this Strategy are congruent with SDC's Corporate Plan 20XX - 20XX and its priority to 'manage our built and natural environments, to promote and maintain a positive sense of place' and the objective to; maintain clean, pleasant and safe public places. Likewise our objectives are congruent with the policies expressed in the National Planning Policy Framework.

### **2. Introduction**

SDC adopted its first Contaminated Land Strategy<sup>1</sup> in 2001 and since that date it has undergone no changes. The document has therefore undergone significant review to bring it up to date with current practice.

Development on brownfield land means that many development sites may have a legacy of pollution from a previous use. Ensuring that land is made suitable for use through the Development Management system is vital to protecting public health, water resources and value of property. This involves a process of informing the Development Management process and subsequently agreeing the developer's work to ensure that sites are made suitable for their proposed use for their design life.

Despite the government removing the grant which facilitated detailed inspection of sites, the duty on councils to inspect their districts remains. For SDC, when dealing with sites through the Development Management process, should a site be identified as potentially contaminated then the legislation is a 'safety net' enabling effective intervention for urgent detailed inspection.

Much has been achieved since we adopted our first strategy. This places SDC in a strong position to continue to ensure a robust approach to this important public health issue.

We have endeavoured to make this document as strategic as possible, to provide context for our work and to provide clarity where the Statutory Guidance allows

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for some local discretion. As such it must be read in conjunction with the Statutory Guidance<sup>3</sup> and, where relevant, other pieces of legislation and guidance.

We have endeavoured to make the terminology used in this strategy consistent with the statutory guidance and the glossary of terms will provide readers with greater understanding in that regard. In any case for the avoidance of doubt about definitions or meanings then the statutory guidance<sup>4</sup> must be considered to override the content of this strategy.

### 3. The contaminated land regime

#### 3.1. Legislative context

The Environmental Protection Act 1990 Part 2A introduced new duties to Local Authorities. It required that they publish an inspection strategy for their District (this document), keep a register of 'Contaminated Land' and inspect their area in a rational and ordered fashion for the purpose of identifying 'Contaminated Land'. The term 'Contaminated Land' is defined in statute as is the process for formally determining land as Contaminated Land.

##### Contaminated Land definition:

Is any land which appears to the local authority in whose area it is situated to be in such a condition, by reason of substances in on or under the land that (a) significant harm is being caused or there is significant possibility of such harm being caused; or (b) significant pollution of controlled waters is being caused, or there is significant possibility of such pollution being caused.

The supporting guidance<sup>5</sup> for Part 2A details the inspection process including determining liability amongst specific groups or 'appropriate persons' previously associated with the land. Appropriate persons include previous land owners or occupiers and any person carrying out activities on the land, including current occupiers.

In reality, the production of a contaminated land strategy has meant that authorities collated data on previous land-uses that may have given rise to contamination in, on or under the land. These are stored as a digital map based database and have all been risk prioritised.

The statutory guidance was updated in April 2012 and suggests that local authority strategies should be updated to reflect the changes to the guidance. There have been no significant updates to the guidance since that date.

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<sup>3</sup> Environmental Protection Act 1990 Part 2A, Contaminated Land Statutory Guidance, DEFRA, April 2012.

<sup>4</sup> Which is legally binding on authorities.

<sup>5</sup> Environmental Protection Act 1990: Part 2A, Contaminated Land Statutory Guidance, April 2012.

<sup>6</sup> These might be at different parts of the site, be by separate pathways (potentially by air, land and/or water) and affecting different receptors.

### 3.2. Significant Pollutant Linkage

For land to be determined as contaminated land there must be a significant 'pollutant linkage' (SPL) present. A pollutant linkage is where a source of pollution is connected to a receptor by a pathway so as to give rise to harm. There may be multiple pollutant linkages on a site<sup>6</sup>.

### 3.3. Liability

Part 2A identifies two types of 'appropriate persons' in relation to liability for remediation of the land (that the enforcing authority needs to consider). These are only relevant once one or more significant pollutant linkages have been confirmed and are:

- Class A liability group<sup>7</sup>: that is persons who knowingly permitted a significant pollutant linkage to be in, on or under the land.
- Class B liability group: owners or occupiers of the land.

