

A Future Without Rubbish

Community Interest Company no. 13090971

ISRRRA - Site Risk and Responsibility Analysis Report C: for Frodsham Town Council regarding Frodsham Marsh Tipping Lagoon and East Clifton Marsh. They are near Runcorn, Cheshire.

- a. **Context:** Frodsham Marsh is a nature reserve and home to multiple species of migratory and non-migratory birds.¹ It is at the mouths of the Manchester Canal and the River Weaver, and near to where the River Mersey meets the Irish Sea (approx. 25 km). Frodsham Marsh Tipping Lagoon sits at the eastern edge of the marsh, bordering both the Manchester Shipping Canal and the River Weaver. East Clifton Marsh is situated on an Island in the River Weaver, immediately east of the M56. Both sites lie within the boundaries of Frodsham Town Council² (see Figure C1), which is located within, and governed by, the local authority of Cheshire West and Chester Council.

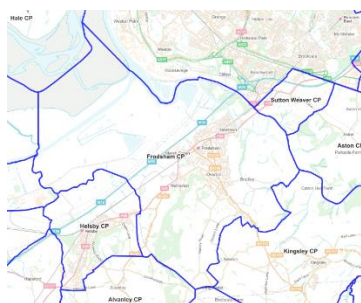


Figure C1: FTC Boundaries

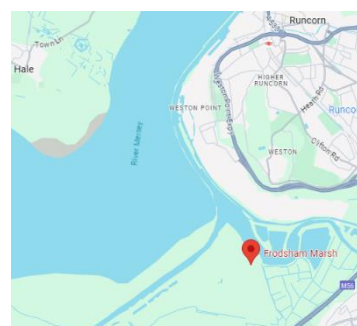


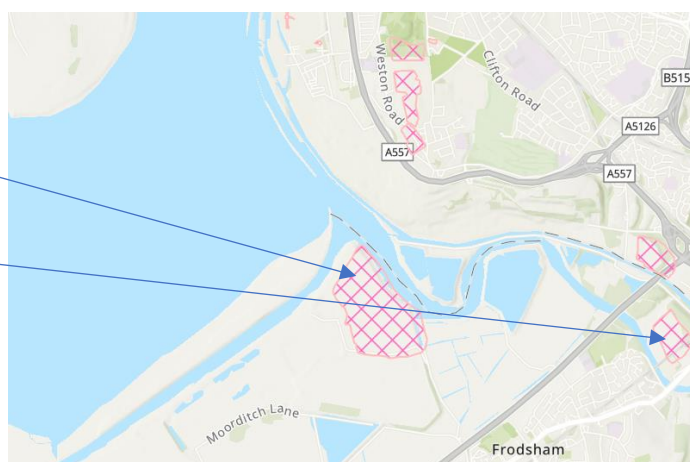
Figure C2: Frodsham Marsh Tipping Lagoon

The map of the area right, with the red marker being the main site focal point and the lower figure C3 showing both.

b. Findings

Figure C3: Frodsham Marsh Tipping Lagoon & East Clifton Marsh; Legacy Landfill Sites

Source: The Rivers Trust historic landfill sites



¹ <https://group.rspb.org.uk/chester/news-blogs/blog/frodsham-marsh/>

² <https://parishonline.xmap.cloud/>

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b.i Frodsham Marsh Tipping Lagoon

Frodsham Marsh Tipping Lagoon was used by Manchester Shipping Canal Company between 1982-1983, at the same time as the Manchester Docks were being demolished. Therefore it is likely that it contains industrial construction waste, though its exact contents are unknown. It is situated within, and underneath, the Frodsham Marsh Nature Reserve. According to available data, although the site itself is not at risk of flooding, the River Weaver around it is 'High Risk' i.e. it has more than a 3% chance of flooding each year, and directly adjoining salt marsh is 'medium risk' (1-3% chance).

b.ii East Clifton Marsh

East Clifton Marsh was used as a landfill for the chemicals manufacturer ICI and is likely to contain PCBs ('forever chemicals') and other contaminants (arsenic, tetrachloride, vinyl chloride), produced by ICI which pose serious health risks and ecological harm. The ICI site is now owned by chemicals manufacturer INEOS. The land sits on areas with both high and medium flood risks. It is adjacent to Crown Estate land.

