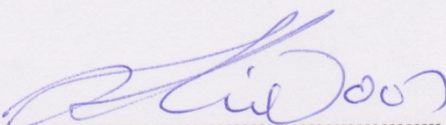
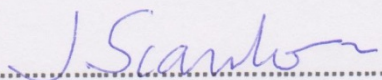


**COMMUNITY RESPONSE TO THE SEAFIELD
WASTEWATER TREATMENT WORKS
STRATEGIC ODOUR REVIEW DRAFT
FINAL REPORT dated October 2017**

The Leith Links Residents Association (LLRA) and the Leith Links Community Council (LLCC) have prepared this response with technical support from Professor Robert Jackson.

This response is supported by Councillor Gordon Monro (Labour) and Councillor Adam McVey (SNP).

Signed  Rob Kirkwood (LLRA Chair)

Signed  Jim Scanlon (LLCC Chair)

9th January 2018

1.0 INTRODUCTION

1.1 The Leith Links Residents Association and the Leith Links Community Council, welcome this opportunity to contribute to the Strategic Review of the Seafield Wastewater Treatment Works site in Leith, Edinburgh. We welcome in particular the expansion of this contribution from simple comments on technical accuracy and factual errors to one that includes questions and proposals i.e. in an email from Craig Carr (PFI Project Co-ordinator) dated 3/11/2017 he states that:

'The intent isn't to restrict your input...You are welcome to comment on the report as you see fit'.

1.2 The LLRA and the LLCC also welcome the detailed analysis of the possible technical solutions to the malodours emanating from the site.

1.3 However, the report's *Terms of Reference* include *The Code of Practice* and we note with concern that there has been insufficient analysis of this Code.

1.4 For example, the COP currently contains guidelines for the establishment of an *Odour Nuisance* that are highly subjective and which cannot be effectively policed. This consequently allows Water Companies to create odour nuisances within the community without being held to account.

1.5 There is therefore a requirement for the report to examine this issue in detail and make changes to the COP that institute an objective scientific approach to the issue of *odour nuisance* and which make it possible for the policing regimes to reach judgments based on *probability*.

1.6 A further example is the lack of detailed analysis of the important issue of *Community Consultation*.

1.7 The following expands on the examples above and highlights other major issues where the community believes further investigation and formal comment is required.

2.0 THE ODOUR EVENTS IN MAY 2017

- 2.1 The draft report (p.85) notes that during the period April 1st-May 31st 2017, the following odour levels were recorded: -
- 1) 27 hours when odour concentrates were above 5oue/m³
 - 2) 59 hours when odour concentrates were over 3oue/m³
 - 3) The maximum hourly recorded concentration was over 16 oue/m³
 - 4) Total odour emissions from the Primary Settlement Tanks was relatively high (between 16,3400 oue/s and 212800oue/s –an average of 7.3 oue/m²/s with a range of 0.3 to 35,000oue/m²/s
- 2.2 The report also comments that there were 92 formal complaints made during this period and that the actual record of concentration is very likely to be higher than those depicted.
- 2.3 This data points overwhelmingly to the PSTs being the main source of odour in May 2017 and this was confirmed by Veolia Waste Water Managers who stated (in the Stakeholders Meeting) that elevated sludge levels in the PSTs were the main cause of odours in May 2017. It should furthermore, be noted that a SEPA officer (who visited the site on the same day as Public Health Officers) formally recorded that sludge levels within the PSTs were elevated.
- 2.4 Edinburgh City Council Public Health officers disagreed and argued that sludge levels in the PSTs were not high, that the PSTs were not responsible for the odours recorded and that the high level of concentrated odour in the community was primarily caused by a spillage of sludge and consequently the responsibility of SEPA.
- 2.5 It is of concern to the community that Edinburgh City Council, in making its judgment on the cause of odours during May 2017, did not take into account the evidence of the recorded data, the evidence of the Veolia Management Team and the SEPA officer all of which pointed to the PSTs being the main source of odour during this period.
- 2.6 Neither did these officers take into account the evidence of community members that the odour within the community did not smell of sludge but of smells associated with the PSTs.
- 2.7 It is consequently a concern that with this amount of available evidence, the City Public Health Officers were either unable or more worryingly unwilling to accept that the PSTs were primarily responsible for the odour nuisance even when there was overwhelming data to confirm that this was the case. If the latter is found to be the case then this would of course represent a deliberate evasion of responsibility.