Only where no Class A persons can be found will any Class B appropriate persons bear any liability for contamination. Once Class A appropriate persons are identified, then liability for each significant pollutant linkage is identified. If the Class A person no longer exists in relation to a significant pollutant linkage then the liability will fall to Class B person (current owner or occupier).

There are six sequential tests to apply to each member of the Class A liability group:

- Test 1 Excluded activities.
- Test 2 Payments made for remediation.
- Test 3 Sold with information.
- Test 4 Changes to substances.
- Test 5 Escaped substances.
- Test 6 Introduction of pathways or receptors.

Once exclusions have been made, SDC will 'follow the general principal that liability should be apportioned to reflect the relative responsibility of each of those members for creating or continuing the risk now being caused by the significant linkage in question.' 'If appropriate information is not available to enable the enforcing authority to make such an assessment of relative responsibility then liability is apportioned equally amongst the liability group.'

Where no appropriate persons can be found, or after the six sequential tests there are no remaining liable persons, then the linkage is known as an 'orphan linkage' and the local authority should bear the cost of any remediation that is carried out.

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<sup>7</sup> Or person.

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Where SDC carries out remediation and an appropriate person can be found then, within the guidance offered at Section 8 of the Statutory Guidance, SDC will seek to recover the costs of the remediation from the appropriate person.

### 3.4. DEFRA Grant

Until 2012, Central Government offered financial support to local authorities in regard of their duties under Part 2A. However, the grant was effectively stopped other than for ‘absolute emergency cases’ by Lord De Mauley’s letter (DEFRA December 2013) and ceased to exist in any form after 2017. Local authorities’ statutory duties remain, but central government financial support has been removed.

### 3.5. Strategic inspection and detailed inspection

Part 2A requires that local authorities cause their areas to be inspected with a view to identifying contaminated land and to do this in accordance with the statutory guidance. Two types of inspection are used, they are:

- Strategic inspection; collecting information about previous land-uses and prioritising them for further detailed inspection and
- Detailed inspection; taking soil samples and carrying out risk assessments in order to make determinations about the site<sup>8</sup> in relation to contaminated land.

As an in-house task the detailed inspection of sites through intrusive investigation, analysis of samples (soil, water and gas), risk assessment and remediation is beyond the technical capability of Sevenoaks District Council officers<sup>9</sup>. Such work has previously been contracted out to consultants, is expensive and might commonly cost multiples of £10K with upper bound cost estimates for site remediation of several £100K not being uncommon.

Although DEFRA removed the supporting grant for new cases, the statutory duty for local authorities to inspect land for land contamination remains. Furthermore, DEFRA suggests that the authority seeks to minimise unnecessary burdens on the taxpayer.

Given the above situation, SDC is not currently pursuing strategic site inspections beyond the desktop (Phase 1A Stage<sup>10</sup>). That is to say, that SDC will not undertake intrusive sampling (soil, water or gas), risk assessments or remediation exercises unless they are funded by a third party or until such time as SDC has allocated the appropriate funds to allow the process to proceed. SDC is also not publishing any

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<sup>8</sup> or any part of a site.

<sup>9</sup> Or any council of which we are aware.

<sup>10</sup> Comprising a desk study, site walkover, conceptual model and initial risk assessment.



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timescales for detailed site inspection at this time. The exception to this is if an urgent site inspection was to arise which follows as below.

### **3.6. Urgent site inspection**

The need for urgent detailed inspection might arise in a situation where SDC becomes aware that a previously developed site is likely to be causing significant harm. Such circumstances are extremely rare, nevertheless SDC has a duty under the legislation to inspect any such site. This duty needs to be balanced against other calls on SDC's resources. As such under those circumstances, SDC would:

- seek to establish who the liable persons for the site are and whether they still exist,
- apply the six sequential tests from the guidance to establish which liable parties might drop-out of the liability group,
- apportion the liability between the remaining liability groups,
- establish whether any linkage is an orphan linkage,
- seek voluntary inspection by the site owner and/or occupier,
- enter into discussions with DEFRA about the availability of any available grants or funds,
- seek to finance any essential related work through monies held in reserves expressly for this purpose or, where these monies are insufficient, from reserves mandated by Cabinet and
- seek to recover any costs from liable persons.

