

MOUNTFIELD FIRST TIME SEWERAGE SCHEME

Southern Water Services Ltd

Planning application for a change of use of land on which to construct & operate a wastewater pumping station & a treatment works:

Clarification on odour management

Background

1. The proposed Wastewater Treatment Works (WTW) is designed to treat sewage of domestic origin, generated by villagers in Mountfield. The treatment process will remove solid organic matter and residual contaminants from the effluent so that it can be returned to the environment.
2. Activities associated with sewage treatment do have the potential to generate odour. The generation of odour from the processing of wastewater is primarily associated with the release of odorous Volatile Organic Compounds (VOCs) that are generated as a result of the anaerobic breakdown of organic matter by micro-organisms. Anaerobic breakdown starts within the human bowel and may continue within the sewerage network and treatment works if conditions (i.e. a lack of oxygen) allow.
3. Since the main source of odour and VOCs is the solid organic matter, potentially the greatest risk of odour being experienced is from operations involving the handling of sludge i.e. the processes applied to dewater and store raw sludge.

Odour Management

4. The generation of odour is avoided and can be managed through:
 - Design, installation and maintenance of appropriate wastewater treatment plant;
 - Engineering solutions: containment, enclosure;
 - Operation of the WTW and its processes; and,
 - General management practices of the WTW.

DESIGNED SOLUTION:

5. The nearest residential properties to the proposed pumping station are 30m to the west. The nearest residential properties are approximately 70m to the north and west of the WTW, which is away from the prevailing wind direction.
6. The proposed wastewater treatment process for Mountfield comprises of primary settlement followed by aerobic biological filtration, which is not an odorous treatment process.

7. The design of the new sewerage systems incorporates the following good engineering practises that will minimise the risk of build-up of odorous material and avoid anaerobic conditions developing, thereby preventing odour:
- The proposed WTW is located in the village, therefore sewage will not have to travel far before treatment commences. It is unlikely that anaerobic breakdown of the sewage will occur in the sewerage network. Preventing septicity developing avoids a potential odour source.
 - The new inlet chamber at the WTW is designed to receive normal flows of sewage from the Mountfield Village catchment, and to avoid the risk of build-up of odorous material or anaerobic conditions. The chamber also incorporates sufficient volume to accommodate peak flows during storm conditions in the catchment. This will enable balancing of sewage flows through the WTW during peak events.

ENGINEERING SOLUTION:

8. Sludge treatment is a potential source of odour at a WTW. However no sludge treatment is proposed at the Mountfield WTW. Instead sludge, which is an inevitable by-product of the wastewater treatment process, will be stored in a sealed tank, and then removed by tanker once a fortnight to be taken to another works for further treatment.

OPERATIONAL MANAGEMENT:

9. A well run site is a less odorous site. Odour abatement management and control will be provided at Mountfield WTW through:
- Good housekeeping practices to avoid odour issues, for example: keeping doors and hatches closed; cleaning-up debris/spillages as soon as practicable; hosing down and cleaning process tanks and channels after draining.
 - Operational procedures, including correct use of plant/process/materials.
 - Checks on plant performance to avoid build-up of material and septicity developing.
 - A planned inspections and routine maintenance regime for plant and equipment at the site.
 - Reporting procedures and record keeping.

GENERAL MANAGEMENT:

10. Southern Water's standard general management and performance monitoring, which will contribute to avoiding and managing odour includes:
- Identification of management responsibilities and procedures for reporting faults, identifying maintenance needs;
 - Operative training;
 - Spillage management procedures;
 - Record keeping;
 - Emergency breakdown and incident response planning; and,
 - Complaints procedure, including 24 hour customer contact facility; response times and responsibility, and monitoring and investigating complaints to identify the root causes.

Conclusions

11. In accordance with East Sussex, South Downs and Brighton & Hove Waste & Minerals Plan (adopted February 2013) Policy WMP23a, it is considered that the proposals are sufficiently separated from more sensitive land uses and incorporate appropriate preventative and management measures to avoid odour issues arising.
12. The proposed design and operational management of the new WTW demonstrate best practicable means. The odour management measures are proportionate to the size of WTW and type of treatment proposed, and to the location.
13. It is concluded that in accordance with Rother Local Plan 2011-2028 Policy OSS5, the proposals address the needs of Mountfield; the design is compatible with adjacent land uses, and will not harm amenities.