b.iii Unreported Landfill Sites

There are many unlicensed and unregistered sludge tanks used for historical wastewater disposal that lie underneath the marsh and require investigation. Currently they are only known to residents who understand the history of the area.³ In addition, the 'Commonside Tip', located at the boundary between Alvanley Town Council and FTC, has been known to have been leaching into Foxhill Brook for at least 45 years. A report by RSK in 2009 found over 10000 times the background level of PCBs in some areas of the stream.⁴

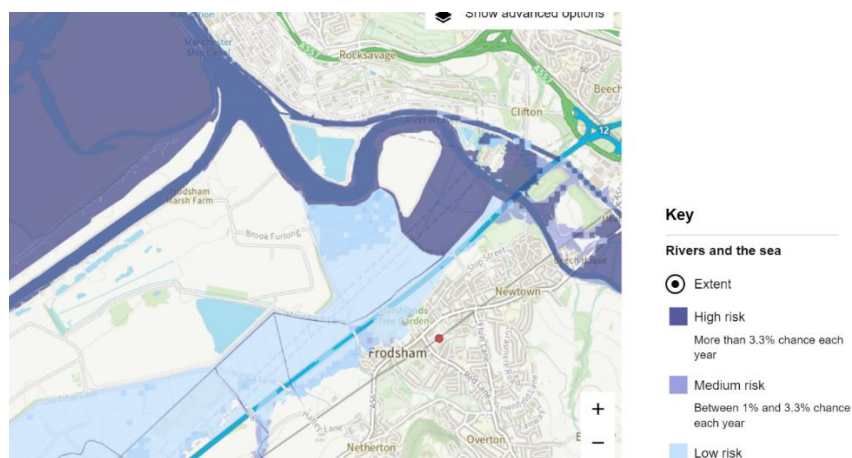


Figure C4: Flood Risk, source: The UK Government

³ [Frodsham Marsh Birding Patch by Bill Morton - Frodsham Root Network](#)

⁴ [Still leaching after all these years \(northwestbylines.co.uk\)](#)

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c. **Details:** (data taken from [here](#)⁵):

c.i Frodsham Marsh Tipping Lagoon

1. Site operators name and address: *Manchester Ship Canal Company Ltd.*⁶
2. Site Licence holder name and address: *Manchester Ship Canal Company Ltd.*
3. Licence issued: 1982
4. Licence surrendered: 1983
5. First inputs into it: 1982
6. Last inputs into it: 1983
7. Contents: No Data (ND)
8. Environment Agency reference no: ND, but the 'HLD Ref' is EAHLD 17247
9. Address / site reference: Frodsham Marsh Tipping Lagoon, Runcorn, Cheshire
10. Local authority: Frodsham Town Council, Cheshire West and Chester Council.⁷
11. Risk - **contents:** The exact contents of Frodsham Marsh Tipping Lagoon are currently unknown and unrecorded publicly. According to available data, it contains wastewater sludge, "inert liquid sludge".⁸ It would also be important to verify whether the waste came from the closing of the Manchester Docks and Salford Quays, as well as The Manchester Ship Canal Company's involvement in this. As regulators recommend treating unknown sites (such as this) as hazardous until proven otherwise, it is a potential risk to public and environmental health: legally, it contains hazardous waste.
12. Risk – **site integrity:** No immediate external risk – other than the development plans below (see 'comments section') – to the integrity of the site, although further action would be required to determine present levels of leaching into adjacent soil and waterways.
13. Risk - **flooding and erosion:** Frodsham Marsh Tipping Lagoon is not deemed to be at risk of flooding itself. But the riverbanks and much of the lower-lying ground around it do have a high-to-medium risk of flooding. Frodsham itself flooded in April 2024, December 2023, December 2021.⁹ As sea levels rise, Frodsham Marsh will become considerably more vulnerable to flooding and erosion. As you will appreciate, sea level rise on landfill areas is an important matter of dramatically escalating government concern and academic investigation. Frodsham Marsh is likely to be of national interest soon for its contaminants, we are advised.



Figure C5: Red highlights showing areas predicted to be under the annual flood level by 2050. Site location circled.