## **4. The Water resources Act 1991**

Section 161-161D of the Water Resources Act 1991 and the Anti-Pollution Works Regulations 1999 as amended 2009 empower the Environment Agency (EA) to serve a "works notice" on any responsible person who has "caused or knowingly permitted" a pollutant to enter controlled waters, including from contamination in or on land, requiring them to take action to prevent pollution or hydro morphological harm in controlled waters or to clean up/restore the effects of a pollution incident or hydro morphological harm.

The Environment Agency can take action themselves under section 161 and 161ZA of the Water Resources Act 1991 to prevent pollution or hydro morphological harm and to clean up or rectify an incident where it is an emergency situation or the likely or responsible person cannot be identified.

Guidance from the EA (Policy and Guidance on the use of Anti-Pollution Works Notices) suggests that in most cases of actual or potential pollution of controlled waters as a result of contamination with an ongoing source site, the problem will usually be dealt with under the contaminated land Part 2A provisions of the EPA 1990.

## 5. Radioactive contamination of land

The revised Statutory Guidance does not apply to radioactive contamination of land. The responsibility lies with the Department of Energy and Climate Change. SDC will refer any such issues to DECC.

## 6. Progress to date

A significant spatial dataset was captured by officers and is held in a digital mapping database (ArcGIS<sup>11</sup>) and on SDC's database platform 'Uniform'. The sites captured were identified from a variety of sources including; historic maps, officer knowledge, EA 'national historic landfill dataset', petroleum licensing records, pollution incident reports and other verified anecdotal information.

A good proportion of the legacy sites' datasets have been added to by virtue of site walkovers, consultant's reports and other local knowledge (strategic inspection) as the process for refining our knowledge<sup>12</sup>.

The dataset described above forms the basis of a planning constraint layer. This is used to trigger a planning consultation request for Environmental Health and the Environment Agency to comment on planning applications which overlay or abut potentially contaminated sites. For some sites, such as landfill sites, we have added 'buffers<sup>13</sup>' as the impact of any pollution might extend beyond the site boundary.

Since the 1990s, planning conditions relating to land contamination are appended to planning permissions. Environmental Health then audit the work that is undertaken by consultants to make the site suitable for its proposed use and agree the signoff of the related planning condition. This process involves agreeing the site investigation strategy, reviewing the reports and risk assessment and remediation strategy. It might also involve a site visit and/or meeting with the developer and their consultant.

The legislation also intends that authorities inspect previously developed land where the development was on land with a previously potentially contaminative use. This approach was facilitated by authorities ranking their database sites for inspection such that the perceived highest risk sites would be inspected first.

Prior to the current contaminated land regime, SDC had identified a number of sites where a risk was posed to those on the land and undertook works in conjunction with Kent County Council to eliminate any significant risks. These sites were further evaluated under the current regime with one site in Leigh requiring further remediation.

A further 12 sites were identified and evaluated for any potential risk they may pose. The majority have been remediated as part of the Development Management

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<sup>11</sup> Proprietary digital mapping software produced by ESRI.

<sup>12</sup> And adding them to the database and planning constraint layers.

<sup>13</sup> Buffers are effectively indicative zones around the site boundary indicating where the influence of pollution might extend to.

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System or as in the case of Fort Halstead, have been partially remediated by the Ministry of Defence with any remaining remediation being undertaken through Development Management Systems. All identified sites have therefore been screened and determined not to pose a significant risk or have been or are in the process of being remediated.

### 7. Development Management

Most land affected by contamination is dealt with through the Development Management system.

Contamination in, on or under land can present risks to human health and the wider environment. This can adversely affect or restrict the beneficial use of land and often development presents the best opportunity to successfully deal with these risks. The planning system therefore has a key role to play in facilitating the development of land affected by contamination.

The broad approach, concepts and principles behind land contamination management adopted by the Part 2A regime should be applied to the determination of planning applications. Planners, developers, statutory bodies and Environmental Health should work together at every stage in the Development Management process to ensure that land contamination issues are properly addressed.

