SUPPLEMENTARY PLANNING REPRESENTATION

Cumulative surface-water discharge to the River Chelmer

Why attenuation must be assessed across Great Dunmow as a connected, time-varying system

Submission details	
Application	UTT/26/1635/OP — Land north and south of The Broadway, Great Dunmow
Representation	Supplementary objection: cumulative surface-water discharge, flood duration and recovery
Submitted by	Carl Rolph, Save Church End
Status	To be read with the written objection already submitted

1. Objection in summary

The application should not be determined until the applicant and Lead Local Flood Authority have assessed the combined, time-dependent discharge from existing, approved and committed development within the Great Dunmow Chelmer catchment. The available planning records show a town-wide network of attenuation ponds, tanks, swales, sewers, culverts, ditches and tributaries that store runoff and then release it towards the River Chelmer system.

Attenuation reduces an immediate peak; it does not make the stored water disappear. Where numerous systems discharge for many hours after rainfall, their delayed flows can overlap while downstream ditches, culverts, Hoblongs Brook, Hoglands Brook and the River Chelmer remain elevated. That creates a credible mechanism for prolonging high water levels and reducing recovery time before further rainfall. The applicant has not supplied the combined hydrograph needed to show that this will not increase flood duration or risk at Bigods Lane, Church End or elsewhere downstream.

Verified sample	Controlled outlets	Storage floor	Flow-volume scale
16 approved phases 2,032 homes	**593.92 litres/second**	**13,804.76 m³**	**12,829 m³ in 6 hours 25,657 m³ in 12 hours**

These figures are a verified minimum. They exclude substantial approved or built development for which the historic storage or control figures have not yet been recovered, including Early Woodlands Park. They also exclude UTT/26/1635/OP itself.

2. What the recovered evidence establishes

The controlled evidence register identifies sixteen approved drainage phases representing 2,032 homes. After correcting for the shared Basin C serving Great Dunmow Grange and Wood Field, their approved design-event controls total 593.92 litres per second. The non-double-counted storage floor is 13,804.76 cubic metres.

If the quantified outlets operated at their approved maximum controls, the flow-volume equivalent would be 2,138 cubic metres in one hour, 12,829 cubic metres over six hours and 25,657 cubic metres over twelve hours. This

arithmetic is not a claim that every outlet peaks simultaneously. It defines the scale and duration that a routed catchment model must test.

Approved phase	Homes	Rate (l/s)	Storage (m^3)	Verified receiving route and primary source
Great Dunmow Grange	790	193.20	2,899.75	Hoglands Brook direct from Basin C; four other catchments converge at the Stortford Road culvert. UTT/21/0118/DOC, briefing note pp.5–10.
South of Stortford Road — approved 272-home phase	272	29.60	4,194.03	Two controlled ponds to existing drainage/watercourse in the Chelmer operational catchment. Half-empty times 24 and 25.75 hours. UTT/25/1908/DFO, drainage statement pp.5–10, 25–26, 39–43.
Woodlands Park Sector IV	125	57.56	Not stated	Attenuation pond to drainage channel/brook. UTT/2507/11/OP, approved Section 278 supporting information p.3.
Wood Field	120	+38.30	487 additional*	Enlarged shared Basin C discharges to Hoglands Brook. Final basin control 103.0 l/s; cumulative total counts only the 38.3 l/s increase. UTT/22/1802/FUL, FRA part 2 p.9 and pp.41–43.
Smiths Farm phase 1	68	134.00	Not stated	Two ponds to ECC ditches, then Hoblongs Brook and the Chelmer. UTT/16/1905/DOC, drainage information p.11 and flood-route drawing.
Helena Romanes appeal permission	200	2.90	Pending detail	Binding appeal limit to an ordinary watercourse flowing towards the Chelmer. UTT/20/1929/OP, appeal decision p.18.
West of Buttleys Lane	46	3.60	730.20	Two controlled outfalls to the western-boundary watercourse. Slowest component half-empty time 21.75 hours. UTT/26/0934/DOC, report pp.5–15.
North of Braintree Road	32	6.50	367.80	Western-boundary watercourse; half-empty time 8.02 hours. UTT/21/2719/FUL, FRA pp.10–12 and 25–30.
East of St Edmunds Lane / north of Braintree Road	51	7.00	1,015.92	Two basin outfalls to ditches flowing to the St Edmunds Lane culvert. UTT/25/1634/DOC, strategy drawing and decision.
Brick Kiln Farm	68	86.00	Not stated	Existing pond and attenuation swale, both with direct outfalls to the River Chelmer. UTT/14/0376/DOC, surface-water drainage drawing p.1.
North of Ongar Road	60	12.00	1,664.00	To the public surface-water sewer at Lukins Drive; final outfall record requested. UTT/17/0122/DOC, strategy pp.2–4 and calculations p.10.
South of Ongar Road	99	10.76	1,200.00	Whole-site swale and controlled system; final receiver requires network tracing. UTT/14/0127/FUL and UTT/16/2669/FUL committee report pp.4 and 8.
Oaklands / Ongar Road	25	1.50	490.59	Permeable paving and underground store to a southern-boundary outfall. UTT/19/0066/DOC, drainage report pp.10–13.
77 High Street	30	5.00	86.20	Two tanks to the Anglian Water surface-water sewer; half-empty times 5.62 and 2.27 hours. UTT/21/2507/DOC, drainage report pp.2 and 5–20.
Alexia House / Randall Close	24	1.70	85.12	Tank and permeable paving to Anglian Water sewer AW8154; adopted route traced to New Street, final outfall requested. UTT/23/2599/FUL, FRA pp.3–16 and 128–139.
Historic east of St Edmunds Lane family	22	4.30	584.15	Pond outfall to an eastern-boundary ditch/watercourse. UTT/20/1987/DOC, approved network and drainage plan.