⁵ <https://theriverstrust.maps.arcgis.com/apps/mapviewer/index.html?layers=c769994eaa9b4b8d90ae9967dd58ad5a>

⁶ The address of the Manchester Ship Canal Company Ltd. is: *Maritime Centre, Port Of Liverpool, Liverpool, Merseyside, L21 1LA*

⁷ *Frodsham Town Council | Cheshire | Local Issues & Initiatives*, <https://www.cheshirewestandchester.gov.uk/>

⁸ <https://theriverstrust.maps.arcgis.com/apps/mapviewer/index.html?layers=c769994eaa9b4b8d90ae9967dd58ad5a>

⁹ [Frodsham Flooding 2024](#)



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c.ii East Clifton Marsh

1. Site operators name and address: *ICI Chemicals and Polymers Limited, address /
Environment Department, PO Box 8, The Heath,
Runcorn, Cheshire*
2. Site Licence holder name and address: *ICI Chemicals and Polymers Limited / Environment
Department, PO Box 8, The Heath, Runcorn, Cheshire*
3. Licence issued: *1977*
4. Licence surrendered: *1993*
5. First inputs into it: *1977*
6. Last inputs into it: *1984*
7. Contents: *ND, except "industrial"*
8. Environment Agency reference number: *ND, but the 'HLD Ref' is EAHLD17045*
9. Address / site reference: *East Clifton Marsh, Runcorn, Cheshire*
10. Local authority: *Frodsham Town Council, Cheshire West
and Chester Council.*
11. Risk - **contents**: As with Frodsham Marsh Tipping Lagoon, the exact contents of East Clifton Marsh are currently unknown. According to available data, it contains inert, industrial, wastewater sludge and industrial waste. The nearby former ICI site in Runcorn now owned by INEOS continues to produce chemicals such as caustic soda and chlorine. This is part of a legacy of chemical manufacturing in this area that dates back to 1895 with the Castner-Kellner Alkali Company¹⁰. The Environment Agency conducted its last sample of the site in 2006, though many hazardous chemicals that could be present due to ICI's operations were left out of the analysis.¹¹ After such a significant period, the extent of leaching and its exact contents should be determined.
12. Risk – **site integrity**: No immediate external risk, apart from potential flooding.
13. Risk - **flooding and erosion**: The southern edge of the site is subject to both high and medium flood risks, which could exacerbate leaching. This is coupled with increasing annual flood levels, making it more vulnerable, as is the case with the Frodsham Marsh Tipping Lagoon.

¹⁰ <https://joethecockershikes.com/2021/03/14/runcorn-chemical-industry-walk/>

¹¹ [Open WIMS data](#)

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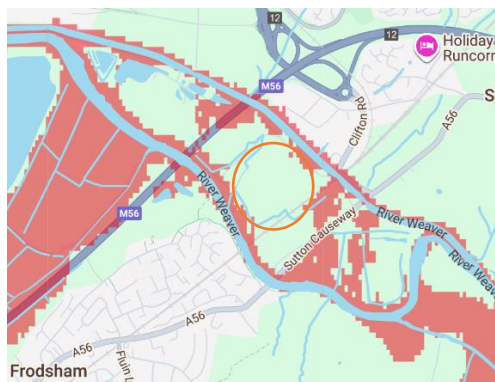


Figure C6: Red highlights showing areas predicted to be under the annual flood level by 2050 (source: Climate Central). Site location circled in orange.

d. Comment on Initial Site Risk and Responsibility Report C: Frodsham

Frodsham Marsh Tipping Lagoon differs from the case studies seen in Risk Reports A, B and D in that it is not perceived to be presently responsible for *significant* human and ecological harm. Data about water quality in the area does show that the water around Frodsham Marsh Tipping Lagoon is already contaminated by chemicals such as mercury and its compounds, which bioaccumulate in the food chain.¹² This may be significantly exacerbated by leaching from the Frodsham Marsh Tipping Lagoon. As the site is upstream of Liverpool, this will have significant impact. Given that the licence-holder for Frodsham Marsh Tipping Lagoon is still operational, the responsibility is clear, as are the risks. This is perhaps a Legacy Landfill Site on which mitigating and/or preventative measures can (and should) be taken before, and as it is developed.