After remediating through the Development Management process, as a minimum standard, land should not be capable of being determined as contaminated land under Part 2A of the Environmental Protection Act 1990.

In dealing with land contamination via the Development Management system SDC will:

- Use the ArcGIS based planning constraint layers to trigger a consultation request to the Environmental Health Team from the Planning Officer,
- review and update the ArcGIS planning constraint layers as necessary and, as a minimum, annually,
- expect developers and their agents to voluntarily deal with land contamination issues in pre-planning application discussions and before determination of any relevant planning application,
- respond to planning consultations within SDC's internal agreed response times,
- where land contamination issues might prejudice the economic viability of any given permission reserve the right to object to a planning application,
- object to a planning application where it is likely that the implementation of any given permission would be technically unfeasible,
- reserve the right to object to a planning application where insufficient evidence is submitted with the application to determine whether the site can be remediated as a result of the permission,
- recommend, where the Environmental Health Team considers appropriate, that any consent be conditional of relevant standard planning conditions,

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- make a record of planning comments in Uniform,
- where appropriate, the Environmental Health Team will liaise with the Development Management officer at the EA,
- audit all reports relating to land contamination and provide written commentary to the relevant parties including; the developer, the environmental consultant and the Development Management case officer,
- require ongoing reports beyond the time of the delivery of the site where monitoring and/or remediation is ongoing,
- require that reports submitted for consideration by the Environmental Health Team will be prepared by competent persons<sup>14</sup>,
- agree the sign-off/dischARGE of relevant planning conditions when the work is completed and documented to a satisfactory standard,
- work within the CL Statutory Guidance, related documents and the NPPF,
- seek to achieve the highest standard for the protection of public health whilst not incurring excessive cost for the developer or public funds and
- keep the planning related contaminated land SDC web-pages up to date.

In considering risks from land contamination in relation to any future use or development, SDC assumes that the development will be carried out in accordance with any existing planning permissions. In particular SDC assumes that:

- a) That any remediation which is the subject of a condition attached to that planning permission, or is the subject of any planning obligation, will be carried out in accordance with that permission or obligation.

### 7.1. The Developer's Role

Where a development site is affected by contamination responsibility for securing a safe development rests with the developer and/or landowner<sup>15</sup>.

The right information is crucial to good decision making and SDC recommends that developers discuss what is required with SDC planners, the Environmental Health Team and statutory consultees at the pre-planning application stage<sup>16, 17</sup>. Failure to provide the right information can lead to delays and/or refusal of planning permission.

In order to satisfy the planning authority that risks from contamination will be appropriately addressed through remediation; developers should ensure that they carry out adequate site investigations and risk assessments to inform their remediation strategies. These should all be prepared by competent persons<sup>18</sup>. Further guidance on good practice in the management of land contamination can

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<sup>14</sup> NPPF

<sup>15</sup> NPPF para 184.

<sup>16</sup> NPPF para 39, 41 & 43.

<sup>17</sup> Often referred to as the 'pre-app stage'.

<sup>18</sup> NPPF Annex 2 defines 'competent persons'.

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be found in the related documents. After remediation has been carried out, developers are responsible for showing the LPA that they have been successful. This could involve ongoing monitoring and the submission of verification reports.

### 8. The Environment Agency's Role

The Environment Agency (EA) is a statutory consultee for local plans, certain types of planning applications, and developments requiring an Environmental Impact Assessment (EIA). The Town and Country Planning (Development Management Procedure) (England) Order 2015 (DMPO) sets out the developments for which the Environment Agency is a statutory consultee. The EA is also a statutory consultee for Nationally Significant Infrastructure Projects (applications determined by the Secretary of State rather than LPAs).

The EA has developed guidance for local planning authorities that sets out the types of planning consultations it should be consulted on.

As a statutory consultee the Environment Agency is expected to take a proactive approach, providing advice in a timely manner at all stages in the development process (see NPPF (2019) paragraphs 16 and 40, and the Planning Practice Guidance 'Consultation and pre-decision matters'). The EA has developed guidance for local planning authorities that sets out the types of planning consultations it should be consulted on. These include situations where land contamination may pose a significant risk to the environment.