** Wood Field enlarges a basin already counted within Great Dunmow Grange. The cumulative storage floor therefore includes only its separate 487 m^3 wet-storage pond, avoiding double counting.*

3. Known contributions omitted from the numerical minimum

Unknown figures must not be treated as zero. The following developments have approved or implemented drainage routes within the Chelmer system but remain outside the 593.92 l/s and 13,804.76 m³ subtotals because their final historic or detailed hydraulic parameters are not available.

Development	Approved/implemented position	Drainage significance
Early Woodlands Park / Buildings Farm	753 homes; substantially built	The executed UTT/0463/91 agreement records piped runoff through balancing ponds into the River Chelmer. Later infrastructure also approved outfalls to the Chelmer and Hoglands Brook. Storage and throttle figures remain unrecovered.
South of Stortford Road remainder	168 homes within the approved parent envelope	The site is in the Chelmer operational catchment, but the final controls for this remainder must not be invented from the separately approved 272-home phase.
Smiths Farm parent remainder	302 homes in the approved parent envelope	The parent route is attenuation towards Hoblongs Brook and the Chelmer. Only the 68-home first phase is included in the numerical subtotal.
Easton Park	Outline permission for up to 1,200 homes	The environmental statement records site watercourses and ditches discharging to the River Chelmer. Final detailed rates and volumes are not yet approved.

What the earlier estates probably contribute

Earlier estates are likely to be hydraulically more important than their absence from the numerical subtotal suggests. Early Woodlands Park is not a hypothetical connection. The recovered UTT/0463/91 records show that the first 100 Emblems homes connected to the existing public drains in Godfrey Way, that later development required a drainage lagoon, and that balancing ponds were intended to regulate piped runoff from the designated land and the remainder of Buildings Farm into the River Chelmer. Later records identify three Sector 3 attenuation ponds and further approved outfalls to the River Chelmer and Hoglands Brook.

The probable position for other earlier estates is similar in principle. Their roofs, roads, parking and paved areas generate runoff. Unless that water is infiltrated or reused on site, it must leave through the legacy network of public surface-water sewers, estate drains, ponds, culverts and ditches. The recovered Great Dunmow routes repeatedly converge on local watercourses, Hoglands Brook, Hoblongs Brook and the River Chelmer. Many of the older permissions pre-date the present SuDS standards, while their surviving records do not demonstrate current requirements for runoff-volume control, climate-change allowances, flood-locking, exceedance or sequential-storm recovery.

A transparent screening range shows why this missing historic load is material. The non-overlapping detailed-application footprints recovered for the earlier Woodlands sectors total 31.783 hectares. If 50–60% is treated as hard surface, 30 mm of rainfall represents approximately 4,767–5,721 m³ of generated surface runoff; 50 mm represents approximately 7,946–9,535 m³. These are screening volumes before the unknown operation of the as-built drainage system, not claimed outlet rates. They demonstrate the scale of water that must be infiltrated, stored or released and therefore cannot simply be omitted from a cumulative assessment.

The correct planning response is to include reasonable conservative scenarios for the older estates until their owners, drainage undertakers or the Council produce the as-built storage, throttle and outfall records. Their omission from the verified 593.92 l/s minimum is an evidence gap; it is not evidence that they contribute no flow or that their contribution has already been offset.

4. Why attenuation can extend the period of downstream pressure

A greenfield catchment loses part of its rainfall through interception, infiltration, soil storage and evapotranspiration. Development adds roofs, roads, parking and other hard surfaces, sending a larger and faster proportion of rainfall into engineered drainage. SuDS can reduce peaks and provide interception, infiltration and reuse, but water retained solely for attenuation is subsequently released through the controlled outlet.