- 2.8 These events would seem to confirm the community view that the current system of monitoring and regulating the OIP is not fit for purpose.

3.0 THE ODOUR EVENTS IN MAY 2017. COMMUNITY PROPOSALS

- 3.1 The COP in 5.5.9 states that '*the determination of nuisance...involves the collection of information and a balanced view as to the degree of interference or annoyance the odour causes*'.
- 3.2 The report should investigate and comment on the highly idiosyncratic judgment made by Public Health Officers that the odour events in May 2017, were primarily due to a spillage of sludge and were therefore the policing responsibility of SEPA. It should look in particular at the procedures used to arrive at this conclusion and whether or not they included *a collection of information* from all of the recorded data, including the management of Veolia Water / SEPA and whether this collected information was integrated to provide a complete and effective overview. It should also examine the view that this judgment represents a deliberate evasion of responsibility.
- 3.3 If it is the case that Council Public Health Officers *did* take this data into consideration then the community needs to know why it had no coercive impact on their conclusions, as it did with SEPA and the managers of Veolia.
- 3.4 However, if it is found that these officers *did not* access this wide range of information, in an integrated form, then the report should formally express concern that this was the case and formally note that this represents a dereliction of their professional duty. It should consequently insist that the officers involved in this judgement are formally censured and are given appropriate training, to make appropriate scientific probability judgments, based on a wide collection of objective information and not simply on their own observations and a highly subjective 'sniff test'.

4.0 GENERAL ODOUR EMISSIONS AT SEAFIELD

- 4.1 Odour emissions at Seafield variously comprise: controlled releases, where the emissions are managed as part of the abatement measures and released to the atmosphere via a stack; diffuse releases from mostly surface sources such as open process tanks; and fugitive releases that cannot be captured such as uncontrolled leaks or intermittently leaking valves etc.
- 4.2 The majority of controlled point sources have odour release rates that are not affected by ambient weather conditions. However, large variations in odour emission rates have been found at wastewater treatment works and result

partly from the biological sources and the fact that the processes are not operating under constant conditions. Such facilities also have a strong meteorological dependence in that ambient temperature affects the biological processes; barometric pressure can have a significant impact on emission rates; and open-air sources may be affected by rainfall.

- 4.3 Diffuse sources are not usually controlled sources and hence cannot be operated in such a way as to remain below any imposed emission limit value and are inherently prone to emissions variability due to seasonal variability etc.
- 4.4 Similarly, fugitive emissions are highly variable and uncontrolled, are difficult to measure or predict and are often a result of infrequent operations such as cleaning or maintenance that can produce high levels of odour that cannot be quantified.
- 4.5 Odour emissions at Seafield are often dependent on operational conditions which may be difficult to anticipate and control including: the biological load of the influent; changes in the nature of the sewage received; equipment failures; temperature and moisture content of odorous materials; and the frequency of use of storm tanks.
- 4.6 The Seafield Odour Abatement Group produced a report identifying odour abatement options based upon WRc options:

Option A *reducing odour emissions by 69% at a cost of £18.68M*

Option B *reducing odour emissions by 74% at a cost of £23.11M*

Option C *reducing odour emissions by 79% at a cost of £24.15M*

Option D *reducing odour emissions by 85% at a cost of £34.35M*

Option E *reducing odour emissions by 91% at a cost of £42.23M*

- 4.7 In November 2005 Edinburgh City Council selected **Option A** on the basis that this would be a starting point and if odours were not reduced sufficiently then further phases would be implemented incrementally up to and including **Option E**.

5.0 GENERAL ODOUR EMISSIONS AT SEAFIELD COMMUNITY PROPOSALS

- 5.1 Without having the appropriate technical expertise the City of Edinburgh Council selected **Option A** as its preferred odour abatement option which was then estimated to provide a 69% reduction in total odour and a reduction in the number of properties affected with odour by up to 94%. The report should address the following questions: Was this level of abatement achieved? If not,

why not? Should the Council have selected a different option? If 69% and 94% reductions have not been achieved should the Council be formally censured for negligence?