The licence holder of this site was The Manchester Ship Canal Company Ltd. (MSCC). On 02/07/2024, they successfully sued United Utilities, making the latter company legally responsible for sewage spills in the Manchester Canal. This implies MSCC would be willing to cooperate and communicate regarding their (and others') historical responsibility and the present risks that Frodsham Marsh Tipping Lagoon poses.¹³ This is mentioned in Suggested Next Steps (SnS) later.

As for East Clifton Marsh, the licence holder, ICI, sold its chemical manufacturing site in Runcorn to INEOS and surrendered its licence in 1993. Due to this, its management would potentially lie under the responsibility of Cheshire West and Chester Council. East Clifton Marsh is directly adjacent to Crown Estate land.

However, the Frodsham Solar Farm Development below increases the urgency of action required.

¹² <https://environment.data.gov.uk/catchment-planning/WaterBody/GB112068060500>

¹³ MSCC can be contacted on: peelportsmarketing@peelports.com for general enquiries, [REDACTED] @bigpartnership.co.uk for urgent media enquiries, or PeelPortsPR@bigpartnership.co.uk for non-urgent media enquiries.

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This ISRRA must brief here about the Frodsham Solar Farm Development; as follows:

The Cubico Solar Nationally Significant Infrastructure Project (NSIP) on Frodsham Marsh, is a planned solar development of 290 hectares which could power 34,000 homes and expects to be operational by around 2028. More information can be read on [Cubico's website](#).

The project is in the pre-application stage. However, there are no indications that it will not proceed as planned. See Figure C7 for a map of the proposed development, and above there is this ISRRA (Initial Site Risk and Responsibility Analysis) in this document.



Figure C7: Cubico Solar NSIP

Figure C8: The NSIP is adjacent to Crown Estate land (in purple) source: The Crown Estate



First of all, the plan as it now stands has three key flaws, and very serious mitigating and ameliorating factors will have to be brought into the development if public and environmental health is to be respected. The issues are:

- 1) Frodsham Marsh Tipping Lagoon is a legacy landfill site directly within the proposed development area. See Figure C7 for the location and size of this site. Given that there is seemingly nil, or minimal, awareness of this site existing and the risk it could pose, a risk analysis must be carried out as soon as possible before the development goes ahead. Construction of the solar project must not cause leaching or otherwise disturb this legacy landfill site, which potentially contains hazardous materials and could interact with solar cell and battery components and amplify these hazards.



Figure C9: Frodsham Marsh Tipping Lagoon, area of the landfill cross-hatched. Source: The Rivers Trust

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- 2) There is a substantial flood risk within the proposed development site, as seen in Figure C10. Once again, there is seemingly no analysis of how this could affect the development in its construction, or its long-term prospects. A large portion of the site has a 'high' flood risk, meaning it is expected to have over a 3% chance of flooding annually according to the Environment Agency's live online resource linked below. This must be risk-assessed before construction proceeds.

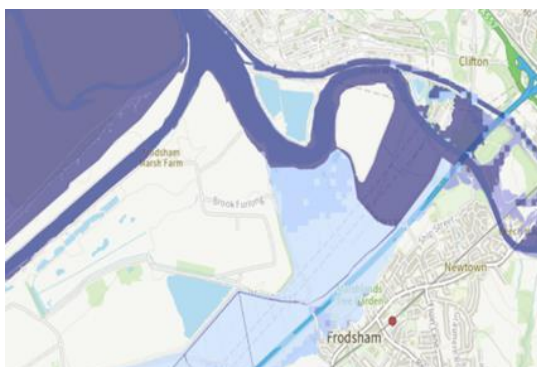


Figure C10: Flood Risk. Dark blue areas have a 'high' flood risk – over 3% chance of flooding annually. Light blue areas have a 'medium' flood risk – 1-3% chance of flooding annually. Source: Data from UK Government [here](#).

- 3) As has been much recognised and discussed, Frodsham Marshes are a popular bird-watching site, harbouring golden plovers, oystercatchers and many more species. The development would directly interfere with acres of precious habitat, and construction would unquestionably disturb wildlife in the SSSI of Merseyside Estuary, some of which is within the site. Indeed, Frodsham's Neighbourhood Plan recognises the tourism potential of the marshes and states the plan 'will not result in adverse impacts on the ecological value and function of Frodsham Marshes'. This development plan is therefore in direct opposition with the nascent Neighbourhood Plan.