The EA's stated main concern when land contamination is being managed under Planning, is to protect the water environment - local authorities deal with human health issues. By ensuring that developers reduce or remove the risk or consequences of pollution of surface and groundwater, the planning regime helps achievement of Water Framework Directive objectives.

CL:AIRE has issued guidance to help developers and land owners understand the concerns and requirements of the EA and other authorities. These 'Guiding Principles for Land Contamination' (GPLC<sup>19</sup>) describe the approaches that developers and land owners are expected to take, what needs to be included in reports for review and the key guidance that can be referred to.

In responding to consultations from LPAs the EA provides recommendations and technical advice on:

- the likely impacts that development on land affected by contamination may have on the immediate and wider water environment;
- the impacts that contaminated water may have on the development;
- proposals for, and the outcome of, investigations and remediation;

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<sup>19</sup> The guidance can be found here -

[https://www.claire.co.uk/home/news/index.php?option=com\\_content&view=article&id=192&catid=41&Itemid=256](https://www.claire.co.uk/home/news/index.php?option=com_content&view=article&id=192&catid=41&Itemid=256)

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- implications of the development for Part 2A contaminated land for which cases where the EA is the enforcing authority (special sites).

The EA will make assessments of the appropriateness and effectiveness of any measures put forward by developers to remediate contamination or any pollution caused from the perspective of protecting the water environment. Where there are technical solutions to resolve issues that would otherwise prevent a grant of planning permission the EA should, where possible, take a 'yes if' approach and explain the steps required to overcome the problems. Developers/land owners are able to obtain pre-application advice (for a charge) under the EA's cost recovery service. Developers/land owners should be directed to contact the EA should they wish to utilise this service.

An Environmental Permit may be needed to undertake certain required remediation activities. Where this occurs the EA should clearly explain to Local Planning Authorities the issues that, as the regulator, they can control and not duplicate these in the details or conditions in a planning permission unless it is appropriate to do so.

### **9. Council owned property portfolio**

SDC is a property owner of occupied, leased and open-access land, some of which has been subjected to potentially contaminative former uses. SDC has undertaken a review of its former and current land holdings and considers that no detailed inspection of any site is required at the current time.

There is land for which, if identified as contaminated land, SDC may have direct responsibilities by virtue of its current or former ownership or occupation. The principal category is likely to be Council-owned land which has had former industrial use and for which the "original polluter" (Class A person as defined in the statutory guidance) may no longer be identifiable. Such land, if contaminated land, may fall to the Council to address. The Council may also be the current or former owner of closed landfill sites and may have responsibilities in this regard.

In the case of "Orphan sites", where the owner of such land cannot be traced, and that are identified as "contaminated", Sevenoaks District Council shall take upon it the responsibility to investigate and remediate the land. Also, the Council will take upon it the responsibility for investigation and remediation where, for reasons laid out in the legislation, the exempt nature of the situation dictates that no appropriate person can be found.

In proven cases of "Hardship", SDC are to bear responsibility for the remediation of the identified Significant Pollution Linkage.

This liability will not be accepted lightly by SDC, and in cases of alleged "Hardship", the means for payment of identified liable persons will be extremely rigorously assessed.

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The Council is committed to applying to contaminated land in its current or former ownership or stewardship (e.g. orphan sites), the same principles that will be applied to other contaminated land.

### **10. The Environmental Information Regulations 2004**

The Environmental Information Regulations facilitate the public's access to environmental information held by SDC. Under the regulations there is a presumption in favour of disclosure subject to the regulations defined reasons for refusing a request for information.

Requests for environmental information are commonly made by persons transacting properties and by persons evaluating property portfolios.

SDC has a policy of transparency and openness with regards to information that it holds in regard to land contamination. Likewise it seeks to be helpful with regards to assisting persons in gathering and understanding the information and data and associated risk. This is particularly so where persons requesting the information may be very unfamiliar with land contamination as a subject. Nevertheless, SDC will only help to provide the context for understanding risk, ultimately it is for the individual to make their own decisions in relation to risk as they perceive it.

SDC charges a fee for the provision of information under the regulations. The price is updated annually and published on SDC's website and fees and charges register.