- 5.2 The report should examine the view, often expressed in the community, that The Council is unwilling to attribute odours to the PSTs and serve Enforcement Notices because (against advice from Prof Jackson) it **chose Option A** in the OIP, the inadequacies of which are causing the odours from Seafield. An Enforcement Notice would consequently be an enforcement on The Council to implement Option E in the OIP that it is unwilling to do.
- 5.3 The investigation should examine whether it was the responsibility of Scottish Water (as opposed to The City Council) to choose which option was to be implemented at Seafield and whether this choice has compromised The Council's ability to effectively police Seafield.
- 5.4 The Seafield Strategic Review report is testimony to the fact that the option selected by the Council has failed and the Council is culpable of continuing to create an odour nuisance within the Leith community.

6.0 POLICING THE COP

- 6.1 There is a 'dual regulation' regime in respect of odour which in practice means that Public Health and SEPA officers are responsible for different potential sources of odour at Seafield. There are good reasons why this regime is no longer fit for purpose.
- 6.2 There are now significantly fewer officers operating in both regimes that is having an impact on the ability of these officers to adequately police Seafield.
- 6.3 SEPA has recently created a 'self-regulation' system for Waste Water Treatment Plants that would seem to be a tacit admission that current-staffing levels can no longer cope with its policing duties. It furthermore concedes that this new approach is not watertight against companies submitting false data. This once again appears to be a tacit admission that a self-regulatory system does not represent best practice.
- 6.4 Edinburgh City Council is also operating with fewer trained officers who can access the sewerage site to investigate possible sources of odour and with a Chief Public Health Manager (responsible for Seafield) who only works two days a week.
- 6.5 This dual regime is confusing for the community and the call centre to whom complaints are initially made i.e. odours from 'sludge' areas require a phone call to SEPA and odours from the 'primary works' of the site, require a call to The Council. In practice of course it is difficult for members of the community or those working in the call centre to identify the source of the odours and so

which officer to call. If the wrong officer is called then this inevitably slows down the process of investigating the source.

- 6.6 The smell events in May furthermore illustrate the weakness of this dual regime. A SEPA officer was first to witness elevated sludge levels in the PSTs. However, since these tanks were outside his area of authority, he was unable to take any formal action against Veolia Water. Public Health Officers were also unable to take action based on his observations. Instead, there was a requirement for Council officers to identify these elevated levels themselves. These officers arrived on the same day and within a time lapse that would not have allowed any substantial reduction in these levels. However, Council Officers were unable or unwilling to see what had been observed by the SEPA officer and by the management of Veolia Water.
- 6.7 Many of the Council Officers, who respond to complaints by visits to homes, are not trained (unlike SEPA officers) to subsequently visit the Seafield site and investigate the source of odours. Instead, they simply report their findings to the Chief Public Health Officer who working two days a week, will often only formally investigate the site with trained officers, days after the smell event. This situation currently makes it very difficult to locate the source of odours when they occur.

7.0 POLICING THE COP COMMUNITY PROPOSALS

- 7.1 Odours emanating from different parts of the sewerage works do not arise independently from each other. They are usually causally linked which may represent good grounds for the demarcation policing line to be removed and for Council and SEPA officers to work more closely together with a joint responsibility for policing all parts of the plant. We would therefore want the report to investigate this dual regime more thoroughly and perhaps produce proposals for a unitary policing regime where Public Health and SEPA officers are *all* trained to investigate *all* possible on-site sources of odour. This should include a single source responsible party funded and resourced by the Scottish Government.
- 7.2 The report should also investigate the possibility of using available technology to give Public Health and SEPA officers, *real time* access to the recorded data at Seafield. This data would allow for a policing regime that was 'precautionary' instead of the current 'reactive' approach (see page 6 of the draft summary). Access to this data could also be made available to all parties including the community which would help to create an easily accessible and efficient communication-system. This would require fewer phone calls between these different parties, fewer visits to the plant and would allow officers and the community to react pro-actively to events that might lead to a smell nuisance.