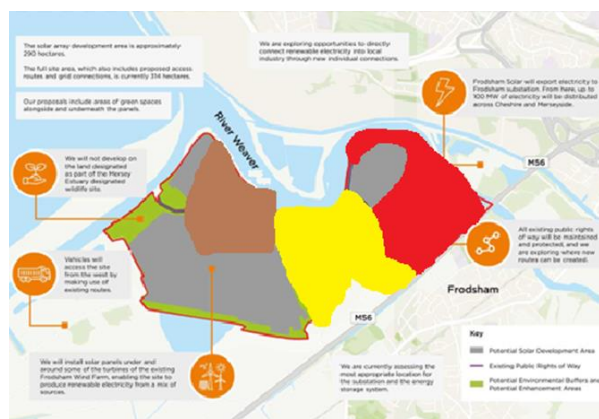


Figure C11: viability of this site. Red marker indicates high flood risk; orange marker indicates medium flood risk; brown marker indicates landfill site, and green indicates areas of natural importance.

Together, these points make this site simply too risky and damaging for it to be feasible as presently planned. Figure C10 above, demonstrates the small, disjointed areas of the site which are not affected by the landfill, the flood risk, or the natural protection.

Solar energy is necessary to stop climate change and is part of national policy to reach national legal obligations but putting it here will put human lives and local ecosystems at risk.



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e. **Suggested next Steps (SnS)** for Site Risk and Responsibility Report C: for FTC

To become as knowledgeable as possible about these known legacy landfill sites, the following five recommendations should be implemented urgently by FTC:

1. To request that Frodsham Town Council (FTC) and Cheshire West and Chester Borough Council include this issue on the agenda of their next council meeting, and with Cheshire West's Climate emergency taskforce, to improve awareness and alertness of the issues at stake, and decide for any ameliorating actions, or not.
2. FTC to request and have sight of the Environmental Impact Assessment (EIA) for the project. Last year (May 2023) a 'Scoping Report' (that sets the groundwork for the full EIA by identifying what will be studied and what methods will be used) was referenced [here](#)¹⁴ but we can't find the EIA that was referenced here [230515.PeelCubicoSoCC_AW.pdf \(frodshamsolar.co.uk\)](#) on Page 3) and FTC do not have it. If necessary, we can provide a brief, or a kind of executive summary, of the Scoping Report?
3. To ask the relevant and responsible persons and developers and The Crown Estate as to their plans for management of these Legacy Landfill sites and their knowledge of contents, if any.
4. For FTC to have a briefing on the recent court case between the Manchester Ship Canal Company and United Utilities, as the Supreme Court's decision is an example of the courts' increasing willingness to find flexibility in the law to protect our environment.
5. To begin communication with the Secretary of State as to timings and consideration of the proposed development. To highlight to them the potential lack of impartiality of the EIA, and find out how the steps were taken to conduct an impartial assessment. It is noted that the 'Environmental Impact Assessment Report May 2023' by Axis.co.uk ([here](#)) says "At this stage in the process the design team are still examining a variety of options The selected options will be influenced by engineering, efficiency and environmental factors. The alternatives are likely to include alternative design solutions for the PV array layout, substation locations and BESS locations, alternative cable route corridors and alternative options for landscape and biodiversity management / mitigation. The ES will also describe the approach to the selection of this Site for the development."

This is an opportunity.

This ISRRA here also is amazed to see that there is no mention of any legacy landfill site, which is underneath the proposed site, and would suggest FTC to interrogate as to why this omission has happened. The EIA also fails to acknowledge any potential risk of battery fires caused by flooding and interaction with buried hazardous chemicals. It would be good to see alternative energy storage solutions being considered, at least.

The budget (time and resources) for these steps would have to be agreed at the Cheshire West and Chester Borough Council Meeting (step 1). If empowered by FTC, we could do SnS 1-5 above, if needed.

¹⁴ chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010153/EN010153-000007-EN010153%20-%20Scoping%20Report.pdf