### **11. Sevenoaks District**

#### **11.1. Geographical setting**

Sevenoaks District Council is located in north-west Kent, is situated to the south-east of London, and administers an area which forms a major part of what is now "commuter belt country". The population is approximately 121,400 people. The district covers an area of approximately 378km<sup>2</sup>, and comprises a mostly rural land-uses, with the three major centres of population concentration, which occur in and around the towns of Swanley in the North, Sevenoaks and Westerham in the centre, and Edenbridge in the South of the district. There are also thirty villages and a large number of hamlets.

The Sevenoaks area lies entirely within the Green Belt surrounding London. The Green Belt is intended to preserve the open countryside between the edge of Greater London and the urban areas of the Medway towns, Tonbridge, Tunbridge Wells, and Maidstone; and in the West Kent in the areas within the influence of London, to preserve the identity of separate communities and curb urban pressures and restrain the growth of towns and other settlements.

Further protection measures have been instituted to ensure that land can remain undeveloped, such as the very large areas that are designated Areas of Outstanding Natural Beauty (AONBs), as well as smaller areas which have been designated Sites

of Special Scientific Interest (SSSIs), and Sites of Nature Conservation Interest (SNClS).

### 11.1.1. Geological and hydrogeological features

The Sevenoaks area is situated on Down Land, and the outstanding physical features of the surface and underlying geology are the prominent escarpments of the Chalk and the Lower Greensand. Both Greensand and Chalk are classified as major aquifers and provide / afford volumes of abstraction for drinking water supplies. Also, important drinking water abstractions are sourced from various surface and near surface water supplies throughout the area.

At the most northerly end, within the Thames basin, of the Sevenoaks district, around the river valley of the River Shuttle and River Cray, there are significant outcrops of Thanet sand, which overlie the Upper Chalk. Slightly further south, the topographical nature of the land is shaped by the River Darent, which has grown in size significantly from its source further south. Closer to the chalk downs, drift deposits of Clay with Flints, which overlies the Upper and Middle Chalk sequences, increasingly dominate the surface geology. The Chalk escarpment forms part of the North Downs, and it maintains a fairly constant level along its crest of between 213 and 230 m AOD, and it is breached by the gap of the River Darent at Otford, where the elevation is about 61m OD. From the top of the Down Land, stretching southward, the geology becomes rather striking, as outcrops of alternating high and low permeability strata occur in bands from approximately east to west, across the district area.

The Lower Greensand escarpment is of rather lower elevation than the Chalk escarpment, and is a more uniform feature across this area due to its continuations to the west and east. Once the top of the Down Lands are passed, the River Darent escarpment is encountered, and the source of the river is also located in this sector of the valley. The surface geology of the valley sides are dominated by rapidly changing chalk strata (upper, middle, and lower), until at the valley floor, a large linear outcrop of Gault clay is encountered. This is followed by the underlying Lower Greensand (comprising Folkestone, Sandgate and Hythe Beds), which emerges and dominates much of the southern side of the river valley. In places the Lower Greensand is overlain by small patches of head material. Sevenoaks town is built on the lower greensand, as is much of the developed area to the east and west of the town.

Toward the southern boundary, and watershed of the river Darent valley, a snaking outcrop of Atherfield clay stretches across the district from East to West. At the crest of the ridge / watershed, the Atherfield clay is overlain by small outliers of Hythe Beds, with some drift head deposits overlying these.

South of the ridge, the Medway river valley is the dominant topographical and geographical feature. A wide band of Wealden clay dominates from areas as far north as Toys Hill (situated on top of the ridge formation), just beyond the river valley water shed point, to areas as far south as southern Edenbridge. There are



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some identifiable small outcrops of drift head, river terrace gravels and alluvium deposits.

The Wealden clay formation ceases further south, and outcrops of upper and lower Tunbridge Wells sand occur, in between which are layers of Grinstead Clay and Ardingly Sandstone. These are mixed with intermittently outcrops of Wadhurst and Ashdown clay beds. This mixed geology carries on to the southern edge of Sevenoaks district boundary.

The nature of the geology is such that there are large areas where groundwater resources would be vulnerable to pollution should releases of various contaminants occur in certain areas, particularly areas of unconfined Chalk beds and Greensand beds, which contain large underground water reserves, and are the subject of large extractions for potable as well as industrial and other private uses.