- 7.3 The report should select an appropriate benchmark value for WWTWs. The draft report lists a number of alternatives and the community would support the Dutch standard of 0.5ou_e/m³. The adoption of this low figure would be an acknowledgement that the smells coming from Sewerage Works are substantially more repulsive than other odours within the community.
- 7.4 It is often the case that a concentration as low as 1 ou_Em⁻³ corresponds to the threshold of detection of an odour by 50% of the population which means that on average half the people will detect the odour and half will not.
- 7.5 Enforcement Notices cause reputational damage on the offending PFI Water Companies. However, in Scotland, subsequent financial penalties on PFI companies make little financial damage on profit margins. For example, in April 2007 when Thames Water, polluted The Firth of Forth with 170,000 gallons of raw sewage it was fined £13.5 thousand. This is in contrast to fines in England that can sustain real damage on company profits (For example, Thames Water has been fined £20.3 million for numerous polluting offences in 2013 and 2014). In Scotland these fines also need to provide PFI companies with an incentive to run Waste Water Plants efficiently and the report should investigate the possibility of creating a system of financial penalties that will represent real accountability for failures in management.
- 7.6 The report should propose that all parties who investigate odours within the community should be trained to visit the Seafield site and investigate all possible sources as soon as possible. This proposal should furthermore not diminish the current numbers of officers who visit homes (however, please note that 11.4 makes a case for a reduction in visits to the site).

8.0 THE LEGAL STATUS OF THE COP

- 8.1 The draft report (p.5-6) outlines the requirements for serving an Enforcement Notice: *the investigating officer must substantiate unacceptable odours off site: attribute the odour to the site: identify the failure leading to the emission then define the outcomes to be achieved to prevent odour nuisance.*
- 8.2 In 2013 a Council officer substantiated these conditions and an Enforcement Notice was accordingly issued. However, this Notice was subsequently withdrawn for legal reasons.
- 8.3 Since these legal reasons have not been made public it is now no longer clear whether the requirements listed in the COP represent legal conditions for serving an Enforcement Notice. This needs to be urgently clarified.

9.0 THE LEGAL STATUS OF THE COP COMMUNITY PROPOSALS

- 9.1 The report needs to clarify for the community whether the requirements listed in the COP represent the legal conditions required to serve an Enforcement Notice and whether or not they need to be modified in order for legal action to be taken.
- 9.2 If the investigation concludes that no modification is required then the report would then need to explain why the Enforcement Notice was withdrawn.
- 9.3 This clarification is possible without breaching 'commercial confidentiality' which was the reason given for not sharing the judgement with the community.
- 9.4 Consideration should be given to the legal status of the COP to ensure that no public body or hired agent of a public body can challenge a legal notice i.e. a public expense clause to prevent inhibition of action.

10.0 INTERPRETATION OF THE COP AND POSSIBLE CHANGES

- 10.1 The rules of the COP define the requirements for serving an *Enforcement Notice*. However, all *rule based* approaches to decision making need to be interpreted and the concern in the community is that Edinburgh Council Public Health officers are working with an interpretation that negates the possibility of ever serving an Enforcement Notice, by obscuring what actually constitutes an *offence*.
- 10.2 For example, Public Health Officers have on occasions substantiated the claim made by members of the community that an odour nuisance has occurred. They have identified the source as coming from Seafield and have (on at least one occasion) established that the *cause* represented a repeat offence. However, no Enforcement Notice was served. Instead, the officers simply defined the outcomes to be achieved to prevent future occurrences of odour nuisance.
- 10.3 A parallel might be that if traffic wardens or traffic police worked with the same *interpretation* of the law then no parking or speeding tickets would be served i.e. illegal parking or speeding (even if repeated) would cease to be an offence, requiring sanctions. Instead, advice would simply be given to prevent an occurrence in the future.
- 10.4 The rules of the COP also define the process by which an *odour nuisance* should be established:

The COP In 5.5.9 states that *the determination of nuisance...involves the collection of information and a balanced view as to the degree of interference or annoyance the odour causes*.