The recovered approved calculations show that this release can continue for a long period. The South of Stortford Road ponds have modelled half-empty times of 24 and 25.75 hours. West of Buttleys Lane has a slowest approved component of 21.75 hours. North of Braintree Road has a half-empty time of 8.02 hours. A transparent screening calculation using those approved times indicates that these three schemes alone may still have about 2,552 cubic metres of design storage occupied after 24 hours.

The applicant's own Flood Risk Assessment adopts a very low discharge rate of 2.1 l/s/ha and states that the 1-in-30-year event would have a half-drain time well in excess of 24 hours. It therefore proposes approximately 1,100 m^3 of storage per impermeable hectare to accommodate a climate-change event followed by a further 1-in-10-year event. Across the application catchments this is approximately 19,100 m^3 of proposed storage. The applicant's own approach therefore confirms that sequential storms and incomplete recovery are material design issues.

The issue is not that attenuation is undesirable. The issue is that each development has largely been checked as an isolated system. The Council still lacks a combined assessment showing how the many controlled releases interact through common receiving nodes during long rainfall, a second storm, high river levels, blocked culverts, surcharged outfalls or reduced maintenance performance.

5. The policy and technical tests

The current National Planning Policy Framework requires flood risk to be managed from all sources, including cumulative impacts in areas susceptible to flooding, and requires development to be safe without increasing flood risk elsewhere. Paragraph 182 requires SuDS to control both flow rates and runoff volumes and to have suitable operational and maintenance arrangements.

The 2025 National Standards for SuDS require extreme-rainfall design to mitigate increased risk downstream; control both runoff rate and volume; analyse a likely surcharged outfall; consider flood-locking caused by high watercourse or groundwater levels; identify exceedance routes; and provide a detailed non-technical summary of calculations and results. Those are catchment and receiving-system questions, not merely calculations at the application boundary.

6. Information required before determination

1. **A cumulative outlet schedule:** List every relevant existing, approved and committed development, its drained area, storage, control rate, half-empty time, outlet, receiving node, exceedance route, adoption status and maintenance body.
2. **A routed catchment hydrograph:** Combine outlet controls with travel times through public sewers, culverts, ditches, Hoblongs Brook, Hoglands Brook and the River Chelmer. Do not substitute a simple sum or isolated site calculation.
3. **Duration and recovery testing:** Show water levels and flow duration through and after a long storm, and then test a second storm before existing and proposed stores have recovered.
4. **High-tailwater and flood-locking tests:** Model high River Chelmer and tributary levels, surcharged or drowned outfalls, culvert blockage, reverse flow and reduced outlet performance.
5. **Downstream impact results:** Publish predicted changes in peak level, duration above critical levels, time to recovery, flood extent, depth, velocity and hazard at Bigods Lane, Church End and other sensitive downstream locations.

6. **Assurance and controls:** Obtain a substantive LLFA conclusion on the combined model and secure any necessary phasing, occupation limits, monitoring, maintenance, remedial works and review triggers before permission is granted.

Legal and financial accountability

This evidence now puts the decision-makers on notice of a specific and foreseeable cumulative flood-risk issue. If permission is granted without resolving it, and later evidence shows that the approved development or drainage arrangements caused or materially worsened flooding, affected property owners may seek legal advice about public-law remedies, negligence or other available claims. Where an insurer has indemnified an owner for an insured loss, the insurer may take over and pursue any valid claim that the owner has against a responsible third party through subrogation.

Civil liability is not automatic merely because flooding occurs. The important legal distinction is between failing to improve an existing danger and taking a decision or action that makes the position worse. That is another reason for the Council to create a defensible decision record now: obtain the combined modelling, address the identified evidence gaps and demonstrate that the proposal will not increase either the extent or duration of downstream flooding.

7. Requested decision

The Council should refuse permission if the applicant cannot demonstrate, before determination, that the proposal will not worsen either the extent or duration of flooding when assessed together with existing and committed drainage discharges across the Great Dunmow Chelmer catchment.

8. Principal sources

GDPIS cumulative-drainage evidence register, outlet-node register, verified position and source-hash register, dated 12–13 August 2026.

Applicant Flood Risk Assessment, ES Technical Appendix I2, document 4764458, June 2026, especially PDF pp.21 and 25–26 and Appendix G.

National Planning Policy Framework, December 2024, paragraphs 170–182.

Department for Environment, Food and Rural Affairs, National Standards for Sustainable Drainage Systems, updated 30 July 2025, Standard 3 requirements 3.1–3.40.

Tindall and another v Chief Constable of Thames Valley Police [2024] UKSC 33, especially the distinction between failing to confer a benefit and making an existing danger worse.

Gatwick Investment Ltd and others v Liberty Mutual Insurance Europe SE [2026] UKSC 14, paragraphs 116–118 on an insurer taking over an insured person's valid third-party claim by subrogation.

Primary planning documents and page references listed in the evidence schedule above. Original files and SHA-256 hashes are retained in the controlled GDPIS evidence archive.