There are 14 licensed groundwater abstractions within the Sevenoaks District. Source Protection Zones have been created around certain sources to protect the quality of the groundwater abstracted for potable, industrial and private supply. These have been computer modelled by the Environment Agency in line with their document "Policy and Practice for the Protection of Groundwater".

Most of the northern half of the district, from Swanley to Otford, falls within catchment Source Protection Zones (Zone III) for groundwater abstraction boreholes, with smaller but significant areas falling within the more sensitive Zones II and I. Eight of the total fourteen licensed abstractions within the Sevenoaks District fall in this area, with other major abstractions just north of the district in Dartford, Gravesham, and the London Borough of Bexley, whose catchments lie partly within the Sevenoaks District. These water abstractions are made from the Chalk / Limestone formations, a major aquifer (rock which is 'water bearing'), which, as previously described, characterises much of the geology of the London Basin and the North Downs.

The band of Lower Greensand which runs across the centre of the district, through towns such as Westerham, Brasted, Sundridge and Sevenoaks, is made up of the Folkestone, Sandgate and Hythe beds. The Folkestone and Hythe beds are both major aquifers of regional importance. In the Sevenoaks district, these formations support 5 abstractions, with others which are just to the east and west of the district, but whose buffering Source Protection Zones extend into the Sevenoaks area. The SPZs catchments extend through the entirety of the exposed beds, with significant areas of the sensitive zones I and II covering land which is developed and support several potentially contaminative activities.

At the south and south-western edge of the district, two abstractions are made from the Ashdown sandbeds of the Wealden Series, which are of minor aquifer status. One abstraction is located within the district, just north of Fordcombe. At the point of abstraction, the Ashdown sandbeds are overlain by Wadhurst Clay, also of the Wealden Series, and therefore the aquifer is 'confined', so only part of the total catchment influence extends to the surface. The other abstraction is located just outside of the district at Hayesden. The associated SPZ catchment extends into the district, as does the sensitive SPZ II.

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Overall, the geology of the Sevenoaks District comprises many major and minor aquifers, which are of both local and regional importance. Therefore, the protection of groundwater resources will be one of the primary concerns when investigations are commenced.

### **11.2. Hydrology & Water Resources**

The hydrology of the Sevenoaks District covers several natural water catchments, which dictate the flow of surface water, and to a lesser extent, the flow of ground water. This will have significant consequences for the assessment of risks relating to contamination to both surface and groundwater receptors.

Accordingly, the effects of contamination on surface waters will be examined with reference to the effects of potential contamination “down-stream” of the source. Correspondingly, should the source of a contaminant be considered to be affecting, or having the potential to affect a receptor outside the district boundaries, but within the same catchment, both Councils should liaise with the Environment Agency when investigating the issue.

The main river catchments within the Sevenoaks District consist of the Thames, the Darent, and the Medway. Tributaries join the main watercourses at various points throughout the district, with the confluence of the River Eden and the River Medway at Penshurst being one of the major features of the district.

There are various ponds and other still surface waters which are sometimes isolated from the groundwater, but often are in direct hydrological continuity with the groundwater, as is the case in several of the former extraction pits which, since cessation of commercial activities have formed significant surface water bodies. An example of these can be seen with the sand, gravel, and clay extraction pits around Dunton Green, which have now formed a series of small lakes, known as Chipstead, Bradbourne, and Redland Lakes, the latter have been designated a wildlife protection area. It is a fact that many of the significant still surface water bodies were formed by the extraction of pits for mineral extraction.

Most of the significant surface water bodies occur in the south of the district, in the Medway and Darent river valleys. The largest still surface water to occur in the northern half of the district are a series of small lakes located just to the north of Horton Kirby. These again have been created as a result of minerals extraction processes, within the River Darent floodplain.

### **11.3. Areas of Special Interest and Ecology**

The district contains an exceptional range of natural habitats and natural areas which includes sites that are of national and international importance for nature conservation.

Ecological value will be taken into consideration when sites are investigated, developed and remediated.