- 10.5 Council Officers currently have a very narrow interpretation of this process i.e. the collection of information is narrowly focused on their own observations and a highly subjective sniff test. However, the COP need not be interpreted in this restricted manner.
- 10.6 Instead, the requirement for *the collection of information* and a *balanced judgment* could be interpreted as a requirement for a more scientific approach and one that subsequently does not purely rely (or does not rely at all) upon the calibrated nostrils of a Public Health Officer.
- 10.7 A scientific approach to a problem does not always require investigators to verify their conclusions by (for example) personal observation or smell. Instead, a wide range of evidence can test a hypothesis and judgments can subsequently be made, based on what is *highly probable*.
- 10.8 The current approach to exploring the existence of a *smell nuisance* does not employ this scientific methodology. Instead, it requires an officer to *personally* smell the odour and make a judgment based on a *sniff test*. This is of course a highly subjective and unscientific approach to the problem of odour and one that doesn't work for a number of widely known reasons.
- 10.9 The community would want the report to suggest a more scientific approach based on objective criteria and one that either does not rely on or require subjective procedures.
- 10.10 For example, there is objective recorded data of sludge levels within the PSTs and recorded data of wind speed and direction. Now if this data indicates that sludge and odour levels are elevated, that there is an on-shore wind and that these are accompanied by high levels of complaints within the community, then it would be possible to make the judgment that since previous empirical evidence suggests a high correlation between these events and strong odours, then it is *highly probable* that odours exist within the community which constitute a *nuisance*. This approach would not require an officer to chase the odour around the community, be in the right place at the right time and then make an arbitrary judgment based on the capacity of her/his own nose to smell and define an odour as a nuisance. This judgment, furthermore, could be made without travel to the site if officers have real time access to all of the recorded data.
- 10.11 It should be noted that the current draft report is entirely based on this scientific approach since the consultants have not personally witnessed many of its judgments. Instead '*probability judgments*' have been made based on accumulated evidence and upon which expensive investment judgments may will be made.

11.0 INTERPRETATION OF THE COP AND POSSIBLE CHANGES COMMUNITY PROPOSALS

- 11.1 The report needs to establish what constitutes an offence and when it is appropriate to serve an Enforcement Notice as opposed to simply giving advice on how to prevent future occurrences of odour nuisance. For example, equipment or other failure should constitute the *offence* rather than (as is presently the case) a failure to clean up. This would require a clarification of the COP and an examination of its legal status and whether or not it requires modification.
- 11.2 The COP in 5.5.9 requires officers to base their judgement on the occurrence of a 'smell nuisance' by making a *balanced judgement* based on a *wide collection of information*. The report should comment on whether this can be interpreted as a requirement to apply the methods of science and make probability judgements based on objective criteria instead of the highly subjective sniff test.
- 11.3 If the view is reached that the COP in its present form, requires the 'sniff test' from a Council Officer then changes to the COP should be considered which give more authority to the noses within the community. For example, 15 years ago a petition was submitted to the Petitions Committee of the Scottish Parliament. 10,000 community members signed it, informing Parliament that frequent 'smell nuisances' were occurring in the community. However, this counted for nothing because the noses attached to Council Officers made the judgement that these smells did not constitute a nuisance. This seems to be transparently unfair and changes to the COP need to be made which make it clear that the experiences and views of the community when formally expressed in high numbers of complaints, carry more weight and authority than a *sniff test* conducted by a Council Officer who simply *visits* the smell as opposed to *living* within it and who will often make a judgment on an odour's intensity hours or days after the event.
- 11.4. Changes should also be considered to the COP which make the *sniff test* redundant by requiring a 'smell nuisance' to be established using scientific probability judgments, based on objective evidence, rather than the current subjective criteria. If (as previously suggested) there is *real time access* to the recorded data on site at Seafield, then this change would not require the extensive policing regimes that are currently and inadequately being employed. Instead, correlations could be made between the different online and real time data and probability judgements made on whether or not a *smell nuisance* is *highly probable*. This approach to an investigation is universally accepted in all academic fields and there seems to be no good reasons why it should not be employed when investigating the intensity of odours in Waste Water Treatment Plants and the community.

- 11.5 If these changes are judged not to be possible then an alternative approach would be to make changes to the COP which makes it an offence to *allow conditions to arise* within Waste Water Treatment Plants that would make it *highly probable* for offensive odours to occur within the community. The report should state what these *conditions* are. This offence should furthermore be subject to Enforcement Notices and punitive fines.