#### **11.4. Built environment and protected properties**

Where contamination leads to significant harm to a property, particularly a scheduled Ancient Monument, then an assessment should be carried out to establish if a significant pollutant linkage has resulted (as detailed in Table 2 of the Statutory Guidance).

Where land contamination investigations are to be undertaken at historic sites, including sites that have previously been used for an industrial activity, then the Council will be mindful of the potential archaeological sensitivity, seek appropriate advice and be mindful of the Historic England Guidance; Good Practice Guidance on Land Contamination and Archaeology (2017)<sup>20</sup>.

#### **11.5. Historical and industrial development**

Over the past one hundred years, the Sevenoaks District Council area has changed dramatically in response to increasing demand for housing in this region and the continuing expanse of the influence of London, on whose borders the Council's administrative boundaries lie. This increasing demand has put pressure on land within the towns, which are not covered by such strict green belt planning laws. This pressure includes that for the redevelopment of land that has formerly been used for contaminative processes, or land which may be affected by migrating contamination from such land.

Over 700 sites have been identified as historically having a potentially contaminative use. Despite this, there has not historically been a high concentration of heavy industry in the Sevenoaks and Weald area. Industrial processes have largely taken the form of quarrying and extraction industries, which were situated in the area because of the availability of such raw materials as sand, chalk, gravel and clay. More generic forms of manufacturing processes, such as town gas production, tannery operations, scrap yards and chemicals manufacturing were also present, and were mostly concentrated in the main areas of settlement. Some of these are still present. More recently, the main element of industry has congregated in areas to the north west of the district, particularly areas around Swanley, where the highest concentrations of industry occur, particularly within a three-mile radius of the station in the town.

The rural areas of the district, though primarily supporting arable and livestock related activities, also presently support activities of a more traditionally contaminative nature, such as the operations of scrap yards, pharmaceutical and chemical production facilities. Historically, industries such as town gas production have existed, but have closed and been dismantled some time ago.

Railways run throughout the Sevenoaks district, many of which were built during the 19<sup>th</sup> Century, and have remained in operation ever since. Supporting engineering works have often been, and still are operated at station sidings, as have various fuel storage and fuel commercial sales activities. Some of the former

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<sup>20</sup> <https://historicengland.org.uk/images-books/publications/land-contaminationandarchaeology/>

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branch lines and accompanying stations were closed during and prior to the 1960s, with several of these areas having been redeveloped for housing.

### **12. Responding to requests for information**

SDC acts in accordance with the requirements of the following statutes and regulations in making environmental information available to the public:

- Local Government (Access to Information) Act 1985
- Data Protection Act 1998
- Human Rights Act 2000
- Freedom of Information Act 2000
- Environmental Information Regulations 2004
- Openness of Local Government Bodies Regulations 2014
- General Data Protection Regulations 2018

We operate with a presumption in favour of disclosure subject to the relevant tests and exclusions of the above legislation.

SDC holds a public register for land remediated under the Part 2A regime which is available on-line.

We charge for our responses made under the Environmental Information Regulations 2004. Our charges are published on the SDC website and updated annually.

### **13. Risk Communication**

SDC is mindful of the technical nature and legal complexity of the subject of 'land contamination'. As such the council will seek to communicate in language that reflects the knowledge set of the audience.

Likewise land contamination issues can relate to the potential for serious harm to humans and other receptors. It can also potentially cause blight on property values. As such SDC seeks to be sensitive in its communications using language that, whilst accurately conveying the detail of any relevant situation, will be sensitive to the recipients and does not cause property blight.

### **14. Strategy Review**

It is intended this Strategy will be reviewed in 2025<sup>21</sup>.

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<sup>21</sup> Or earlier if circumstances dictate.

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### ANNEX 1

Previously screened and or remediated sites as part of the original strategy.

- Croiselles, High St. Seal.
- Edenbridge Gas Works.
- EP Hocking Breakers.
- Eynsford Paper Mill.
- Fort Halstead.
- Hartley Car Breakers.
- Horton Kirby Paper Mills.
- Mill Pond - Boating & Swimming Pond.
- Powder Mills.
- Sevenoaks Gas Works.
- Transport Depot - Priory Fields.
- Westerham Gas Works.