12.0 TECHNICAL IMPROVEMENTS

- 12.1 The report makes reference to the *Odour Improvement Plan*. It should be noted that the plan's proposed incremental investment **B-E** has not taken place even though there have been major smell incidents at Seafield. The Council informed the community (in a Stakeholders Meetings) that no incremental action had been taken because its proposals were out of date and no longer addressed the problems at Seafield.
- 12.2 Many in the community took this to mean that The Council and The Water Companies all knew that the key sources of odour were the PSTs and the Storm Tanks and that a decision had been made, for financial reasons, not to move incrementally to **Option E** that required these tanks to be covered and furthermore, not to waste money on **Options B-D** that focused on other parts of the plant.
- 12.3 This view is supported by the fact that there has been no incremental movement, even though strong odours have persisted (confirmed by 2:7 in the Draft Report) and the final option has consequently not been implemented.
- 12.4 The fear in the community is that The Council could once again, for financial reasons, make a unilateral decision not to apply new investment plans in an agreed incremental OIP that may arise from this latest investigation.
- 12.5 The community also notes that it is becoming increasingly difficult for the plant operator to control sludge levels within the PSTs and that this lack of control will be further compounded by the effects of climate change and the resulting changes to influent type and quantity.

13.0 TECHNICAL IMPROVEMENTS COMMUNITY PROPOSALS

- 13.1 The report should investigate why the OIP's incremental proposals were not progressed. The report should also examine if a decision was made that the OIP was *out of date* and whether or not this decision was made unilaterally by Council Officers without discussion with Councillors.
- 13.2 It should examine in particular whether this decision was based on the view that the main source of odours are the PSTs and Storm Tanks and that

increments **B-D** were not applied because they do not directly address these key sources of odour.

- 13.3 It should furthermore examine why The Council did not fast track the OIP to **option E** which requires these tanks to be covered, as was suggested by the then Chair of the Stakeholders Meeting Kenny MacAskill the former Justice Minister.
- 13.4 These proposed investigations would address the fear, within the community, that there is confusion and perhaps even bad faith within The Council over its Seafield policing role and that this has led to Council policies being formulated that do not hold Scottish/Veolia Water to account for poor professional practices.
- 13.5 The failure to implement the existing incremental OIP has proven that a system of incremental improvements over time is flawed and that the report should therefore urgently consider changes to its suggested *staged approach* to technological improvements. The community would instead want an early decision on the implementation of the community-preferred **LONG TERM** solutions. If they are not to be employed then the community would require a speedy implementation of the **MEDIUM TERM** proposals with a particular focus on covering the PST's/Storm Tanks, as a matter of urgency.
- 13.6 Seafield Waste Water Treatment Works accepts sewage and industrial waste from an area of 300 square kilometres. Consideration should be given to providing treatment up- stream to minimise input into Seafield.
- 13.7 The report needs to state what recordings or measurements have been undertaken by Scottish Water to evidence the assertions made of likely percentage improvements in this proposed OIP.
- 13.8 One suggested radical solution that the report should address is the complete removal of PSTs and the inclusion of a high-rate Activated Sludge process with low retention times and ability to better deal with toxic wastes. This option may require an effluent polishing facility and a change in sludge processing but it would undoubtedly obviate any future troublesome odours from a primary process. It would also obviate the need to cover PSTs with ongoing problems associated with venting, maintenance, and sulphate corrosion of concrete and hydrogen sulphide attack of metal components.
- 13.9 The report should insist that these proposed technical solutions become incorporated into the formal Scottish Water investment programme to obviate delays and guarantee speedy implementation.

14.0 CONCLUSION

- 14.1 The proposals in this response represent the distilled views of those whose lives have been negatively affected by the Seafeld WwTW site and the expectation is that they will be taken seriously and have a substantial impact on the content of the Final Report.
- 14.2 The fear in the community is that this will not happen and the proposals will be acknowledged, then largely ignored as major issues and sidelined to discussions in another forum.
- 14.3 If this happens and the report is *aristocratically* handed down to the community then it will not receive the formal support of the LLRA or the LLCC. That of course would not be in the interests of any of the stakeholders.
- 14.4 The hope of course is that the Final Report will democratically express the views of the community and will help to encourage the radical changes required to solve the issue of *odour* from Seafeld and all other affected Waste Water Treatment Works.